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NYSE: ASX



ASE Technology Holding Co., Ltd.
2022 Annual Report (I)

Notice to readers

This English-version annual report is a summary translation of the Chinese version and is not an official document of the shareholders' meeting. If there is any discrepancy between the English and Chinese versions, the Chinese version shall prevail.

Date: February 28, 2023

This annual report can be found on the following websites

1. Taiwan Stock Exchange Market Observation Post System:
<https://mops.twse.com.tw/mops/web/index>
2. Company Website: <https://www.aseglobal.com>

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Overseas Securities Exchange: New York Stock Exchange (NYSE)
For more information on the overseas securities, visit: <https://www.aseglobal.com>

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I. Letters to Shareholders

Dear Shareholders,

As the COVID-19 subsided since the year of 2022, our lives and works were back to normal gradually. However, issues such as the Russo-Ukrainian War and geopolitical risks continued to challenge the global economy. Furthermore, under the impact of monetary policies, inflation and the consuming demand brought about by the pandemic is decreasing, the major international forecasting institutes predict a slowdown in global economic growth, which will bring a significant impact on the industry. The semiconductor industry, however, has become an indispensable part in the international economy and international competition, and Taiwan has already taken a crucial position in the global semiconductor supply chain, thus the United States and other major countries have imposed Chips Act and related strategies successively in 2022, and this shows the importance of the semiconductor and chips industries in the world. As a global leader in the aspects of assembly and testing of the semiconductor industries, we will prudently to cope with all possible changes that will affect the business operation and continue to keep our indispensable leadership in the semiconductor supply chain while pursuing the goals of operating growth and increasing shareholder equity.

According to the surveys of international forecasting institutes, the International Monetary Fund (IMF) forecasted in January of 2023 that the global growth is expected to moderate from 3.4% in 2022 to 2.9% in 2023. And according to the statistical report of the statistics of Industry, Science & Technology International Strategy Center (ISTI), Industrial Technology Research Institute (ITRI) that the output value of Taiwan's IC packaging and testing industry in 2022 amounted to NT\$684.7 billion, an increase of 7.3% over 2021. Among them, the output value of the packaging industry was NT\$466 billion, an increase of 7.0% over 2021; the output value of the testing industry was NT\$218.7 billion, an increase of 7.7% over 2021. The operating status of the Company and its subsidiaries (referred hereinafter to as "the Group") over the past year is stated as follows:

Business Results in 2022

1. Achievements of 2022 Business Plan Implementation

The Group's consolidated revenue in 2022 amounted to NT\$670.9 billion (including NT\$359.9 billion in semiconductor assembly and testing business, NT\$302 billion in Electronic Manufacturing Services (EMS) and others NT\$9 billion), an increase of approximately \$100.9 billion over 2021, with an annual growth of 17.7%. We've achieved the highest record than ever for the past year. In terms of the semiconductor packaging and testing business, the consolidated revenue in 2022 increased \$37.4 billion over 2021, with an annual growth of 11.6%. In addition, as of the EMS, the consolidated revenue in 2022 increased approximately \$62.8 billion over 2021, with an annual growth of about 26.1%. The overall financial data have grown significantly compared with that in 2021.

2. Budget Execution

The Company did not disclose its financial forecast in 2022.

3. Analysis of Financial Income and Expenditures and Profitability

As specified in the Company's 2022 consolidated financial statement, the Company's paid-in capital was NT\$ 43.7 billion in 2022, equity attributable to owners of the Company totaled at NT\$ 301.3 billion, accounting for 42.6% of the total assets of NT\$ 707.1 billion. The long-term capital assets accounted for 180.7% of those of properties, assets, and equipment, with a 135.1% liquidity ratio and a 9.9% return on asset (ROA). The combined operating profit ratio in 2022

was 20.1%, which is a mild increase compared to the ratio 19.4% in 2021. The net operating profits was NT\$80.2 billion, an increase of NT\$18.1 billion over 2021, with a growth rate of about 29.1%. Net income before taxes was NT\$ 81.6 billion, up by NT\$ 12.9 billion at a 1.6% rate from the previous year. Net income attributable to owners of the Company amounted to NT\$ 69.8 billion, a growth of 8.0% over the previous year, and if the net income before taxes on disposal of subsidiaries, NT\$ 17.3 billion, is counted in, the growth of the profitability will be more outstanding this year.

4. Research and Development

Driven by 5G mobile communications, the technologies of high-speed transmission, low latency, HPC, AI, the Internet of Things, autonomous driving, smart manufacturing, etc., will enter a new milestone, and the development of electronic terminal products is oriented towards multi-functions, high performance, and high integration. The semiconductor industry chain strives to move towards a higher value system integration level, and this will accelerate functional integration enhancement and scale-down technology to go hand in hand to create a more efficient smart networking environment and devices which will facilitate human intelligence life more convenient. Therefore, this also emphasized and proved the importance of heterogeneous chip packaging in system integration innovation. Key products and technologies successfully developed in 2022 are as follows:

- (1) Flip Chip Packaging (FCP): IC Flip Chip Bond on High CTE Substrate by LAB
- (2) Wire-bond packaging: Hybrid Wire-bonding and FlipChip of high pin count advanced QFN
- (3) Wafer Level Packaging: ASIC Integrated with Capacitor, RF Device Integrated by 300mm Thick Cu FOSiP
- (4) Advanced packaging and modulation: Advanced Double-Side-Mold (DSM) Technology for High Density Components integration, New Silicon Photonics Chip to Wafer Bonding Technology Mixed Wirebond and S-Trench Assembly
- (5) Panel Level Packaging: Supper efficiency coating process application of panel-level advanced packaging technology, Panel Level Embedded Power Integration High Density Fan Out Package Technology
- (6) SiP Package: IC and Passive Component Integrated by Double Substrate POP
- (7) OEP: High accuracy LD bonding technology, laser beam quality measurement technology, PCB crease defect inspection technology, etc.

Summary of the 2023 Business Plan

1. Operational Guideline of the Group

- (1) To provide clients with services with the “highest quality.”
- (2) To generate long-term and stable profits for the Company and clients.
- (3) To collaborate with vendors and partners to jointly create prosperity.
- (4) To train employees to become experts and elites in respective fields.
- (5) To treat all employees “fairly” and “reasonably.”
- (6) To provide employees with “a harmonious, enjoyable and open” work environment.
- (7) To maintain operational flexibility whenever possible.

2. Estimated Sales Volume and Supporting Information

Based on the industry prospect, future market demands, and productivity of the Group, the estimated sales volume of the Group in 2023 is as follows:

Sales Items	Estimated Sales Volume
Assembly	Approx. 37.7 billion units
Testing	Approx. 5.7 billion units

3. Key Production and Marketing Policies

According to the performance achievement, scale of operation, leading technology and flexible operating strategies, the Company has proven that we are indispensable as a global manufacturing partner. Furthermore, we are able to expand our competitiveness and leading advantages with a more resilient pricing strategy in times of market fluctuations. Under the present geopolitical crisis, the Company’s supply footprints all over the world have further demonstrated our strong competitive advantages. Besides keeping to strengthen the advanced packaging and testing supply chain in Taiwan, we are expanding manufacturing capacity in China, Korea, Malaysia, Singapore, Japan and other countries, in order to flexibly fulfill our world customers’ need for traditional packaging and testing. In the future, we will continue to evaluate further expansion possibilities based on our customers’ and end market’s needs. In terms of electronics manufacturing services (EMS), we have expanded the supply chain from Taiwan and China to Vietnam, Mexico and Europe in the world. At the same time, we will also continue to plan to expand factory sites, infrastructure, and smart production equipment to prepare ourselves for the next economic cycle. Also, we further improve our cash flow through strengthened capital investment management, the efficiency of scale, and sustainable profitability.

Future Development Strategies of the Group

We believe there will be harsher competitions and challenges awaiting the semiconductor industry in the next 10 years, and semiconductors will become Strategic High-Tech Commodities (SHTC) in the world, resulting in more subsidy and restriction measures imposed by countries around the world. Taiwan’s advanced technology will play a key role in world development of the next generation, and we are looking forward to more attention from the Industry-Government-University on relevant laws and supporting facilities, so that we can exert our advantages in the upstream and downstream of the semiconductor industry of our country. In the future, we will take an even more proactive and positive approach toward the implementation of ESG, as we believe that only through creative thinking and practices can we enhance our core competitiveness and maintain steady growth. The Company will focus on both energy-saving and energy transformation. We will implement the green transformation by undertaking green technology innovation projects such as smart factories and start grids based on the three main pillars of “energy-saving”, “green energy” and “energy storage”. Meanwhile, the Company has been approved by the Science Based Targets initiative (SBTi), set the absolute target of 2030, and aim to attain the 2050 net-zero commitment by following its step-by-step process. Furthermore, the Company established the “ASE Social Enterprise Co., Ltd.” to implement corporate sustainable development, promote social integration and exert our corporate influence through an innovative business model. In the future, we will not only promote innovation and develop essential engineering talents for the industry, enhance Taiwan’s competitiveness, but also would like to cultivate talents for the semiconductor industry through industry-academia collaboration to support the competitiveness firmly for the industry. Meanwhile, we will also stick to our motivation to contribute our society to exert our corporate social responsibility in terms of green production, energy saving and carbon reduction, ecosystems conservation and sustainable use, long-term care for the elderly, etc.

Impacts of External Competitive Environment, Regulatory Environment, and Overall Business Environment

The Company has been once again achieved the best overall performance in the Dow Jones Sustainability Indices (DJSI) in 2022. The Company has also emerged as the only global enterprise to have successfully achieved the best overall performance on the DJSI – Semiconductors and Semiconductor Equipment Industry Group for seven consecutive years. Besides DJSI and CDP, we are proud that our ESG performance has been duly recognized by both local and international sustainability rating agencies which included a ranking on the top 5% of listed companies for corporate governance leadership in Taiwan, inclusion as a constituent stock of the Taiwan Sustainability Index for six consecutive years, the Taiwan Corporate Sustainability Awards and Annual Report Award, as well as a listing on the FTSE4Good Emerging Index for eight consecutive years. While taking participation in proactively as a leading sustainable corporate in assembly and testing of semiconductor industry, we believe that we can lead the change for a brighter future through a strategy that is grounded by a culture of innovation, and a strong commitment to green transformation, partnerships and social value.

Jason C.S. Chang, Chairman

Richard H.P. Chang, Vice-Chairman

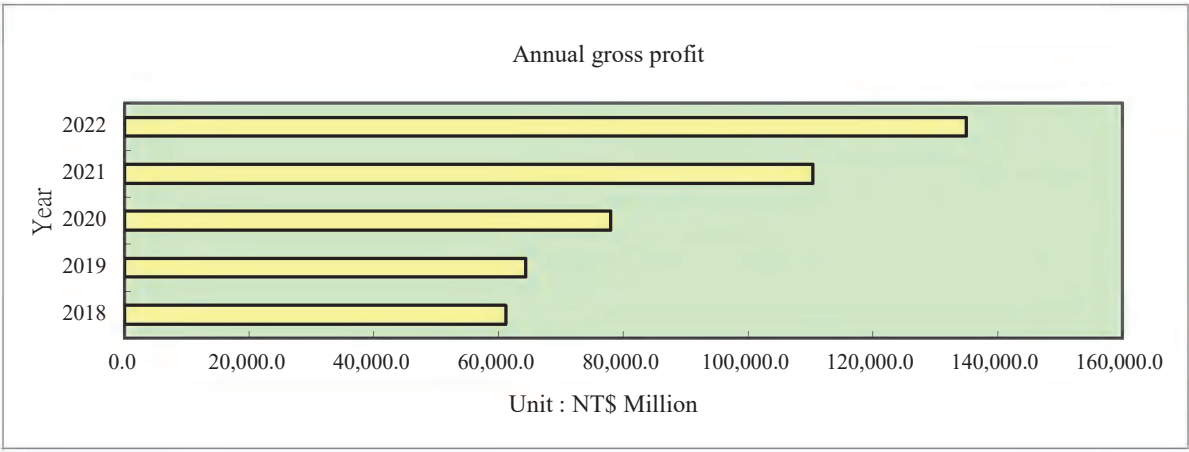
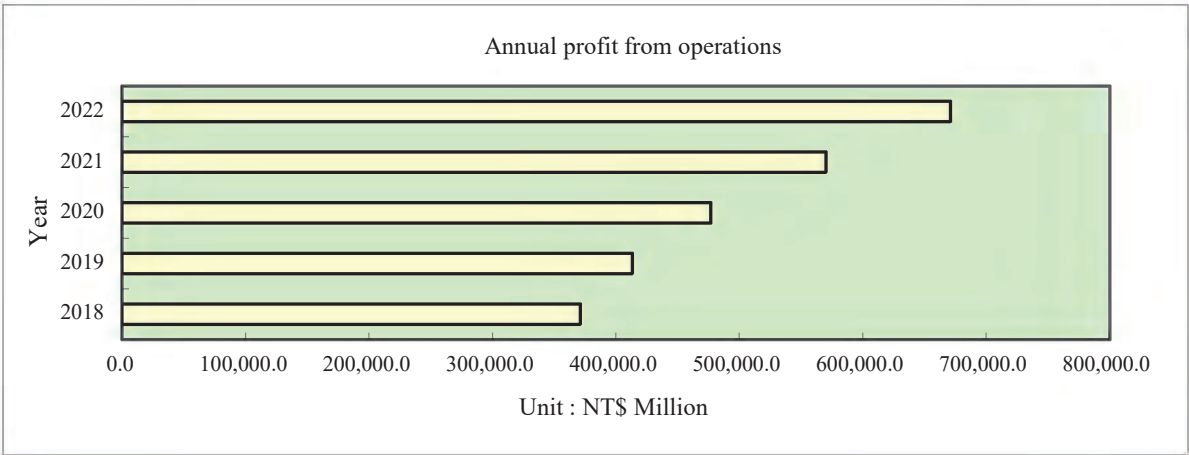
Executive Summary

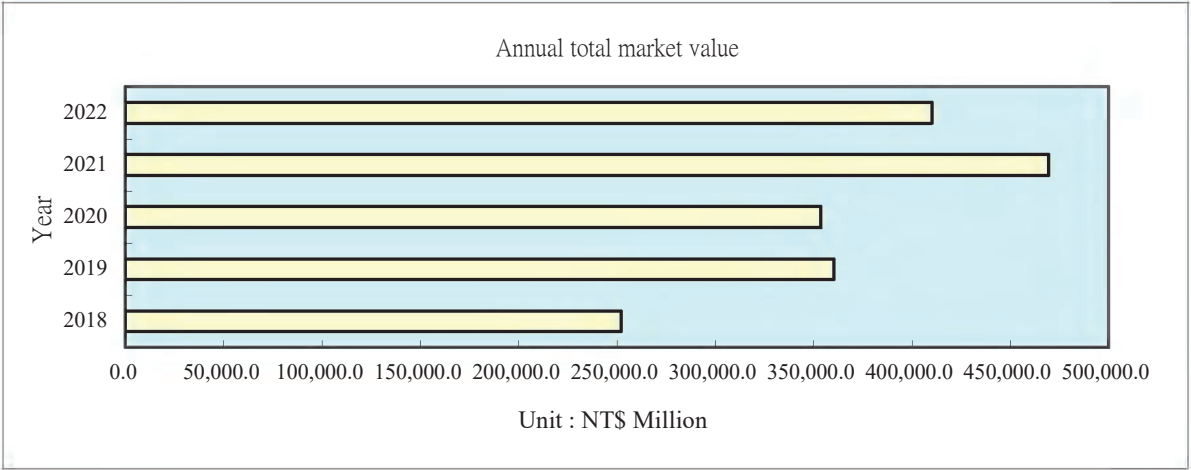
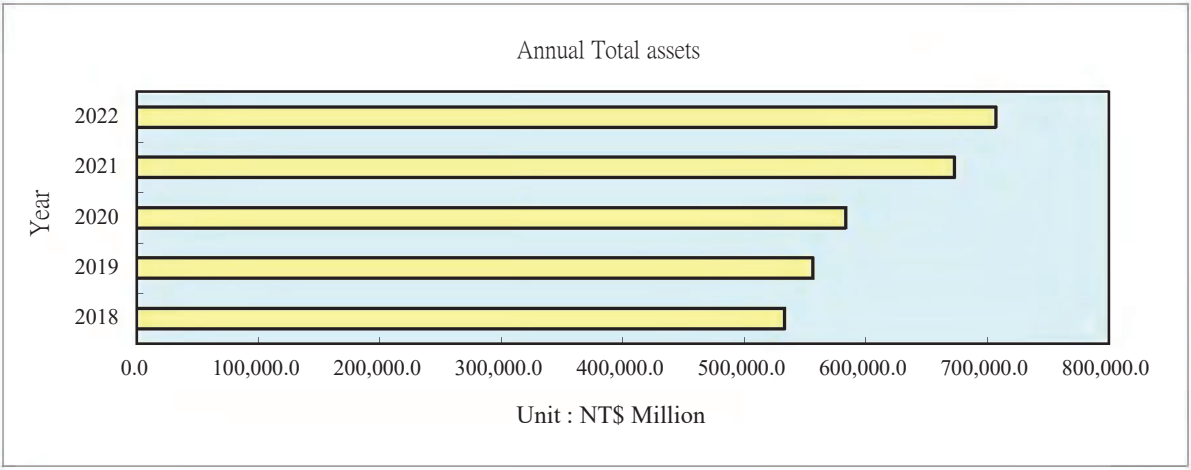
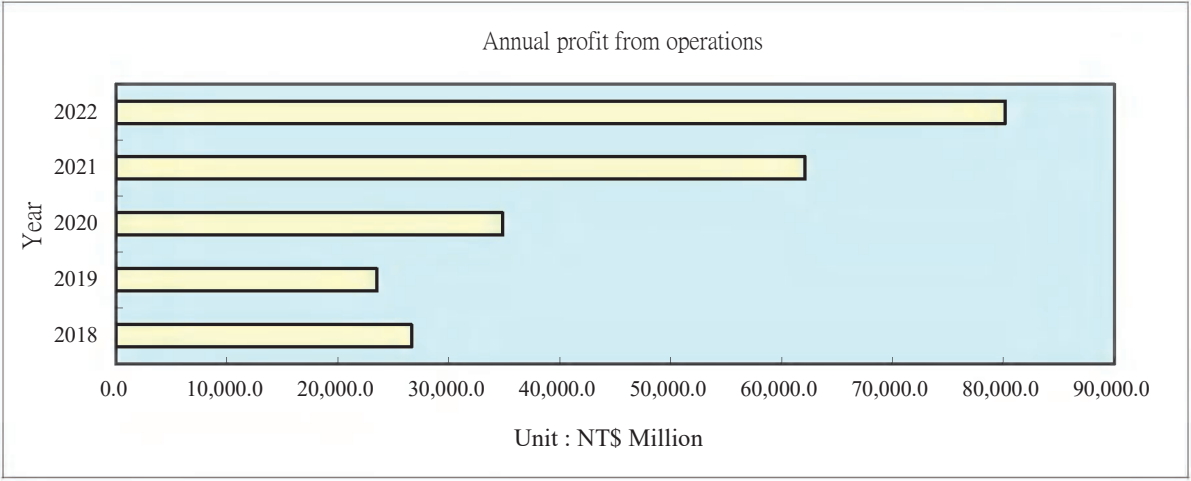
Unit: NT\$ in millions

Consolidated financial statements	2018	2019	2020	2021	2022
Operating revenue	371,092.4	413,182.2	476,978.7	569,997.1	670,872.6
Gross profit	61,163.1	64,310.8	77,984.3	110,368.8	134,930.0
Profit from operations	26,647.7	23,526.4	34,876.1	62,124.3	80,175.6
Profit before income tax	32,047.4	23,362.1	35,733.7	80,335.4	81,625.7
Net income	26,463.8	18,053.1	29,276.8	66,013.6	65,227.1
Total comprehensive income	25,611.2	13,799.7	30,128.3	66,659.7	73,357.3
Diluted earnings per share after retroactive adjustment (NT\$/share)	5.84	3.86	6.31	14.40	13.94
Cash dividend (NT\$/share)	2.49868226	1.99802982	4.19149913	6.99598280	(Note 1)
Property, plant and equipment	214,592.6	232,093.3	234,365.4	239,867.6	268,234.6
Total equity	220,670.5	214,346.7	234,262.6	274,632.7	319,925.1
Total assets	533,371.2	556,654.3	583,666.8	672,934.3	707,068.4
Number of employees	93,891	96,528	101,981	95,727	97,079
Total market value (Note 2)	251,951.0	360,246.3	353,709.9	469,454.0	410,084.1

Note 1：Will be finalized after the Board of Directors authorizes the Chairman of the Board to adjust based on the shares on the Record Date.

Note 2：Total market value = end-of-year closing price × outstanding shares





II. Company Profile

2.1 Date of Establishment: April 30, 2018

2.2 Milestones:

Company milestones are as follows:

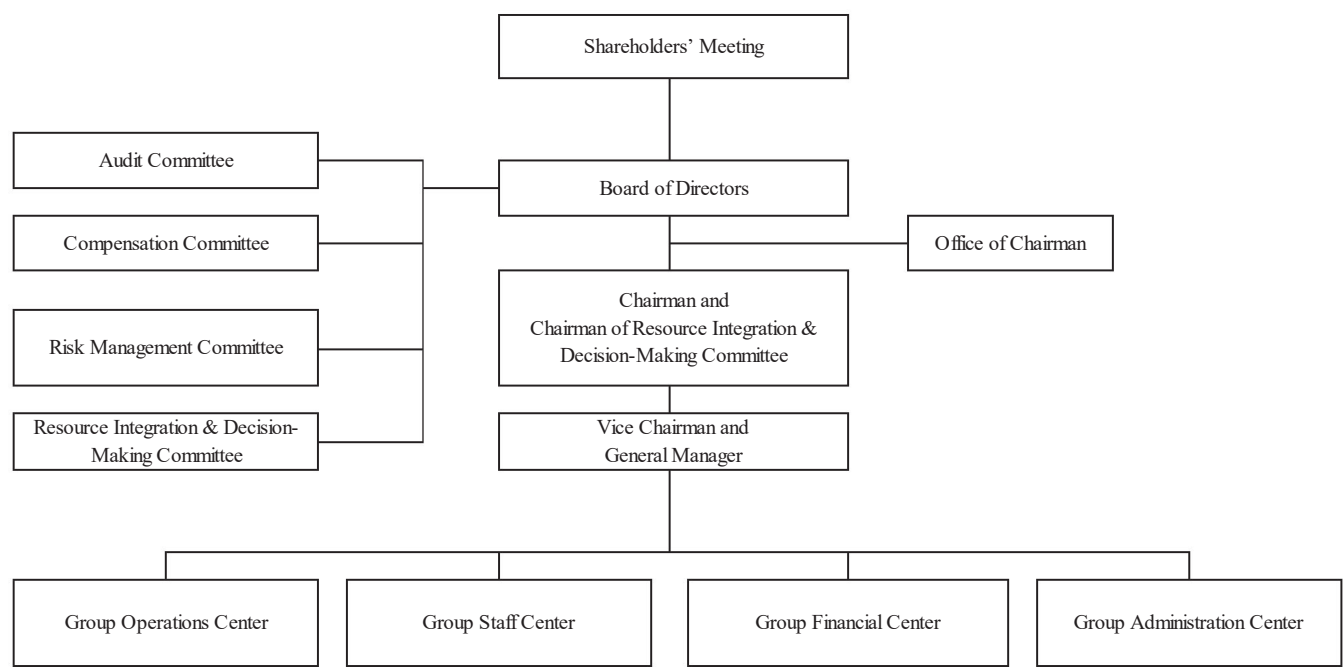
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|-----------|---|
| Feb. 2018 | Advanced Semiconductor Engineering, Inc. (ASE) and Siliconware Precision Industries Co., Ltd. (SPIL) are committed to providing high-quality, efficient, and comprehensive assembly and testing services to ensure the future development and sustainability of the semiconductor industry. The companies have jointly established a new holding company that ensures fairness, reciprocity, and mutual benefits. After gaining majority approval in the ASE and SPIL Extraordinary General Meeting respectively held on February 12, 2018, ASE Technology Holding Co., Ltd. was formally established through Joint Share Exchange Agreement, and the request for listing on the Taiwan Stock Exchange was submitted pursuant to regulations. |
| Apr. 2018 | Following approval by the Taiwan Stock Exchange on March 26, 2018, ASE and SPIL suspended the public trading of company shares on 30 April 2018. ASE Technology Holding Co., Ltd. listed on the Taiwan Stock Exchange on the same day in the Semiconductor Industry category (TWSE code: 3711). |
| Jan. 2019 | <p>In order to integrate all resources and enhance the operational effectiveness of the Group, the Board of Directors made the resolution in December 2018 that the Company merges with USI Global Inc., the Company's subsidiary which the Company holds 100% of the subsidiary's shares. The reference date is set to be Jan. 31, 2019. After the merger, the Company becomes the surviving company and USI Global Inc. becomes the dissolved company.</p> <p>Mr. Jason C.S. Chang, Chairman of the Company has been awarded an honorary Ph.D. in Engineering by National Sun Yat-sen University, as recognition for his contribution to the semiconductor industry.</p> |
| Sep. 2019 | For the first time this year, the Company has been named as the world-class industry leader in " Semiconductors and Semiconductor Equipment Industry" by Dow Jones Sustainability Index (DJSI) in conjunction with the Company's Advanced Semiconductor Engineering, Inc., Siliconware Precision Industries Co., Ltd., and USI Inc. The Company has also won the leadership in the Semiconductors and Semiconductor Equipment Industry for four consecutive years with continued leadership. |
| Oct. 2019 | The Company, with the green bond qualification, had issued the 2019 second phase of unsecured international ordinary corporate bonds of US\$ 300 million. The funds raised from the bonds will be fully invested as the capital increase of the subsidiary ASE for green investment plan related expenses. |
| Jan. 2020 | The Company had won the award for the highest grade A List of the International Climate Change Program Evaluation (CDP) of 2019 while becoming the only enterprise in Taiwan to win three CDP A List, once again being a leader in taking the climate change management action in semiconductor industry. Additionally, it is the only enterprise in Taiwan to win CDP A List and DJSI leadership in the same year. |

Mar. 2020	The Company was granted the lifting of the additional restriction imposed by the Anti-monopoly Bureau of the State Administration of Market Regulation of Mainland China in the case of the joint holding company of ASE Co., Ltd. and SPIL Co., Ltd.
Jul. 2020	The Company has joined Apple's supplier clean energy program.
Dec. 2020	The world's first smart factory powered by an enterprise private 5G mmWave network was officially launched. The Company was awarded "The Most Prestigious Sustainability Awards - Top Ten Domestic Corporates (Manufacturing Industry)." Additionally, for the fifth year in a row, it was awarded the title of "DJSI Semiconductors and Semiconductor Equipment Industry Leader" by the Dow Jones Sustainability Index.
Nov. 2021	The Company has achieved the best overall performance on the Dow Jones Sustainability Indices (DJSI) – Semiconductors and Semiconductor Equipment Industry Group for the sixth consecutive year. We are the first company in Taiwan who received the highest scores in industry rating for six consecutive years.
Jul. 2022	Mr. Jason C.S. Chang, Chairman of the Company, has been awarded an honorary Ph.D. by National Cheng Kung University, as recognition for his leadership of the Group to make significant contributions to the semiconductor assembly and testing industry in Taiwan.
Dec. 2022	The Company has been once again achieved the best overall performance in the Dow Jones Sustainability Indices (DJSI) in 2022. The Company has also emerged as the only global enterprise to have successfully achieved the best overall performance on the DJSI – Semiconductors and Semiconductor Equipment Industry Group for seven consecutive years. The Company has also been on the CDP's (the Carbon Disclosure Project) annual list for Climate Leadership for six years' standing since 2016.

III. Corporate Governance

3.1 Organization

3.1.1 Organizational Chart:



3.1.2 Major Corporate Functions:

■ Office of Chairman

Department of ASE Group Internal Audit:

Independent, objective assurance and continuous improvement of the effectiveness of risk management, internal control, and governance processes.

■ ASE Group Operation Center

Office of the Group Chief Operating Officer:

The compilation and review of Group management reports, Integration of Group sales forecast system, Integration of Group equipment utilization system, Coordination of Group equipment allocation, Group investment expenditures and the analysis of effectiveness evaluation, Coordination across the manufacturing plants, The implementation of Group policies.

■ ASE Group Staff Center

Office of the Group Chief Officer of Staff:

Strategical and market planning, including research into and planning of the industry and market trends, the Company's operational performance, operational investment, and strategies.

■ Group Financial Center

Department of Group Accounting Control:

Setting the Group's consolidated accounting policies and monitoring the compliance of the company and subsidiaries, generating consolidated financial statements, integrating and analyzing the Group's financial data, controlling the financial statements of the company and subsidiaries.

Department of ASE Group Board Secretariat:

Agenda management of functional committees, General Shareholders' Meetings, Board of Directors Meetings, publication of disclosed information (including material information) and reporting of public announcements, application and reporting of external investment cases (investment in Mainland China), generation and management of the Group's annual reports in Chinese and English, communication and coordination with competent authorities (Taiwan stock exchanges and Investment Commission), monitoring and management of information to be disclosed by the Group's subsidiaries.

Department of ASE Group Finance:

Investment assessment and planning, financial risk management, and capital movement.

Department of ASE Group Projects:

Integration and analysis of group management reports, financial support of ASEH, maintenance and development of reporting systems, stock option affairs, etc.

Department of the Group Internal Control and Management:

Internal control mechanism assessment and recommendation, operational procedures and control effectiveness evaluation. Enterprise risk management assessment, disclosure and enhancement. Group ERM committee general affairs and risk management policies execution and assistance.

Department of ASE Holding Investor Relations:

Managing the relationship between the firm and investors. Communicating with shareholders, investors, and analysts on the firm's operational performance, strategic and long term planning, capital allocation, and corporate governance, etc., and providing investors' feedback to the management team.

Department of ASE Group Public Relations:

Managing Corporate images, establishing and maintaining the relationship with the media and other stakeholders, publishing disclosed information, planning and executing PR events, and risk handling.

■ **ASE Group Administration Center:**

HC CAO Office:

Handling the Group's legal affairs, constructing and executing the Group's legal compliance tasks, being responsible for the Group's corporate governance, risk management and external public relations.

HC Sustainability Management Center:

Planning and promoting ASE Technology Holding Co. corporate sustainability and social responsibility tasks, including corporate governance, supply chain management, environment & climate change, employee care & development, and social engagement. Additionally, organizing and presenting aforementioned sustainability performances.

3.2 Information of Directors, Supervisors, General Manager, Vice Presidents, Assistant Vice Presidents, Officers of Departments and Branches:

3.2.1 Information Regarding Directors (Date of this Annual Report: February 28, 2023) Unit: Shares

Title	Nationality or Place of Registration	Name **	Gender Age	Date Elected	Term	Date First Elected	Shareholding when Elected		Current Shareholding*		Current Shareholding of Spouse & Minor Children*		Shareholding in the Name of Others*		Major Education and Work Experience Current Positions at the Company or Other Companies****	Other Officers, Directors or Supervisors who are the Spouse or a Relative Within Two Degrees of Kinship			Remarks ***
							Shares	%	Shares	%	Shares	%	Shares	%		Title	Name	Relation	
Director	Hong Kong	A.S.E. Enterprises Limited		2021.08.12	3 years	1991.03.30	684,327,886	15.62%	684,327,886	15.66%	—	—	—	—	—	—	—	—	—
Director (Representative)	Singapore	Jason C.S.Chang (Chairman)	M 71-80												B.S. in Electrical Engineering, National Taiwan University M.S. in Electrical Engineering, Illinois Institute of Technology	Vice Chairman Director	Richard Chang Rutherford Chang	Brother Son	—
	Hong Kong	Richard H.P. Chang (Vice Chairman)	M 71-80												B.S. in Industrial Engineering, Chung Yuan Christian University	Chairman	Jason Chang	Brother	—
	R.O.C.	Chi-Wen Tsai	M 71-80												B.S. in Electrical Engineering, National Taipei Institute of Technology	—	—	—	—
	R.O.C.	Tien Wu	M 61-70												Ph.D. in Applied Mechanics, University of Pennsylvania	—	—	—	—
	R.O.C.	Joseph Tung	M 61-70												M.B.A., University of Southern California Vice President of Corporate Finance, Citibank	—	—	—	—
	R.O.C.	Raymond Lo	M 61-70												B.S. in Electrophysics, National Chiao Tung University	—	—	—	—
	R.O.C.	TS Chen	M 61-70												B.S. in Industrial Engineering and Management, Chung Yuan Christian University	—	—	—	—
	R.O.C.	Jeffrey Chen	M 51-60												M.B.A., University of British Columbia Vice President, Bankers Trust Company Taipei Branch	—	—	—	—
	R.O.C.	Yen-Chun Chang	M 61-70												B.S. in Electrical Engineering, Nan-Tai College	—	—	—	—
Director	U.S.A.	Rutherford Chang	M 41-50			2009.06.25	1,577,647	0.04%	1,577,647	0.04%	—	—	255,000	0.01%	B.S. in Psychology, Wesleyan University	Chairman	Jason Chang	Father	—
Independent Director	R.O.C.	Sheng-Fu You	M 71-80			2009.06.25	—	—	—	—	2,388	0.00%	—	—	B.A. in Accounting, College of Management, National Taiwan University M.S. in Accounting, National Chengchi University	—	—	—	—
	R.O.C.	Mei-Yueh Ho	F 71-80			2010.06.18	—	—	—	—	—	—	—	—	B.S. in Agricultural Chemistry, National Taiwan University	—	—	—	—
	R.O.C.	Philip Wen-Chyi Ong	M 61-70			2017.06.30	—	—	—	—	—	—	—	—	Bachelor, Division of International Relations, Department of Political Science, National Taiwan University Investment and Risk Management M.Sc., City University London	—	—	—	—

* Shares are calculated up to the Date of this Annual Report.

** Not including information of directors whose terms were expired .

*** If the chairman, general manager or personnel with equivalent position (chief officer) are the same person, spouses or relatives within first degree of kinship, relevant information on the reasons, reasonability, necessity, and measures to be taken accordingly (e.g. by way of increasing the number of independent directors and requiring half of the directors not to serve as employees or officers) shall be addressed : The Company has no such thing.

******Current positions of the directors (and officers) of the Company or other companies:**

Jason C.S. Chang	ASE Technology Holding Co., Ltd. – Chairman and Chairman of Resource Integration & Decision-Making Committee Advanced Semiconductor Engineering, Inc. – Chairman J&R Industrial Inc. – Chairman ASE Test Inc. – Chairman ASE Test Holdings, Ltd. – Director A.S.E. Holding Ltd. – Director J&R Holding Ltd. – Director Innosource Ltd. – Director ASE Test Limited – Director ASE Investment (Kunshan) Limited – Chairman ASE Mauritius Inc. – Director ASE Corporation – Director ASE Labuan Inc. – Director Alto Enterprises Ltd. – Director Super Zone Holdings Ltd. – Director Shanghai Ding Hui Real Estate Development Co., Ltd. – Chairman Shanghai Ding Wei Real Estate Development Co., Ltd. – Chairman Shanghai Ding Yu Real Estate Development Co., Ltd. – Chairman KunShan Ding Hong Real Estate Development Co., Ltd. – Chairman Shanghai Ding Qi Property Management Co., Ltd– Chairman SH Dingfan Business Management Co., Ltd. – Chairman Shanghai Dingxu Property Management Co., Ltd. – Chairman SH Dingyao Estate Development Co., Ltd. – Chairman Sino Horizon Holdings Limited – Director (representative) Wealthy Joy Co. Ltd. – Director Shanghai Ding Rong Real Estate Development Co., Ltd. – Director Chongqing Dinggu Real Estate Development Co., Ltd. – Director Shanghai Ding Xin Properties Co., Ltd. – Director Kunshan Ding Yao Real Estate Development Co., Ltd. – Supervisor Shanghai Ding Jia Real Estate Development Co., Ltd. – Supervisor Shanghai Ding Tong Real Estate Development Co., Ltd. – Supervisor Shanghai Hong Xiang Land Investment Co., Ltd. – Supervisor Shanghai Ming Long Construction and Development Co., Ltd. – Supervisor Shanghai Ding Yi Real Estate Development Co., Ltd. – Director True Elite Holdings Limited – Director Wenzhou Hongde Construction Development Co., Ltd. – Director Forest Symbol Limited – Director Excellent Worth Holdings Limited – Director ASE Enterprises – Director Value Tower Limited – Director Aintree Limited – Director JC Holdings Limited – Director ASE Environmental Protection and Sustainability Foundation – Chairman ASE Cultural and Educational Foundation – Director ASE Technology Partners, Limited – Director	Richard H.P. Chang	ASE Technology Holding Co., Ltd. – Vice Chairman and General Manager J&R Industrial Inc. – Director (representative) Innosource Ltd. – Director Omniquest Industrial Ltd. – Director ASE Test Limited – Director A.S.E. Holding Ltd. – Director J&R Holding Ltd. – Director GAPT Limited – Director Advanced Semiconductor Engineering (HK) Limited – Chairman Alto Enterprises Ltd. – Director Super Zone Holdings Ltd. – Director Sino Horizon Holdings Limited – Chairman Wealthy Joy Co. Ltd. – Director Peak Vision International Limited – Director Peak Paramount International Limited – Director Great Sino Development Ltd. – Director Sino Engine Group Limited –Director Fairwheel Holdings Limited – Director Imperial Corporation Limited – Director Shanghai Ding Gu Properties Co., Ltd. – Chairman Shanghai Ding Jia Real Estate Development Co., Ltd. – Chairman Shanghai Ding Tong Real Estate Development Co., Ltd. – Chairman Shanghai Hong Xiang Land Investment Co., Ltd. – Chairman Shanghai Ming Long Construction and Development Co., Ltd. – Chairman Shanghai Ding Rong Real Estate Development Co., Ltd. – Chairman Shanghai Ding Lin Real Estate Development Co., Ltd. – Chairman Shanghai Ding Xin Properties Co., Ltd. – Chairman Kunshan Ding Yao Real Estate Development Co., Ltd. – Chairman Chongqing Dinggu Real Estate Development Co., Ltd. – Chairman Chongqing Dinggu Property Management Co., Ltd. – Executive Director Shanghai Ding Yi Real Estate Development Co., Ltd. – Chairman Wuxi Ding Gu Real Estate Development Co., Ltd. – Executive Director Wenzhou Hongde Construction Development Co., Ltd. – Director Chongqing Dinghao Market Management Co., Ltd. – Executive Director Shanghai Ding Gu Property Management Co., Ltd. – Executive Director ASE Enterprises – Director Warm Land Development Ltd. – Director Ding-Chang Investment Co., Ltd. – Director Wan-Chang Investment Co., Ltd. – Director Wan-Ya Investment Co., Ltd. – Director Ding-Ku Investment Co., Ltd. – Director
		Chi-Wen Tsai	ASE Technology Holding Co., Ltd. –Director (representative) Siliconware Precision Industries Co., Ltd. – Chairman and General Manager Siliconware Investment Co., Ltd. –Chairman Siliconware USA, Inc. – Director SPIL (Cayman) Holding Limited– Director Siliconware Technology (Suzhou) Ltd. – Director SPIL (B.V.I.) Holding Limited– Director

Tien Wu	<p>ASE Technology Holding Co., Ltd. –Director (representative) and Group COO</p> <p>Advanced Semiconductor Engineering, Inc. – General Manager and CEO</p> <p>ASE Electronics Inc. – Chairman</p> <p>ASE (Shanghai) Inc. – Chairman</p> <p>ASE (Korea) Inc. – Director</p> <p>ASE Electronics (Malaysia) Sdn. Bhd. –Director</p> <p>ISE Labs, Inc. – Chairman</p> <p>ASE Singapore Pte. Ltd. – Chairman</p> <p>ASE Japan Co., Ltd. –Director</p> <p>ASE Marketing & Service Japan Co., Ltd. –Chairman</p> <p>GAPT Limited – Director</p> <p>ASE Assembly & Test (Shanghai) Limited – Chairman</p> <p>Wuxi Tongzhi Microelectronics Co., Ltd. – Chairman</p> <p>ISE labs, China. Ltd. – Chairman</p> <p>USI Inc. –Director (representative) and CEO</p> <p>ASE Social Enterprise Co., Ltd. – Chairman</p> <p>ASE Environmental Protection and Sustainability Foundation – Director</p> <p>ASE Cultural and Educational Foundation – Director</p> <p>ASE Technology Partners, Limited – Director</p> <p>ASE Investment (Kunshan) Limited –Director</p>	Jeffrey Chen	<p>ASE Technology Holding Co., Ltd. –Director (representative)</p> <p>Advanced Semiconductor Engineering, Inc. – Director (representative) and General Manager of China Headquarters in Shanghai</p> <p>ASE Test Inc. – Director (representative)</p> <p>ASE (Shanghai) Inc. – Supervisor</p> <p>ASE (Korea) Inc. – Supervisor</p> <p>Wuxi Tongzhi Microelectronics Co., Ltd. – Director</p> <p>ASE Test Limited – Director</p> <p>ASE Test Holdings, Ltd. – Director</p> <p>Omniquest Industrial Ltd. – Director</p> <p>ASE Assembly & Test (Shanghai) Limited – Supervisor</p> <p>Shanghai Ding Hui Real Estate Development Co., Ltd. –Director</p> <p>ASE Electronics Inc. – Director (representative)</p> <p>Advanced Semiconductor Engineering (HK) Limited – Director</p> <p>Shanghai Ding Wei Real Estate Development Co., Ltd. –Director</p> <p>Shanghai Ding Yu Real Estate Development Co., Ltd. –Director</p> <p>KunShan Ding Hong Real Estate Development Co., Ltd. –Director</p> <p>Shanghai Ding Qi Property Management Co., Ltd. – Director</p> <p>SH Dingfan Business Management Co., Ltd. – Director</p> <p>Shanghai Dingxu Property Management Co., Ltd. – Director</p> <p>SH Dingyao Estate Development Co., Ltd. –Director</p> <p>Super Zone Holdings Ltd. – Director</p> <p>USI Inc. – Chairman</p> <p>Huntington Holdings International Co. Ltd. – Director</p> <p>Universal Scientific Industrial Co., Ltd – Director (representative)</p> <p>Universal Scientific Industrial (Shanghai) Co., Ltd. – Chairman</p> <p>Universal Global Technology (Kunshan) Co., Ltd. – Chairman</p> <p>Universal Global Technology Co., Limited –Director</p> <p>Universal Global Industrial Co., Limited –Director</p> <p>Universal Global Scientific Industrial Co., Ltd. – Director (representative)</p> <p>USI Electronics (Shenzhen) Co., Ltd. –Director</p> <p>Universal Global Technology (Shanghai) Co., Ltd. – Chairman</p> <p>Universal Global Electronics (Shanghai) Co., Ltd. – Chairman</p> <p>Universal Scientific Industrial (France) – Chairman</p> <p>Universal Global Technology (Huizhou) Co – Chairman</p> <p>Universal Global Electronics Co., Ltd. – Director</p> <p>USI Science and Technology (Shenzhen) Co – Chairman</p> <p>Real Tech Holdings Limited – Director</p> <p>FINANCIERE AFG – Chairman</p> <p>Mercuries and Associates Holding , Ltd. – Independent Director, Member of the Audit Committee and Member of the Compensation Committee</p> <p>ASE Environmental Protection and Sustainability Foundation – Director</p> <p>ASE Cultural and Educational Foundation – Director</p>
Joseph Tung	<p>ASE Technology Holding Co., Ltd. –Director (representative) and Group CFO</p> <p>Advanced Semiconductor Engineering, Inc. –General Manager</p> <p>ASE Social Enterprise Co., Ltd. –Director (representative)</p> <p>J&R Industrial Inc. – Director (representative)</p> <p>ASE Japan Co., Ltd. – Supervisor</p> <p>ASE Marketing & Service Japan Co., Ltd. – Supervisor</p> <p>Innosource Ltd. – Director</p> <p>J&R Holding Ltd. – Director</p> <p>A.S.E. Holding Ltd. – Director</p> <p>Omniquest Industrial Ltd. – Director</p> <p>ASE Test Holdings, Ltd. – Director</p> <p>ASE (Korea) Inc. – Director</p> <p>ASE Electronics (Malaysia) Sdn. Bhd. – Director</p> <p>ASE Labuan Inc. – Director</p> <p>ASE Corporation – Director</p> <p>Alto Enterprises Ltd. – Director</p> <p>Lu-Chu Development Corporation – Director (representative)</p> <p>Wuxi Tongzhi Microelectronics Co., Ltd. – Supervisor</p> <p>TLJ Intertech Inc. – Director and General Manager</p> <p>Asia Pacific Emerging Industry Venture Capital Co., Ltd. – Director (representative)</p> <p>ASE Environmental Protection and Sustainability Foundation – Director</p> <p>ASE Cultural and Educational Foundation – Director</p>		
Raymond Lo	<p>ASE Technology Holding Co., Ltd. – Director (representative)</p> <p>Advanced Semiconductor Engineering, Inc. – Director (representative) and General Manager of the Kaohsiung Plant</p> <p>ASE Test Inc. – Director (representative) and General Manager</p> <p>ASE Environmental Protection and Sustainability Foundation – Director</p>		
TS Chen	<p>ASE Technology Holding Co., Ltd. –Director (representative)</p> <p>Advanced Semiconductor Engineering, Inc. – Director (representative) and General Manager of the Chungli Plant</p> <p>ASE Test Inc. – Director (representative)</p> <p>Lu-Chu Development Corporation – Director (representative)</p> <p>ASE Environmental Protection and Sustainability Foundation – Director</p>		
		Yen-Chun Chang	<p>ASE Technology Holding Co., Ltd. – Director (representative)</p> <p>Siliconware Precision Industries Co., Ltd. –Vice Chairman and COO</p> <p>Siliconware Investment Co., Ltd. –Director (representative)</p>

Rutherford Chang	ASE Technology Holding Co., Ltd. – Director Advanced Semiconductor Engineering, Inc. –Director (representative) ASE Test Inc. – Director (representative) ASE Investment (Kunshan) Limited –Director and General Manager Universal Scientific Industrial (Shanghai) Co., Ltd. – Director USI Inc. – Director (representative)	Alan Li	ASE Technology Holding Co., Ltd. – Senior VP Advanced Semiconductor Engineering, Inc. – Director (representative) and CFO ASE Social Enterprise Co., Ltd. –Supervisor (representative) ASE Test Limited – Director ASE Test Inc. – Director (representative) Lu-Chu Development Corporation – Director (representative) TLJ Intertech Inc. – Director (representative) Advanced Semiconductor Engineering (China) Ltd. – Supervisor USI Inc. – Director (representative) HanTech Investment Venture Capital Corporation. – Director (representative) ASE Mauritius Inc. – Director Advanced Microelectronic Products Inc. – Director (representative) ASE Assembly & Test (Shanghai) Limited– Director ASE Technology Partners, Limited – Director
Sheng-Fu You	ASE Technology Holding Co., Ltd. – Independent Director, Member of the Audit Committee, Member of the Compensation Committee and Member of the Risk Management Committee Advanced Semiconductor Engineering, Inc. – Member of the Compensation Committee Shang Ta Investment Limited – Director TaiGen Biopharmaceuticals Holdings Limited – Independent Director	Murphy Kuo	ASE Technology Holding Co., Ltd. – Senior VP and Group Controller Advanced Semiconductor Engineering, Inc. – Senior VP and Controller ASE Test Inc. -Supervisor (representative) Lu-Chu Development Corporation – Director (representative)
Mei-Yueh Ho	ASE Technology Holding Co., Ltd. – Independent Director, Member of the Audit Committee and Member of the Risk Management Committee Center Laboratories, Inc. – Independent Director, Member of the Audit Committee and Member of the Compensation Committee Kinpo Electronics, Inc. – Director Ownard Therapeutics SA– Independent Director	Anne Chang	ASE Technology Holding Co., Ltd. – Senior VP ASE Test Inc. – Director (representative)
Philip Wen-Chyi Ong	ASE Technology Holding Co., Ltd. – Independent Director, Member of the Audit Committee and Member of the Compensation Committee Advanced Semiconductor Engineering, Inc. – Member of the Compensation Committee Formosa Plastics Corporation –Independent Director, Member of the Audit Committee and Member of the Compensation Committee	Peili Shen	ASE Technology Holding Co., Ltd. – VP
David Pan	ASE Technology Holding Co., Ltd. – Group Chief of Staff ASE Marketing & Service Japan Co., Ltd. – Director ASE Japan Co., Ltd. – Director ASE Test Holdings, Ltd. – Director ASE Test Inc. – Director (representative) Lu-Chu Development Corporation – Chairman TLJ Intertech Inc.– Chairman Advanced Microelectronic Products Inc. – Director (representative) ASE Electronics Inc. – Supervisor (representative) USI Inc.- Director (representative)	Eddie Chang	ASE Technology Holding Co., Ltd. – VP Lu-Chu Development Corporation – Supervisor(representative) HanTech Investment Venture Capital Corporation. – Supervisor
Dtuang Wang	ASE Technology Holding Co., Ltd. – Group CAO , Corporate Governance Officer and Member of the Risk Management Committee, risk officer and CISO Advanced Semiconductor Engineering, Inc. – Director (representative) and CAO Advanced Semiconductor Engineering (China) Ltd. – Chairman and General Manager ASE Assembly & Test (Shanghai) Limited –Director and General Manager Universal Scientific Industrial (Shanghai) Co., Ltd. – Director ASE Social Enterprise Co., Ltd. –Director and General Manager ASE Environmental Protection and Sustainability Foundation – Director and CEO ASE Cultural and Educational Foundation – Director Hung Ching Development & Construction Co., Ltd. – Director Hung Chin Hsin Co., Ltd. – Director and General Manager Sino Horizon Holdings Limited – Director Chang Yao Hong-Ying Social Welfare & Charity Foundation – Director and CEO Professor, School of Law, Ming Chuan University	Kenneth Hsiang	ASE Technology Holding Co., Ltd. – VP ISE Labs, Inc. – Director ISE Services, Inc. – Director ASE Singapore Pte. Ltd. – Director ASE (U.S.) Inc. – Director ISE labs, China. Ltd.– Director

Table 1.1 List of Main Shareholders of the Directors that are Institutional Shareholders
February 28, 2023

Institutional Shareholder	Main Shareholder of Institutional Shareholder	Shareholding Ratio
A.S.E. Enterprises Limited	Aintree Limited	100.00%

Table 1.2 List of Main Shareholders of the Institutional Shareholders Whose Main Shareholders are Institutional Holders
February 28, 2023

Institutional Shareholder	Main Shareholder of Institutional Shareholder	Shareholding Ratio
Aintree Limited	JC Holdings Limited	100.00%

Table 1.3 Disclosure of Information Regarding the Professional Qualifications and Experience of Directors and the Independence of Independent Directors :

Qualification Name	Professional qualifications and experience	Independence anylysis	No. of other public companies at which the person concurrently serves as an independent director
Jason C.S. Chang	<ul style="list-style-type: none"> •Professional Background : Electrical Engineering •Industry Experience : Information Technology •Current Position : ASE Technology Holding Co., Ltd. – Chairman Advanced Semiconductor Engineering, Inc. – Chairman ASE Test Inc. – Chairman ASE Environmental Protection and Sustainability Foundation – Chairman Sino Horizon Holdings Limited- Director (representative) •Not subject to any of the conditions defined in Article 30 of the Company Law 	—	0
Richard H.P. Chang	<ul style="list-style-type: none"> •Professional Background : Industrial Engineering •Industry Experience : Information Technology •Current Position : ASE Technology Holding Co., Ltd. – Vice Chairman and General Manager Advanced Semiconductor Engineering (HK) Limited – Chairman Sino Horizon Holdings Limited- Chairman •Not subject to any of the conditions defined in Article 30 of the Company Law 	—	0
Chi-Wen Tsai	<ul style="list-style-type: none"> •Professional Background : Electrical Engineering •Industry Experience : Information Technology •Current Position : ASE Technology Holding Co., Ltd. –Director (representative) Siliconware Precision Industries Co., Ltd. – Chairman and General Manager Siliconware Investment Co., Ltd. –Chairman Siliconware USA, Inc. – Director Siliconware Technology (Suzhou) Ltd. – Director •Not subject to any of the conditions defined in Article 30 of the Company Law 	—	0
Tien Wu	<ul style="list-style-type: none"> •Professional Background : Civil Engineering, Mechanical Engineering and Applied Mechanics •Industry Experience : Information Technology •Current Position : ASE Technology Holding Co., Ltd. –Director (representative) and Group COO 	—	0

Qualification	Professional qualifications and experience	Independence anylysis	No. of other public companies at which the person concurrently serves as an independent director
Name			
	Advanced Semiconductor Engineering, Inc. – General Manager and CEO USI Inc. –Director (representative) and CEO Global Semiconductor Association (GSA) – Director Semiconductor Equipment and Materials International (SEMI) – Director ASE Environmental Protection and Sustainability Foundation – Director •Not subject to any of the conditions defined in Article 30 of the Company Law		
Joseph Tung	•Professional Background : Economics, Business Administration •Industry Experience : Information Technology, Financials •Current Position : ASE Technology Holding Co., Ltd. –Director (representative) and Group CFO Asia Pacific Emerging Industry Venture Capital Co., Ltd. – Director (representative) ASE Environmental Protection and Sustainability Foundation – Director •Not subject to any of the conditions defined in Article 30 of the Company Law	—	0
Raymond Lo	•Professional Background : Electronic Physics •Industry Experience : Information Technology •Current Position : ASE Technology Holding Co., Ltd. –Director (representative) Advanced Semiconductor Engineering, Inc. – Director (representative) and General Manager of the Kaohsiung Plant ASE Test Inc. – Director (representative) and General Manager ASE Environmental Protection and Sustainability Foundation – Director •Not subject to any of the conditions defined in Article 30 of the Company Law	—	0
TS Chen	•Professional Background : Industrial Engineering •Industry Experience : Information Technology •Current Position : ASE Technology Holding Co., Ltd. –Director (representative) Advanced Semiconductor Engineering, Inc. – Director (representative) and General Manager of the Chungli Plant ASE Test Inc. – Director (representative) ASE Environmental Protection and Sustainability Foundation – Director •Not subject to any of the conditions defined in Article 30 of the Company Law	—	0
Jeffrey Chen	•Professional Background : Finance and Economics, Business Administration •Industry Experience : Information Technology, Financials •Current Position : ASE Technology Holding Co., Ltd. –Director (representative) Advanced Semiconductor Engineering, Inc. – Director (representative) and General Manager of China Headquarters in Shanghai Universal Scientific Industrial (Shanghai) Co., Ltd. – Chairman FINANCIERE AFG –Chairman Mercuries and Associates Holding , Ltd. – Independent Director, Member of the Audit Committee and Member of the Compensation Committee ASE Environmental Protection and Sustainability Foundation – Director •Not subject to any of the conditions defined in Article 30 of the Company Law	—	1
Yen-Chun Chang	•Professional Background : Electrical Engineering •Industry Experience : Information Technology •Current Position : ASE Technology Holding Co., Ltd. –Director (representative) Siliconware Precision Industries Co., Ltd. –Vice Chairman and COO •Not subject to any of the conditions defined in Article 30 of the Company Law	—	0

Qualification Name	Professional qualifications and experience	Independence anylysis	No. of other public companies at which the person concurrently serves as an independent director
Rutherford Chang	<ul style="list-style-type: none"> •Professional Background : Psychology •Industry Experience : Information Technology •Current Position : ASE Technology Holding Co., Ltd. –Director Advanced Semiconductor Engineering, Inc. – Director (representative) ASE Test Inc. – Director (representative) Universal Scientific Industrial (Shanghai) Co., Ltd. – Director USI Inc. – Director (representative) •Not subject to any of the conditions defined in Article 30 of the Company Law 	—	0
Sheng-Fu You	<ul style="list-style-type: none"> •Professional Background : Accounting •Industry Experience : Information Technology, Financials •Current Position : ASE Technology Holding Co., Ltd. – Independent Director, Member of the Audit Committee, Member of the Compensation Committee and Member of the Risk Management Committee Advanced Semiconductor Engineering, Inc. –Member of the Compensation Committee Shang Ta Investment Limited – Director TaiGen Biopharmaceuticals Holdings Limited – Independent Director •Not subject to any of the conditions defined in Article 30 of the Company Law 	<ul style="list-style-type: none"> •The Company's independent directors, their spouses, and relatives within the second degree of kinship do not serve as directors, supervisors, or employees of the Company or affiliated companies. •Except for Sheng-Fu You's spouse and minor children, who hold 2,388 shares of the Company, other independent directors, spouses, and relatives within the second degree of kinship do not hold any shares of the Company. •The Company's independent directors do not serve as directors, supervisors, or employees of companies that have a specific relationship with the Company. •The amount of remuneration received by the Company's independent directors for providing commerce, legal, finance, accounting, and other services to the Company or affiliated companies in the last two years is as follows:. Sheng-Fu You NT\$1,440,000 Philip Wen-Chyi Ong over NT\$980,000 Mei-Yueh Ho NT\$0 	1
Mei-Yueh Ho	<ul style="list-style-type: none"> •Professional Background : Agricultural Chemistry •Industry Experience : Information Technology, Healthcare •Current Position : ASE Technology Holding Co., Ltd. – Independent Director, Member of the Audit Committee and Member of the Risk Management Committee Center Laboratories, Inc. – Independent Director, Member of the Audit Committee, Member of the Compensation Committee Kinpo Electronics,Inc. –Director Ownard Therapeutics SA - Independent Director •Not subject to any of the conditions defined in Article 30 of the Company Law 		1
Philip Wen-Chyi Ong	<ul style="list-style-type: none"> •Professional Background : International Relations, Investment and Risk Management •Industry Experience : Financials •Current Position : ASE Technology Holding Co., Ltd. –Independent Director, Member of the Audit Committee, Member of the Compensation Committee Advanced Semiconductor Engineering, Inc. –Member of the Compensation Committee Formosa Plastics Corporation –Independent Director, Member of the Audit Committee and Member of the Compensation Committee •Not subject to any of the conditions defined in Article 30 of the Company Law 		1

Table 1.4 Independence and Diversity of Board of Directors :

1.4.1 Diversity of Board of Directors :

The Company’s diversity policy is established to strengthen the corporate governance and wholly develop the composition and structure of the Board of Directors (“Board”); the diversity guidelines and concrete management goals for members of the Board have been set forth in the Corporate Governance Best Practice Principles formulated by the Company. The composition of the Board takes into account gender, age, nationality, culture, professional background and industry experience as multiple complementarities for gearing towards the continuous enhancement target of business operations. The Board members are equipped with professional expertise including but not limited to the field of Electrical Engineering, Industrial Engineering, Electronic Engineering, Mechanical Engineering, Economics, Business Administration, Electronic Physics, Finance and Economics, Civil Engineering, Psychology, Accounting, Agricultural Chemistry, International Relations, Investment and Risk Management and so forth which achieved the goals pertaining to the diversity policy. The policy and achievement regarding the diversity of the present members of the Board can be accessed through the Company’s website (https://ir.aseglobal.com/html /ir_board.php).

1.4.2 The Independence of Board of Directors :

The Board of Directors of the Company consists of 13 directors, 3 of which are independent directors (accounting for 23%), and 4 directors who serve as managers of the Company (accounting for 31%), less than one third of the number of directors. Among the Company’s directors, Jason C.S. Chang, the Company’s chairman, and Richard H.P. Chang, the Company’s vice chairman, are brothers; Jason C.S. Chang, the Company’s chairman, and Rutherford Chang, a director of the Company, are father and son. Thus, a familial relationship within the second degree of kinship exists among merely 3 directors. Neither spousal relationship nor familial relationship within the second degree of kinship exists among the rest of Company’s directors that is in accordance with the Article 26-3, paragraph 3 and paragraph 4 of the Securities and Exchange Act. °

3.2.2 Information Regarding Management Team

Unit: Shares (actual number of shares as of the date of this annual report)

Title	Nationality	Name	Gender	On-board Date	Shareholding		Spouse & Minor		Shareholding by Nominee Arrangement		Education & Selected Past Positions	Current Positions at Other Companies	Officers who are the Spouse or a Relative Within Two Degrees of Kinship			Remarks
					Shares	%	Shares	%	Shares	%			Title	Name	Relation	
Chairman of Resource Integration & Decision-Making Committee	Singapore	Jason C.S. Chang	M	2018.04	—	—	410,000	0.01%	949,352,706	21.72%	B.S. in Electrical Engineering, National Taiwan University M.S. in Electrical Engineering, Illinois Institute of Technology	Please refer to page 13	Vice Chairman Director	Richard H.P. Chang Rutherford Chang	Brother Son	—
General Manager	Hong Kong	Richard H.P. Chang	M	2018.04	—	—	—	—	124,175,228	2.84%	B.S. in Industrial Engineering, Chung Yuan Christian University	Please refer to page 13	Chairman	Jason C.S. Chang	Brother	—
Group COO	R.O.C.	Tien Wu	M	2018.04	5,877,473	0.13%	—	—	—	—	Ph.D. in Applied Mechanics, University of Pennsylvania	Please refer to page 14	—	—	—	—
Group CFO	R.O.C.	Joseph Tung	M	2018.04	3,002,954	0.07%	312,457	0.01%	—	—	M.B.A., University of Southern California Vice President of Corporate Finance, Citibank	Please refer to page 14	—	—	—	—
Group Chief of Staff	R.O.C.	David Pan	M	2018.08	1,175,015	0.03%	—	—	—	—	Ph.D. in Physics, University of California, Berkeley B.S. in Physics, Illinois Institute of Technology	Please refer to page 15	—	—	—	—
Group CAO	R.O.C.	Dtuang Wang	M	2018.04	440,000	0.01%	—	—	—	—	Ph.D. in Law, National Chengchi University Master of Law, National Chung Hsing University B.S. in Law, National Taiwan University	Please refer to page 15	—	—	—	—
Senior VP	R.O.C.	Alan Li	M	2018.04	405,091	0.01%	—	—	—	—	M.B.A., University of California	Please refer to page 15	—	—	—	—
Senior VP and Group Controller	R.O.C.	Murphy Kuo	M	2018.04	535,500	0.01%	—	—	—	—	M.B.A., Boston University	Please refer to page 15	—	—	—	—
Senior VP	R.O.C.	Anne Chang	F	2018.04	797,238	0.02%	17,473	0.00%	—	—	Advanced Master Business Administration, National Cheng Kung University	Please refer to page 15	—	—	—	—
Vice President	R.O.C.	Peili Shen	F	2018.08	146,332	0.00%	38	0.00%	—	—	B.S., Finance, National Taiwan University	Please refer to page 15	—	—	—	—
Vice President	R.O.C.	Eddie Chang	M	2018.04	90,506	0.00%	—	—	—	—	M.B.A., University of Massachusetts	Please refer to page 15	—	—	—	—
Vice President	R.O.C.	Kenneth Hsiang	M	2019.11	40,000	0.00%	—	—	—	—	Bachelor of Economics & Rhetoric, University of California, Berkeley. US CPA	Please refer to page 15	—	—	—	—

*If the general manager or personnel with equivalent position (chief officer) and the chairman are the same person, spouses or relatives within first degree of kinship, relevant information on the reasons, reasonability, necessity, and measures to be taken accordingly (e.g. by way of increasing the number of independent directors and requiring half of the directors not to serve as employees or officers) shall be disclosed: Please refer to note 3 on page 12.

3.3 Remuneration for Directors, Supervisors, General Manager, and Vice President

3.3.1 Remuneration for Directors and Independent Director

December 31, 2022
Units: Shares in thousands; NT\$ in thousands

Title	Name	Directors' remuneration								Total Remuneration (A+B+ C+D) & as a percentage of net income after tax		Remuneration from concurrent position as employee	
		Base Compensation (A)		Severance Pay and Pensions (B)		Compensation to Directors (C)**		Allowances (D)				Base Compensation, Bonuses, and Allowances (E)***	
		ASEH	From All Consolidated Entities	ASEH	From All Consolidated Entities	ASEH	From All Consolidated Entities	ASEH	From All Consolidated Entities	ASEH	From All Consolidated Entities	ASEH	From All Consolidated Entities
Director	A.S.E. Enterprises Limited	—	—	—	—	247,000	353,388	—	—	247,000 0.40%	353,388 0.57%	47,737	531,201
Director (representative)	Jason C.S. Chang (Chairman)												
	Richard H.P. Chang (Vice Chairman)												
	Chi-Wen Tsai												
	Tien Wu												
	Joseph Tung												
	Raymond Lo												
	TS Chen												
	Jeffrey Chen												
	Yen-Chun Chang												
Director	Rutherford Chang	9,000	9,000	—	—	—	—	9,000 0.01%	9,000 0.01%	—	—		
Independent Director*	Sheng-Fu You												
	Mei-Yueh Ho												
	Philip Wen-Chyi Ong												

Title	Name	Remuneration from concurrent position as employee						Total Compensation (A+B+ C+D+E+F+G) & as a percentage of net income after tax		Remuneration Received from Invested Companies other than the Company's Subsidiary or from Parent Company.	
		Severance Pay and Pensions (F)		Profit distribution for employee remuneration (G)**							
		ASEH	From All Consolidated Entities	ASEH		From All Consolidated Entities		ASEH	From All Consolidated Entities		
Director	A.S.E. Enterprises Limited	—	—	101,926	—	622,329	—	396,663 0.64%	1,506,918 2.43%		None
Director (representative)	Jason C.S. Chang (Chairman)										
	Richard H.P. Chang (Vice Chairman)										
	Chi-Wen Tsai										
	Tien Wu										
	Joseph Tung										
	Raymond Lo										
	TS Chen										
	Jeffrey Chen										
	Yen-Chun Chang										
Director	Rutherford Chang	—	—	—	—	—	—	9,000 0.01%	9,000 0.01%		None
Independent Director*	Sheng-Fu You										
	Mei-Yueh Ho										
	Philip Wen-Chyi Ong										

* Please state the remuneration payment policy, system, standard, and structure for the independent director, and state the relevance of the amount of remuneration paid according to factors such as responsibilities, risks, time devoted, etc: According to Article 16-2 of the Articles of Incorporation, The remuneration of the Company’s independent directors is set at NT\$3 million per person annually. For those that do not serve a full year, the remuneration will be calculated in proportion to the number of days of the term that were actually served. The additional remuneration of the Company’s independent directors who are also the members of the Company’s Compensation Committee is set at NT\$ 360,000 per person annually. For those that do not serve a full year, the additional remuneration will be calculated in proportion to the number of days of the term that were actually served.

**Employee compensation and director remuneration amounted to NT\$247,000 thousand and NT\$155,463 thousand, respectively (paid in cash) for 2022 as decided in the Meeting of the Board of Directors held on March 30, 2023. The allocation of employee compensation was not yet available on the date of this annual report. Therefore, allocations are based on the actual allocations of the previous year. Allocations will be determined after the approval in the General Shareholders' Meeting for this year

*** The amount of this column does not include the Employee Stock Options Expenses of the Company and all the companies listed in the financial report, which is NT\$ 26,481 thousand and NT\$ 31,853 thousand respectively, Restricted Stock Expenses of the Company and all the companies listed in the financial report, which is NT\$ 35,759 thousand and NT\$ 71,517 thousand respectively.

Remuneration Range of Directors	Range of Remuneration			
	Names of Directors			
	Total remuneration (A+B+C+D)		Total remuneration (A+B+C+D+E+F+G)	
	ASEH	From All Consolidated Entities	ASEH	From All Consolidated Entities
Less than NT\$1,000,000	Chi-Wen Tsai, Yen-Chun Chang, Rutherford Chang	—	Chi-Wen Tsai, Yen-Chun Chang, Rutherford Chang	—
NT\$1,000,000 (incl.) - NT\$2,000,000	—	—	—	—
NT\$2,000,000 (incl.) - NT\$3,500,000	Sheng-Fu You, Mei-Yueh Ho, Philip Wen-Chyi Ong	Sheng-Fu You, Mei-Yueh Ho, Philip Wen-Chyi Ong	Sheng-Fu You, Mei-Yueh Ho, Philip Wen-Chyi Ong	Sheng-Fu You, Mei-Yueh Ho, Philip Wen-Chyi Ong
NT\$3,500,000 (incl.) - NT\$5,000,000	—	—	—	—
NT\$5,000,000 (incl.) - NT\$10,000,000	—	—	—	—
NT\$10,000,000 (incl.) - NT\$15,000,000	—	Yen-Chun Chang	—	Yen-Chun Chang,
NT\$15,000,000 (incl.) - NT\$30,000,000	Tien Wu, Joseph Tung, Raymond Lo, TS Chen, Jeffrey Chen	Tien Wu, Joseph Tung, Raymond Lo, TS Chen, Jeffrey Chen, Rutherford Chang	Tien Wu, Joseph Tung, Raymond Lo, TS Chen, Jeffrey Chen	Rutherford Chang
NT\$30,000,000 (incl.) - NT\$50,000,000	Richard H.P. Chang	Richard H.P. Chang, Chi-Wen Tsai	—	Chi-Wen Tsai
NT\$50,000,000 (incl.) - NT\$100,000,000	Jason C.S. Chang	—	—	—
NT\$100,000,000 and above	—	Jason C.S. Chang	Jason C.S. Chang, Richard H.P. Chang	Jason C.S. Chang, Richard H.P. Chang, Tien Wu, Joseph Tung, Raymond Lo, TS Chen, Jeffrey Chen
Total	—	—	—	—

3.3.2 Remuneration for Supervisors : Not applicable.

3.3.3 Remuneration for General Manager and Vice Presidents

December 31, 2022														
Units: Shares in thousands; NT\$ in thousands														
Title	Name	Salary (A)*		Severance Pay and Pensions (B)		Bonuses and Allowances (C) *		Employee remuneration from profit distribution (D)**				Total Compensation (A+B+ C+D) & as a percentage of net income after tax		Remuneration Received from Invested Companies other than the Company's Subsidiary or from Parent Companies.
		ASEH	From All Consolidated Entities	ASEH	From All Consolidated Entities	ASEH	From All Consolidated Entities	ASEH		From All Consolidated Entities		ASEH	From All Consolidated Entities	
								Cash	Stock	Cash	Stock			
Chairman of Resource Integration & Decision-Making Committee	Jason C.S. Chang	27,410	174,975	—	—	30,000	336,008	107,484	—	491,591	—	164,894 0.27%	1,002,574 1.61%	None
General Manager	Richard H.P. Chang													
Group COO	Tien Wu													
Group CFO	Joseph Tung													
Group Chief of Staff	David Pan													
Group CAO	Dtuang Wang													
Senior VP	Alan Li													
Senior VP and Group Controller	Murphy Kuo													
Senior VP	Anne Chang													
Vice President	Peili Shen													
Vice President	Eddie Chang													
Vice President	Kenneth Hsiang													

* The amount of this column does not include the Employee Stock Options Expenses of the Company and all the companies listed in the financial report, which is NT\$ 14,395 thousand and NT\$17,345 thousand respectively, Restricted Stock Expenses of the Company and all the companies listed in the financial report, which is NT\$ 198,219 thousand and NT\$ 198,219 thousand respectively.

** Please refer to the second footnote on Page 22 for details.

Range of Compensation

Remuneration Range of General Manager and Vice Presidents	Names of General Manager and Vice Presidents	
	ASEH	From All Consolidated Entities
Less than NT\$1,000,000	Joseph Tung, Dtuang Wang, Murphy Kuo, Anne Chang, Peili Shen, Eddie Chang	—
NT\$1,000,000 (incl.) - NT\$2,000,000	—	—
NT\$2,000,000 (incl.) - NT\$3,500,000	Alan Li	—
NT\$3,500,000 (incl.) - NT\$5,000,000	Tien Wu, David Pan	—
NT\$5,000,000 (incl.) - NT\$10,000,000	Kenneth Hsiang	—
NT\$10,000,000 (incl.) - NT\$15,000,000	—	Peili Shen
NT\$15,000,000 (incl.) - NT\$30,000,000	—	David Pan, Murphy Kuo, Anne Chang, Kenneth Hsiang, Eddie Chang,
NT\$30,000,000 (incl.) - NT\$50,000,000	Jason C.S. Chang	Dtuang Wang, Alan Li
NT\$50,000,000 (incl.) - NT\$100,000,000	—	—
NT\$100,000,000 and above	Richard H.P. Chang	Jason C.S. Chang, Richard H.P. Chang, Tien Wu, Joseph Tung
Total	—	—

3.3.4 Employees Compensation Paid to Management

December 31, 2022
Unit: NT\$ in thousands

	Title	Name	Stock*	Cash*	Total	Percentage of net income after tax
Management	Chairman of Resource Integration & Decision-Making Committee	Jason C.S. Chang	—	107,484	107,484	0.17%
	General Manager	Richard H.P. Chang				
	Group COO	Tien Wu				
	Group CFO	Joseph Tung				
	Group Chief of Staff	David Pan				
	Group CAO	Dtuang Wang				
	Senior VP	Alan Li				
	Senior VP and Group Controller	Murphy Kuo				
	Senior VP	Anne Chang				
	Vice President	Peili Shen				
	Vice President	Eddie Chang				
	Vice President	Kenneth Hsiang				

*Please refer to the second footnote on Page 22 for details.

3.3.5 Comparative Analysis of Percentage of Remuneration for Directors, General Manager, and Vice Presidents to Net Profit After Tax over the most recent Two Years, and Explanation of Correlation Among Remuneration policy, Remuneration Criteria and Packages, Decision Processes, Operational performance and Future Risk.

Percentage of Net Income After Tax \ Year	2022		2021	
	ASEH	Consolidated Entities	ASEH	Consolidated Entities
Compensation for Directors**	0.65%	2.44%	0.51%	2.12%
Compensation for General Manager and Vice Presidents**	0.27%	1.61%	0.21%	1.36%

** Employee compensation for 2022 shall amount to NT\$155,463 thousand as determined in the Board of Directors held on March 30, 2023. Remuneration shall be paid in cash. However, the name list for allocation of employee compensation was not yet available as of the date of this annual report. Therefore, the calculations are estimated on the basis of the actual allocations of the previous year.

The Connection between the Performance Evaluation and Remuneration of Directors and Officers:

The allocation of remuneration for directors and officers is pursuant to Article 23 of the Company's Articles of Incorporation. If the Company is profitable, 0.1% (inclusive) to 1% (inclusive) of the profits shall be allocated as compensation to employees and 0.75% (inclusive) or less of the profits should be allocated as remuneration to directors. The Compensation Committee will evaluate the remuneration of directors and management on a regular basis according to the corporate governance trend report and the overall remuneration market competitiveness report. The remuneration of the Company's CEO and General Manager is approved by the Board of Directors, and the remuneration of Vice Presidents is determined and paid according to the industry standards. The remuneration is regularly evaluated and compared with that of the talent competitors in the same industry every year, so as to ensure the competitiveness of the remuneration. The bonus shall be paid according to the Company's earnings and personal business performance to achieve the purpose of talent seeking and retention. The remuneration

policy applicable to the Company's management is the same "Distribution Rules of Employees' Compensation" as that of other employees of the Company. The remuneration of directors shall be prescribed in accordance with the distribution order of profitable year and the remuneration shall be specified in the above Articles of Incorporation. The Board of Directors of the Company shall conduct the internal performance evaluation of the Board of Directors at least once a year, and the external performance evaluation of the Board of Directors shall be conducted once every three years by an external independent professional institution or a panel of external experts and scholars. Reasonable remuneration shall be distributed after comprehensive consideration, and the remuneration policy for directors and officers shall be inspected from time to time according to the actual operating conditions as well as relevant laws and regulations.

3.4 Corporate Governance

3.4.1 Board of Directors: Operation of the Board of Directors

The Board of Directors held 14 meetings (A) in 2022 and up to the date of this annual report, and attendance status of directors is as follows:

Title	Name	Attendance in Person (B)	By Proxy	Attendance Rate (%) B/A*	Remarks
Director (Representative) (A.S.E. Enterprises Limited)	Jason C.S. Chang (Chairman)	14	0	100%	
	Richard H.P. Chang (Vice Chairman)	13	1	93%	
	Chi-Wen Tsai	12	2	86%	
	Tien Wu	13	0	93%	
	Joseph Tung	13	1	93%	
	Raymond Lo	14	0	100%	
	TS Chen	14	0	100%	
	Jeffrey Chen	12	1	86%	
	Yen-Chun Chang	14	0	100%	
Director	Rutherford Chang	11	0	79%	
Independent director	Sheng-Fu You	14	0	100%	
	Mei-Yueh Ho	14	0	100%	
	Philip Wen-Chyi Ong	14	0	100%	

*The attendance rate is calculated based on the times of Board of Directors’ Meetings and the actual attendances within the director’s term of office.

Other Disclosures:

- If any of the following circumstances occurred during the operation of the Board of Directors, the meeting dates, and proposal details, opinions of all independent directors, and the Company’s responses to such opinions should be specified:
 - Items listed in Article 14-3 of the Securities and Exchange Act: No dissenting or qualified opinion were raised from any independent director, therefore no further actions were taken.
 - Written or otherwise recorded resolutions in which an independent director had a dissenting opinion or qualified opinion not included in the aforementioned item: None.
 - At least one independent director attended each Board of Directors’ Meeting.

2. Status of the Recusals of Directors due to conflicts of interests, the name of the directors, proposal details, the reasons for recusal, and the voting result should be specified.

Meeting Dates	Proposal, the Reasons for Recusal and Status of Participation for Voting	Voting Result	The Company's Responses to the Opinions of Directors
The 13th Meeting of the 3rd Board of Directors (2022.07.14)	<p>To propose the detailed distribution plan of employees' compensation for the Company's officers for fiscal year 2021.</p> <p>Reasons for Directors' Recusals due to Conflicts of Interest and Status of Participation for Voting:</p> <p>Director Richard H.P. Chang, is one of receivers of the Company's proposed distribution of remuneration for officers in 2021, Director Jason C.S. Chang is a relative within the second degree of kinship, and the content of this proposal in the meeting involves personal interest. To avoid conflicts of interest, Directors, Richard H.P. Chang and Jason C.S. Chang shall refrain from participating in the discussion and vote on this proposal.</p>	The attending directors (exclusive directors absent due to conflict of interest) did not voice any objections upon inquiry by acting chairman Joseph Tung. Therefore, the proposal was approved.	Not applicable
	<p>To propose the detailed distribution plan of remuneration for the Company's directors for fiscal year 2021.</p> <p>Reasons for Directors' Recusals due to Conflicts of Interest and Status of Participation for Voting:</p> <p>Summary of Director Joseph Tung's statement: I, Joseph Tung, and Directors Jason C.S. Chang, Richard H.P. Chang, Chi-Wen Tsai, Raymond Lo, TS Chen, Jeffrey Chen and Yen-Chun Chang, are representing A.S.E. Enterprises Limited, which is the object of the Company's proposed distribution of remuneration for directors in 2021, the content of this proposal in the meeting involves personal interest. To avoid conflicts of interest, I and Directors Jason C.S. Chang, Richard H.P. Chang, Chi-Wen Tsai, Raymond Lo, TS Chen, Jeffrey Chen and Yen-Chun Chang shall refrain from participating in any discussion and vote on this proposal.</p>	The attending directors (exclusive directors absent due to conflict of interest) did not voice any objections upon inquiry by the acting chairman, Sheng-Fu You. Therefore, the proposal was approved.	Not applicable

3. Implementation Status of Board Evaluations

Evaluation cycle	Evaluation period	Scope of evaluation	Evaluation method	Evaluation items
The internal evaluation is conducted once a year.	The evaluation of Board performance is between January 1, 2022 and December 31, 2022.	The scope of internal evaluation includes the performance evaluation of the Board of Directors, individual directors, and functional committees.	The internal evaluation method includes self-evaluation by the Board of Directors, self-assessment by directors, and self-evaluation by the members of functional committees.	1. Board performance evaluation aspects: Participation in the Company’s operations, the quality of Board decisions, Board composition and structure, appointment of directors and their continued development, and internal controls. 2. Individual director performance evaluation aspects: Understanding of company targets and missions, acknowledgement of the director's role and responsibilities, participation in the Company’s operations, internal relationship management and communication, director's specialty and continued development and internal controls. 3. Functional committee performance evaluation aspects: (1) Audit Committee : Participation in the Company’s operations, understanding of the responsibilities of Audit Committee, improvement of the decision-making quality of Audit Committee, composition of Audit Committee, and member selection, and internal control. (2) Compensation Committee: Participation in the Company’s operations, understanding of the responsibilities of Compensation Committee, improvement of the decision-making quality of Compensation Committee. (3) Risk Management Committee : Participation in the Company’s operations, understanding of the responsibilities of Risk Management Committee, improvement of the decision-making quality of Risk Management Committee, composition of Risk Management Committee, and member selection, and internal control.

The Company conducts evaluation of Board performance periodically and the evaluation results are reported to the Board of Directors for review and making improvement. For the detailed evaluation results of 2022 Board performance, please refer to the Company’s website: https://ir.aseglobal.com/html/ir_board.php

4. Measures Taken to Strengthen the Effectiveness of the Board of Directors within the Current Year and the Most Recent Year (e.g. establishment of audit committee, increased corporate transparency, etc.) and their Evaluations:

For the purpose of developing functions of the Board of Directors and strengthening management mechanism, the Company established the Compensation Committee on April 30, 2018, Audit Committee on June 22, 2018 and Risk Management Committee on February 27, 2020 in succession, to enhance the effectiveness of the Board of Directors.

To implement corporate governance, enhance the function of the Board, and establish performance objectives to strengthen the Board's operational efficiency, the Company formulated the "Performance Evaluation Method of the Board of Directors" in 2018. The internal performance evaluation of the Board of Directors shall be conducted once a year, and the external evaluation shall be carried out every three years by an external professional independent institution or an external team of experts and scholars.

3.4.2 Audit Committee or Supervisor Participation in Board of Directors:

To establish a proactive system of governance, develop a robust oversight capability, and enhance management performance, the Audit Committee was established on June 22, 2018 pursuant to Article 14-4 of the Securities and Exchange Act. At present, the Audit Committee consists of three members who are all independent directors of the Company. All members should elect a convener and meeting chairman from themselves and represent the Committee externally.

The Audit Committee of the Company aims to assist the Board of Directors in fulfilling its quality and integrity in supervising the Company's implementation of relevant accounting, internal auditing, financial reporting procedures, and financial controls. In addition, in order to enhance corporate governance, the Audit Committee also takes responsibility for overseeing the policy and procedures for complaints and concerns regarding accounting, internal accounting controls, auditing matters, violations of Code of Business Conduct and Ethics or unethical conduct.

For the purpose of developing functions of the Board of Directors and strengthening management mechanism, The Company the members of the committee are all qualified under the requirements of the Sarbanes-Oxley (SOX) Act regulated pursuant to the Article 10A-3 of the US Securities Exchange Act of 1934 and the Listing Regulations of the Taiwan Stock Exchange Corporation. Independent directors with accounting or related financial management expertise will be helpful to enhance the operating performance of the Board of Directors.

The Audit Committee of the Company held 8 meetings in 2022 as of the annual report date. The auditing issues of the Audit Committee of the Company are mainly as follows:

- (1) The adoption of or amendment to the internal control system pursuant to Article 14-1 of the SEA.
- (2) Examination and evaluation of the effectiveness of the internal control system.

Assessment of the effectiveness of the internal control system:

The audit committee has assessed the design and operating effectiveness of internal control system, and reviewed regular reports from the management, internal audit and CPAs, including risk management, compliance with laws and regulations, self-assessment of internal control, and supervision and management of its subsidiaries. Based on the criteria set forth in the Regulations Governing the Establishment of Internal Control Systems by Public Companies and in Internal Control — Integrated Framework (2013) issued by the COSO, the Audit Committee believes that the Company's risk management and internal control systems was effective to provide reasonable assurance that the control objectives were achieved.

- (3) The adoption of or amendment to the procedures for handling material financial or business activities, such as acquisition or disposal of assets, derivatives trading, loaning of funds to

others, and provision of endorsements or guarantees for others pursuant to Article 36-1 of the SEA.

- (4) Matters in which a director personal interests.
- (5) Material asset transactions or derivatives trading.
- (6) Material loans of funds, provision of endorsements or guarantees.
- (7) The public offering, issuance, or private placement of equity-type securities.
- (8) The appointment, discharge and compensation of a certified public accountant.
- (9) The appointment or discharge of a financial, accounting, or internal audit officer.
- (10) Annual financial reports signed or sealed by the Chairman, Manager and Account Manager:

The Audit Committee reviewed the 2022 Annual Accounting Final Reports and Statements The Board of Directors has prepared and submitted the Group's 2022 Business Report, Financial Statements, and Profit Distribution Proposal to the Audit Committee for review. The Financial Statements have been audited by Deloitte & Touche, and a report has been issued. We have reviewed each of the aforementioned documents, and have not found any inaccuracies.

- (11) Other material matters regulated by the Company or the competent authority.

Pursuant to Article 29 of the Corporate Governance Best Practice Principles for TWSE/TPEX Listed Companies, the company shall (at least once a year) evaluate the independence and suitability of CPAs:

The Company's Audit Committee shall carry out the independence and suitability evaluation on an annual basis and report the evaluation results at the board meeting. The Audit Committee has completed the related evaluation on February 21, 2023, based on the "Declaration of Independence" issued by the CPAs and the "2021 AQI Report" for the Company issued by their accounting firms.

1. Evaluation mechanism:

- A. Confirm that the CPAs are in compliance with the relevant independence regulations.
- B. Obtain the "Declaration of Independence" and "AQI Report" provided by the CPAs, and carry out independence and suitability evaluation in accordance with the "Guidance for Interpretation of Audit Quality Index for Audit Committee" issued by the FSC.
- (a) Evaluation of professionalism and quality control: Ensure that the training hours, employee turnover rate, and quality control support capabilities of the CPAs and the accounting firm are above average in the industry.
- (b) Evaluation of independence: Ensure that the proportion of non-audit fees collected by the CPAs from the Company does not affect the CPAs' independence.
- (c) Evaluation of innovation: Identify that innovative audit tools were introduced into the accounting firm in the most recent 3 years.

2. Evaluation results:

- A. The independence of CPAs is in compliance with the Securities and Exchange Commission, the Public Company Accounting Oversight Board ("PCAOB"), the Certified Public Accountant Act of ROC, The Norm of Professional Ethics for Certified Public Accountants of ROC, and other relevant regulations.
- B. There is no violation of independence found.
- C. The evaluation result for the most recent year has been resolved and approved at the audit committee meeting on February 21, 2023, and the evaluation opinion -- No incidents that may affect the independence or suitability of the CPAs have been found -- has been reported to the board meeting on the same day.

Audit Committee

The Audit Committee held 8 meetings (A) in 2022 and up to the date of this annual report, and attendance status of independent directors is as follows:

Title	Name	Attendance in Person (B)	By Proxy	Attendance Rate (%) (B/A)*	Remarks
Independent director	Sheng-Fu You	8	0	100%	
	Mei-Yueh Ho	8	0	100%	
	Philip Wen-Chyi Ong	8	0	100%	

*The attendance rate is calculated based on the times of attendance of Audit Committee meetings and the times of meetings held during the term in office.

Other Disclosures:

1. If any of the following circumstances occurred during the operation of the Audit Committee date and term of the meetings, proposal, dissenting opinions, reserved opinions or material suggestions from independent directors, the resolutions of the Audit Committee, and the Company's treatment of feedback from the Audit Committee:
 - (1) Matters which were not approved by the Audit Committee but were approved by two-thirds or more of all directors referred to in Article 14-5 of the Securities and Exchange Act: None.
 - (2) Other matters which were not approved by the Audit Committee but were approved by two-thirds or more of all directors: None.
2. Independent director recusals due to proposals involving matters with conflict of interest. The name of the independent directors, proposal details, the reason for recusal, and the voting result should be specified: None
3. Independent director communication with Internal Audit Officer and CPAs (which should include the material items, measures, and results of the audits on the corporate finance and/or operations, etc.)
 - (1)The internal audit department submitted the audit reports and audit follow-up reports by e-mail to the independent directors on a monthly basis. The internal audit officer presented and communicated the audit results to the audit committee in the direct communication meetings at least once a quarter, as well as quarterly reported internal audit activity report to the board of directors. The internal audit officer will immediately report via mobile phone or e-mail to the independent directors any material matters as necessary; and there were no aforementioned material matters during 2022. The communication channel between the independent directors and the internal audit officer functioned well.
 - (2)The independent auditors report to the independent directors regarding the audit or review results on the financial reports as well as other required communications in accordance with related regulations in the quarterly communication meetings. In addition, The independent auditors reported their independence, annual audit strategy, audit findings in internal controls and key audit matters in accordance with the requirements from Public Company Accounting Oversight Board (“PCAOB”) in the direct communication meeting at least once a year. Starting from FY2022, The independent auditors also reported audit quality index (AQI) based on the requirement from Financial Supervisory Commission (the “FSC”). Furthermore, The independent auditors reported to the independent directors regarding their communications between the managements via Email. During 2022, there was no other unusual or significant matters that should be immediately reported to the independent directors. The communication channel between the independent directors and the independent auditors functioned well.
4. Resolutions of Audit Committee for the material proposals and the status of Company’s treatment of feedback from the Audit Committee:

Audit Committee Date and Term	Proposal	Resolution of the Audit Committee	The Company's treatment of feedback from the Audit Committee	Matters referred to in Article 14-5 of the Securities and Exchange Act
The 4th meeting of the 2nd Audit Committee (2022.02.25)	The 2022 CPA professional audit fees for the Company and ASE Inc. (including subsidiaries).	After the attendees left the meeting, the chairman inquired with the attending independent directors and the resolution of this item was approved unanimously.	The item was submitted to the Board of Directors for resolution. The chairman inquired with the attending Directors and the resolution of this item was approved unanimously.	V
The 5th meeting of the 2nd Audit Committee (2022.03.31)	The Company intends to invest in the establishment of "ASE Social Enterprise Co., Ltd." (tentative name) as an innovative model of sustainable management and to enhance the Company's overall efficiency.	After the attendees left the meeting, the chairman inquired with the attending independent directors and the resolution of this item was approved unanimously.	The item was submitted to the Board of Directors for resolution. The chairman inquired with the attending Directors and the resolution of this item was approved unanimously.	V
The 7th meeting of the 2nd Audit Committee (2022.06.16)	Proposal of making an amendment agreement of shareholding transaction because that the tax filing regarding the equity transfer transaction between the Company, its 100% held subsidiaries and Beijing Wise Road Asset Management Co., Ltd. was postponed due to the delay in the approval process by the government of Shanghai and other places as a result of the COVID-19 pandemic. In addition, the Company is negotiating with Beijing Wise Road Asset Management Co., Ltd. and is	After the attendees left the meeting, the chairman inquired with the attending independent directors and the resolution of this item was approved unanimously.	The item was submitted to the Board of Directors for resolution. The chairman inquired with the attending Directors and the resolution of this item was approved unanimously.	V

Audit Committee Date and Term	Proposal	Resolution of the Audit Committee	The Company's treatment of feedback from the Audit Committee	Matters referred to in Article 14-5 of the Securities and Exchange Act
	evaluating on the feasibility to invest remaining proceed due to seller in the partial shareholdings of a holding company (tentatively named as Hong Kong United Ascend Holdings Limited).			
The 10th meeting of the 2nd Audit Committee (2022.12.15)	The 2023 CPA professional audit fees for the Company and ASE Inc. (including subsidiaries).	After the attendees left the meeting, the chairman inquired with the attending independent directors and the resolution of this item was approved unanimously.	The item was submitted to the Board of Directors for resolution. The chairman inquired with the attending Directors and the resolution of this item was approved unanimously.	V
	Resolved to make an amendment agreement of shareholding transaction and once again extend the payment period of remaining proceed due to seller for disposition shares because the Company is negotiating with Beijing Wise Road Asset Management Co., Ltd and is prudently evaluating the feasibility to invest remaining proceed due to seller in the partial shareholdings of a holding company (tentatively named as Hong Kong United Ascend Holdings Limited).	After the attendees left the meeting, the chairman inquired with the attending independent directors and the resolution of this item was approved unanimously.	The item was submitted to the Board of Directors for resolution. The chairman inquired with the attending Directors and the resolution of this item was approved unanimously.	V

Audit Committee Date and Term	Proposal	Resolution of the Audit Committee	The Company's treatment of feedback from the Audit Committee	Matters referred to in Article 14-5 of the Securities and Exchange Act
The 11th meeting of the 2nd Audit Committee (2023.02.21)	Proposal to evaluate the independence and suitability of the Company's CPAs.	After the attendees left the meeting, the chairman inquired with the attending independent directors and the resolution of this item was approved unanimously.	The item was submitted to the Board of Directors for resolution. The chairman inquired with the attending Directors and the resolution of this item was approved unanimously.	V
	Proposal to issue the 2023 Employee Stock Option Plan.	After the attendees left the meeting, the chairman inquired with the attending independent directors and the resolution of this item was approved unanimously.	The item was submitted to the Board of Directors for resolution. The chairman inquired with the attending Directors and the resolution of this item was approved unanimously.	V

3.4.3 Corporate Governance Implementation Status and Differences from the Corporate Governance Best-Practice Principles for TWSE/TPEX Listed Companies and Reasons:

Assessment Item	Implementation Status			Differences from the Corporate Governance Best Practice Principles for TWSE/TPEX Listed Companies and The Reasons
	Yes	No	Explanation	
1. Does the Company establish and disclose its corporate governance practices in accordance with the Corporate Governance Best-Practice Principles for TWSE/TPEX Listed Companies?	V		The Company referred to Corporate Governance Best Practice Principles for TWSE/TPEX Listed Companies and drew up Corporate Governance Best Practice Principles, which has been approved by the Board of Directors for publication and disclosed on the Company’s website: https://ir.aseglobal.com/html/ir_doc.php .	No material differences
2. Shareholding Structure & Shareholders’ Rights				
(1) Does the Company have Internal Operation Procedures for handling shareholders’ suggestions, concerns, disputes, and litigation matters? If so, has these procedures been implemented accordingly ?	V		The Company has appointed investor relations, public relations, and legal affairs departments to dedicate to all matters regarding stocks.	No material differences
(2) Does the Company possess a list of major shareholders and beneficial owners of these major shareholders?	V		The Company maintains an updated list of major shareholders by the Shareholdings Change Registration Form which is filed by directors and shareholders who own 10% or more of the company stocks on a monthly basis. The Company also maintains effective communication channel with its principal shareholders to keep track of its ultimate owners.	No material differences
(3) Has the Company built and implemented a risk control system and firewall between the Company and its affiliates?	V		The Company implements control measures through the internal control system and relevant laws and regulations. The Audit Department conducts periodical audits as oversight.	No material differences

Assessment Item	Implementation Status			Differences from the Corporate Governance Best Practice Principles for TWSE/TPEX Listed Companies and The Reasons
	Yes	No	Explanation	
(4) Has the Company established internal rules prohibiting insider trading on undisclosed information?	V		The Company drew up the Administrative and Practice Procedures to Prevent Insider Trading to avoid any misconduct of insider trading out of not knowing relevant regulations and guidelines and to minimize any predispositions to unintentional mistakes or deliberate wrongdoings of insiders so that the fairness in the stock exchange markets can be fostered and rights and benefits of the investors and the public protected. For details, please refer to the Company’s website: https://ir.aseglobal.com/html/ir_doc.php .	No material differences
3. Composition and Responsibilities of the Board of Directors (1) Has the Board of Directors established diversity policy and concrete target in management for the composition of its members and have they been implemented accordingly?	V		The Company established the the policy on diversity in the Corporate Governance Best Practice Principles and implement pursuant to the policy. The board of directors (“Board”) is composed of 13 directors, including 3 independent directors (23% of Board members) with 1 woman (8% of Board members), 1 director is under 50 years of age (8% of Board members), and 4 directors are serving as the Company’s employees (31% of Board members). The expertise of the directors covers electrical engineering, industrial engineering, electronic engineering, mechanical engineering, civil engineering, economics, business administration, electronic physics, finance and economics, psychology, accounting, agricultural chemistry, international relations, investment, risk management, and so forth. This range of expertise shows the full implementation of the Company’s Diversity Policy. For details of the Company’s management objectives and the implementation status, please refer to the Company’s website: https://ir.aseglobal.com/html/ir_board.php .	No material differences
(2) Other than the Compensation	V		The Company established the Audit Committee pursuant to	No material differences

Assessment Item	Implementation Status			Differences from the Corporate Governance Best Practice Principles for TWSE/TPEX Listed Companies and The Reasons
	Yes	No	Explanation	
Committee and Audit Committee which are required by law, has the Company voluntarily established other functional committees?			relevant laws. An independent director specializing in accounting or financial management is appointed by the Board of Directors as a committee member of the Audit Committee pursuant to the Sarbanes-Oxley Act defined in Article 10A-3 of the Securities Exchange Act of 1934 and the listing rules announced by the TWSE. The Board of Directors established the Compensation Committee pursuant to relevant laws. The Compensation Committee currently has three members, two of whom are independent directors. The Company has established the Risk Management Committee. The Risk Management Committee currently has three members, two of whom are independent directors. For details of the Risk Management Committee’s responsibility and practices, please refer to the Company’s website: https://ir.aseglobal.com/html/ir_committees.php https://www.aseglobal.com/csr/integrity-and-accountability/risk-management	
(3) Has the Company established a method of evaluating the performance of its Board of Directors and has the performance evaluation been implemented annually and submitted to its Board of Directors as a reference for individual director’s remuneration and renewal nomination?	V		The Company has set the remuneration for the Directors. The company adheres to Article 23 of the the articles of incorporation, where in case of profits, the Company shall appropriate up to 0.75% of its annual profits to remunerate the directors. In addition, in consideration of the Company’s overall operating performance and the future industry development trends, the Company referred to Sample Template of “Self-Evaluation or Peer Evaluation of the Board of Directors” and drew up assessment measures of the performance of the Board of Directors, which has been passed by the Board of Directors for publication and disclosed on the Company’s website. The Company conducts regular performance assessment annually based on the assessment measures stipulated by the Company. The assessment result has been reported to the Board of Directors.	No material differences

Assessment Item	Implementation Status			Differences from the Corporate Governance Best Practice Principles for TWSE/TPEX Listed Companies and The Reasons
	Yes	No	Explanation	
(4) Does the Company regularly evaluate the independence and suitability of its CPAs ?	V		<p>The Company’s Audit Committee shall carry out the independence and suitability evaluation on an annual basis and report the evaluation results at the board meeting. The Audit Committee has completed the related evaluation on February 21, 2023, based on the “Declaration of Independence” issued by the CPAs and the “2021 AQI Report” for the Company issued by their accounting firms.</p> <p>1. Evaluation mechanism:</p> <p>A. Confirm that the CPAs are in compliance with the relevant independence regulations.</p> <p>B. Obtain the “Declaration of Independence” and “AQI Report” provided by the CPAs, and carry out independence and suitability evaluation in accordance with the “Guidance for Interpretation of Audit Quality Index for Audit Committee” issued by the FSC.</p> <p>(a) Evaluation of professionalism and quality control: Ensure that the training hours, employee turnover rate, and quality control support capabilities of the CPAs and the accounting firm are above average in the industry.</p> <p>(b) Evaluation of independence: Ensure that the proportion of non-audit fees collected by the CPAs from the Company does not affect the CPAs’ independence.</p> <p>(c) Evaluation of innovation: Identify that innovative audit tools were introduced into the accounting firm in the most recent 3 years.</p> <p>2. Evaluation results:</p> <p>A. The independence of CPAs is in compliance with the Securities and Exchange Commission, the Public Company Accounting Oversight Board (“PCAOB”), the Certified Public Accountant Act of ROC, The Norm of Professional Ethics for Certified Public Accountants of ROC, and other</p>	No material differences

Assessment Item	Implementation Status			Differences from the Corporate Governance Best Practice Principles for TWSE/TPEX Listed Companies and The Reasons
	Yes	No	Explanation	
			<p>relevant regulations.</p> <p>B. There is no violation of independence found.</p> <p>C. The evaluation result for the most recent year has been resolved and approved at the audit committee meeting on February 21, 2023, and the evaluation opinion -- No incidents that may affect the independence or suitability of the CPAs have been found -- has been reported to the board meeting on the same day.</p>	
4. Has the Company established a dedicated (or tasked) corporate governance unit or personnel to be in charge of matters involving corporate governance (including but not limited to providing information required by directors and supervisors related to business operations, handling matters relating to Board of Directors' meetings and General Shareholders' Meetings pursuant to the laws, handling corporate registration and amendment registration, and recording minutes of the Board of Directors' meetings and General Shareholders' Meetings)?	V		<p>The Company, approved by the Board of Directors, has appointed a corporate governance officer pursuant to the relevant regulations as the most senior executive for corporate governance matters. The primary duties of corporate governance personnels include handling of matters relating to board of directors meetings and shareholders meetings in compliance with law, preparation of minutes of the board of directors meetings and shareholders meetings, assistance in onboarding and continuing education of the directors, provision of information required for performance of duties by the directors, assistance in the directors' compliance of law and other matters described or established in the articles of incorporation or under contract.</p> <p>For details of the corporate governance officer's scope of responsibility and training status, please refer to the Company's website: https://ir.aseglobal.com/html/ir_corpor.php</p>	No material differences
5. Has the Company established a means of communication with its stakeholders (including but not limited to shareholders, employees, customers, and suppliers) or created a stakeholders section on the Company's website? Does the Company respond	V		<p>The Company instructs related departments to handle communication with stakeholders such as shareholders, clients, and suppliers.</p> <p>The Company has a Stakeholder Engagement Section on the Company website that serves as a channel of communication for stakeholders to express their opinions and for the Company to identify issues of concern and make appropriate responses.</p>	No material differences

Assessment Item	Implementation Status			Differences from the Corporate Governance Best Practice Principles for TWSE/TPEX Listed Companies and The Reasons
	Yes	No	Explanation	
appropriately to stakeholders’ questions on major issues of corporate social responsibility?			Stakeholders communication information is disclosed in the annual CSR Report and on the Company website. Please refer to https://www.aseglobal.com/en/csr_stakeholder_engagement .	
6. Has the Company appointed a professional registrar for its General Shareholders’ Meetings?	V		The Company has appointed the Stock Agency Department, President Securities Corp., to handle matters related to General Shareholders’ Meetings.	No material differences
7. Information Transparency (1) Has the Company established a corporate website to disclose information regarding its financial, business, and corporate governance status?	V		The Company has established a website and has instructed designated departments to disclose and update the information of the finances and the corporate governance information of the Company, Please refer to the Company Website https://www.aseglobal.com	No material differences
(2) Does the Company use other information disclosure channels (e.g., maintaining an English website, designating staff to handle information collection and disclosure, appointing spokespersons, webcasting investor conferences etc.)?	V		The Company has established a website both in Chinese and English. It has dedicated personnel for the collection and disclosure of Company information. It has a spokesperson and secondary spokesperson system, as well as a designated contact for responding to shareholders’ opinions. Relevant information is available on the Company website (the URL is same as above). A dedicated department has been assigned to submit information to the Market Observation Post System, including all regular and ad hoc financial information, business information, and announcing material information in accordance with related regulations.	No material differences
(3) Does the Company perform public announcement and registration of quarterly consolidated financial reports within two months after the end of fiscal year and also publicly announce and register the quarterly financial reports and operating status within the	V		The company performs public announcement and registration of quarterly consolidated financial reports within the prescribed period and performs public announcement and registration of annual consolidated financial reports within two months after the close of fiscal year. The company also publicly announces and registers operating status within the prescribed period. Relevant Information is available on the Market Observation Post System	No material differences

Assessment Item	Implementation Status			Differences from the Corporate Governance Best Practice Principles for TWSE/TPEX Listed Companies and The Reasons
	Yes	No	Explanation	
prescribed period?			website.	
8. Has the Company disclosed other information to facilitate a better understanding of its corporate governance practices? (including but not limited to employee rights, employee care, investor relations, supplier relations, stakeholder rights, continuing education of directors and supervisors, implementation of risk management policies and criteria for risk evaluation, implementation of customer relation policies, and the purchase of liability insurance for directors and supervisors)	V		(1) Employee benefits and employee care: Please refer to the ESG Report and the Company’s website: https://www.aseglobal.com/csr/inclusive-workplace/ . (2) Investor relations, supplier relations, and stakeholder rights: Please refer to the Investor Relations and Stakeholder Engagement sections of the Company website. (3) The continuing education status for directors in 2022 is presented in Table 1 and Table 2 below. (4) Implementation of risk management policies and criteria for risk evaluation: Please refer to the “Risk Management” section of this annual report and the ESG report. (5) Implementation of customer policies: Please refer to the "Market and Sales Overview" section of this annual report. (6)Company procurement of liability insurance for directors: The Company has procured liability insurance for its directors, supervisors and officers (to the amount of USD\$65 million in 2022).	No material differences
9. Company improvements in corporate governance based on the assessment items stipulated in the Corporate Governance Evaluation Results issued in the most recent year by the Corporate Governance Center of the TWSE, and priority measures for items requiring further improvement. The Company was ranked in top 5% companies in the 2021 Corporate Governance Evaluation Results, the Company has improved the indicators as follows: (1) The Company has completed the internal and external evaluations of 2021 Board performance and reported to the Board of Directors on February 25, 2022. (2) The Company has disclosed the direct communication status between the independent directors, the internal auditors, and the independent auditors on Company website. (3) Advanced Semiconductor Engineering, Inc., a subsidiary of the Company, has acquired certification of Taiwan Intellectual Property Management System (TIPS) (A Class) issued by Institute for Information Industry in 2021.				

Table 1: Continuing education of directors in the most recent year and as of the date of this annual report

Title	Name	Training Date		Hosted by	Training Title	Hours	Regulatory compliance
		from	to				
Director (representative) and officer	Jason C.S. Chang	2022/11/01	2022/11/01	Taiwan Corporate Governance Association	Taiwan Energy Development and Net Zero Future,	3	Yes
		2022/04/15	2022/04/15	Taiwan Corporate Governance Association	Business Environment Facing World Conflict,	3	Yes
Director (representative) and officer	Richard H.P. Chang	2022/11/01	2022/11/01	Taiwan Corporate Governance Association	Taiwan Energy Development and Net Zero Future,	3	Yes
		2022/04/15	2022/04/15	Taiwan Corporate Governance Association	Business Environment Facing World Conflict,	3	Yes
Director (representative)	Chi-Wen Tsai	2022/11/01	2022/11/01	Taiwan Corporate Governance Association	Taiwan Energy Development and Net Zero Future,	3	Yes
		2022/04/15	2022/04/15	Taiwan Corporate Governance Association	Business Environment Facing World Conflict,	3	Yes
Director (representative) and officer	Tien Wu	2022/11/01	2022/11/01	Taiwan Corporate Governance Association	Taiwan Energy Development and Net Zero Future,	3	Yes
		2022/04/15	2022/04/15	Taiwan Corporate Governance Association	Business Environment Facing World Conflict,	3	Yes
Director (representative) and officer	Joseph Tung	2022/11/01	2022/11/01	Taiwan Corporate Governance Association	Taiwan Energy Development and Net Zero Future,	3	Yes
		2022/04/15	2022/04/15	Taiwan Corporate Governance Association	Business Environment Facing World Conflict,	3	Yes
Director (representative)	Raymond Lo	2022/11/01	2022/11/01	Taiwan Corporate Governance Association	Taiwan Energy Development and Net Zero Future,	3	Yes
		2022/04/15	2022/04/15	Taiwan Corporate Governance Association	Business Environment Facing World Conflict,	3	Yes

Title	Name	Training Date		Hosted by	Training Title	Hours	Regulatory compliance
		from	to				
Director (representative)	TS Chen	2022/11/01	2022/11/01	Taiwan Corporate Governance Association	Taiwan Energy Development and Net Zero Future.	3	Yes
		2022/04/15	2022/04/15	Taiwan Corporate Governance Association	Business Environment Facing World Conflict.	3	Yes
Director (representative)	Jeffrey Chen	2022/12/15	2022/12/15	Taiwan Corporate Governance Association	Taiwan's Energy Transformation and Offshore Wind Power.	3	Yes
		2022/04/15	2022/04/15	Taiwan Corporate Governance Association	Business Environment Facing World Conflict.	3	Yes
Director (representative)	Yen-Chun Chang	2022/11/01	2022/11/01	Taiwan Corporate Governance Association	Taiwan Energy Development and Net Zero Future.	3	Yes
		2022/04/15	2022/04/15	Taiwan Corporate Governance Association	Business Environment Facing World Conflict.	3	Yes
Director	Rutherford Chang	2022/11/01	2022/11/01	Taiwan Corporate Governance Association	Taiwan Energy Development and Net Zero Future.	3	Yes
		2022/04/15	2022/04/15	Taiwan Corporate Governance Association	Business Environment Facing World Conflict.	3	Yes
Independent Director	Sheng-Fu You	2022/11/01	2022/11/01	Taiwan Corporate Governance Association	Taiwan Energy Development and Net Zero Future.	3	Yes
		2022/04/15	2022/04/15	Taiwan Corporate Governance Association	Business Environment Facing World Conflict.	3	Yes
Independent Director	Mei-Yueh Ho	2022/11/01	2022/11/01	Taiwan Corporate Governance Association	Taiwan Energy Development and Net Zero Future.	3	Yes
		2022/10/03	2022/10/03	Securities and Futures Institute	Analysis of Corporate Governance Assessment for Directors and Supervisors.	3	Yes
		2022/04/20	2022/04/20	Taiwan Corporate Governance Association	Legal Liability of Corporate Directors from the Perspective of Intellectual Property Rights Management.	3	Yes
		2022/04/15	2022/04/15	Taiwan Corporate Governance Association	Business Environment Facing World Conflict.	3	Yes

Title	Name	Training Date		Hosted by	Training Title	Hours	Regulatory compliance
		from	to				
Independent Director	Philip Wen-Chyi Ong	2022/11/17	2022/11/17	Securities and Futures Institute	2023 Economic Outlook and Industry Trends.	3	Yes
		2022/11/17	2022/11/17	Taiwan Corporate Governance Association	The Real Value Created by Circular and Low Carbon Innovation - Understanding Circular Economy and Governance.	3	Yes
		2022/11/01	2022/11/01	Taiwan Corporate Governance Association	Taiwan Energy Development and Net Zero Future.	3	Yes
		2022/04/15	2022/04/15	Taiwan Corporate Governance Association	Business Environment Facing World Conflict.	3	Yes

Table 2: Continuing education of officers in the most recent year and as of the Date of this Annual Report

Title	Name	Training Date		Hosted by	Training Title	Hours	Regulatory compliance
		from	to				
Senior VP and Group Controller	Murphy Kuo	2022/06/16	2022/06/17	Accounting Research and Development Foundation	Continuing education course for principal accounting officers of issuers, securities firms, and securities exchanges	12	Yes
Group CAO and Corporate Governance Officer	Dtuang Wang	2022/11/01	2022/11/01	Taiwan Corporate Governance Association	Taiwan Energy Development and Net Zero Future.	3	Yes
		2022/08/30	2022/08/30	Taiwan Corporate Governance Association	Evaluation and Implementation of M&A from a Legal Perspective.	3	Yes
		2022/08/23	2022/08/23	Taiwan Corporate Governance Association	Analysis of Corporate Financial Information and Application of Decision Making.	3	Yes
		2022/06/09	2022/06/09	ASE Technology Holding Co., Ltd.	ASE Technology Holding Co., Ltd.'s Pre-education and Training for tabletop exercise in response to cybersecurity incident.	4	Yes
		2022/04/15	2022/04/15	Taiwan Corporate Governance Association	Business Environment Facing World Conflict.	3	Yes

3.4.4 Composition and Operation of the Compensation Committee:

To ensure corporate governance and have a comprehensive and robust compensation system for the directors and officers of the Company, the Company set up the Compensation Committee in accordance with Article 14-6 of Securities and Exchange Act and Regulations Governing the Appointment and Exercise of Powers by the Remuneration Committee of a Company Whose Stock is Listed on the Stock Exchange or Traded Over the Counter on Apr. 30, 2018. The Compensation Committee consists of three members who are assigned by the Board of Director upon resolution; As stipulated by the related regulation, more than half of the committee members shall be served by independent directors, and all members should elect a convener and meeting chairman from members of independent directors and represent the Committee externally. The Compensation Committee is obliged to exercise the due care of a good administrator and have the loyalty in conducting the following functional authorities:

- Establish and regularly review policies, systems, standards, and structures concerning performance evaluations and compensation for directors and officers
- Regularly assess and set the remuneration of directors and officers
- Examine the remuneration system for directors, supervisors and managerial officers adopted by the board of directors of a subsidiary and the reference data related to the remuneration of directors, supervisors and managerial officers submitted by the subsidiary, and submit the opinions of reviewing to the Board of Directors of the Company.

Current Members of the Compensation Committee: :

February 28, 2023				
Title	Criteria Name	professional qualifications requirements.	Qualification regarding the independence criteria	Number of other public companies Serving as a Compensation Committee Member
Independent Director	Sheng-Fu You (Convener)	Please refer to Table 1.3 on page 18	<ul style="list-style-type: none">•The Company's Members of the Compensation Committee, their spouses, and relatives within the second degree of kinship do not serve as directors, supervisors, or employees of the Company or affiliated companies.•Except for Sheng-Fu You's spouse and minor children, who hold 2,388 shares of the Company, other Members of the Compensation Committee, spouses, and relatives within the second degree of kinship do not hold any shares of the Company.•The Company's Members of the Compensation Committee do not serve as directors, supervisors, or employees of companies that have a specific relationship with the Company.•Other than the remuneration received as a member of the Compensation Committee of the Company, the members of the Compensation Committee don't receive any other compensation for providing commerce, legal, finance, accounting, and other services to the Company or affiliated companies in the last two years.	1
Independent Director	Philip Wen-Chyi Ong	Please refer to Table 1.3 on page 18		2
Other	Hsiao-Ying Gu	<ul style="list-style-type: none">•Advanced Semiconductor Engineering, Inc. –Member of the Compensation Committee•Advanced Semiconductor Engineering, Inc. – Project consultant of Core human resource development and management•Advanced Semiconductor Engineering, Inc. – HR Director•Orient Semiconductor Electronics Ltd. – Senior HR Officer		1

Operations of the Compensation Committee

1. The Company’s remuneration committee has a total of 3 members.
2. Members’ tenure of this term is from August 13, 2021 to August 12, 2024. The Compensation Committee held 3 meetings (A) in 2022 and up to the date of this annual report. Committee members' attendance status is as follows :

Position	Title	Name	Attendance in Person (B)	By Proxy	Attendance Rate (%) (B/A)*	Remarks
Convener	Independent Director	Sheng-Fu You	3	0	100%	
Member	Independent Director	Philip Wen-Chyi Ong	3	0	100%	
Member	Other	Hsiao-Ying Gu	3	0	100%	

* The actual attendance rate is calculated based on the number of meetings held during tenure and actual attendance.

Other required disclosure:

1. In case where the Board of Director decides not to take on or modify recommendations of the Compensation Committee, the Board of Director shall specify the date, term number, content of proposal and resolution of the item of the Board of Director Meeting where the above decision is made, and how the Company handles the feedback from the Compensation Committee (for instance, if the remunerations resolved by the Board of Directors is better than those recommended by the Compensation Committee, the Board of Director is obliged to specify the difference and reasons herein): None.
2. If any members object or hold back the recommendation resolved by the Compensation Committee, and have records or written statements, the Compensation Committee meeting date, term number, content of proposal, opinions of all members and how they handled the member’s objection, shall be specified herein: None.
3. The Company disclosed the Compensation Committee’s proposal and resolutions and the Company's actions in response to the opinions of the members:

Date and Terms of Compensation Committee	Proposal	Compensation Committee Resolution	The Company's Actions in Response to the Opinions of the Compensation Committee
The 2nd meeting of the 3rd Compensation Committee (2022.03.18)	Please review the preparatory information regarding the subsidiary ASE's remuneration of the directors and officers which was resolved and approved by its Board of Directors.	After the attendees left the meeting, the Chairman consulted all present members, and the proposal approved unanimously.	No opinion from the member, therefore no further action was taken.
	Please review the preparatory information regarding the subsidiary SPIL's remuneration of the directors, Supervisors and officers which was resolved and approved by its Board of Directors.		

Date and Terms of Compensation Committee	Proposal	Compensation Committee Resolution	The Company's Actions in Response to the Opinions of the Compensation Committee
	Proposed to formulate the Company's 2021 distribution proposal of directors' remuneration.		
The 3rd meeting of the 3rd Compensation Committee (2022.06.30)	Please review the preparatory information regarding the subsidiary ASE's remuneration of the directors and supervisors which was resolved and approved by its Board of Directors.	After the attendees left the meeting, the Chairman consulted all present members, and the proposal approved unanimously.	No opinion from the member, therefore no further action was taken.
	It is proposed to prescribe the detailed distribution plan of employees' compensation for the Company's officers for fiscal year 2021.		
	To prescribe the details of the distribution of directors' remuneration for 2021.		
The 4th meeting of the 3rd Compensation Committee (2022.12.28)	Please review the preparatory information regarding the subsidiary ASE's remuneration of the directors, supervisors and officers which was resolved and approved by its Board of Directors.	After the attendees left the meeting, the Chairman consulted all present members, and the proposal approved unanimously.	No opinion from the member, therefore no further action was taken.
	Please review the preparatory information regarding the subsidiary SPIL's remuneration of the officers which was resolved and approved by its Board of Directors.		

3.4.5 Promotion of Sustainable Development – Implementation Status and Deviations from the Sustainable Development Best Practice Principles for TWSE/TPEx Listed Companies and the Reasons:

Item	Implementation Status			Deviations from the Sustainable Development Best Practice Principles for TWSE/TPEx Listed Companies and the Reasons
	Yes	No	Summary description	
1. Has the company established a governing framework for promoting sustainable development, and established an exclusively (or concurrently) dedicated unit to be in charge of promoting sustainable development? Has the board of directors authorized senior management to handle related matters under the supervision of the Board?	V		The Corporate Sustainability Committee of the Company consists of the Company’s directors and top management and which is responsible for guiding and supervising the development of ASEH’s global environmental, social and governance strategies. It reports to the Board of Directors annually and establishes “Corporate CSR Center” for implementing sustainable development, evaluating the Company’s issues and performance around sustainability, coordinating and driving the target-setting of sustainable development, and implementing the sustainable development programs. The Corporate CSR Center reports directly to the Committee. The program of implementing sustainable development focuses on six main areas: corporate governance, environmental sustainability, employee care and development, supply chain development, corporate citizen and social engagements, and stakeholder engagement and information disclosure. Please refer to the Company website and ESG Report for details on governance structure, operating and performance of this dedicated organization for sustainable development https://www.aseglobal.com/csr/	No material differences
2. Does the Company evaluate the risk of environmental, social and corporate governance issues related to business operations according to the material principle and establish risk management	V		The Corporate Sustainability Committee was established to focus on advancing the Company’s corporate sustainability mission. In accordance with the principles of materiality, the committee has assessed and identified environmental, social and corporate governance related	No material differences

Item	Implementation Status			Deviations from the Sustainable Development Best Practice Principles for TWSE/TPEX Listed Companies and the Reasons
	Yes	No	Summary description	
policies or strategies?			risks impacting the Company’s operations. ASEH’s board of directors established the Risk Management Committee which is responsible for managing the Company’s overall risk management, implement the decisions in connection to risk management, coordinate and promote cross-organization risk management plans, The “Risk Management Policies and Procedures” has been approved by ASEH’s board of directors as the ultimate guiding risk management principle. Please refer to the Company website and ESG Report for details on risk management.	
3. Sustainable Environmental Development				
(1) Has the Company set an environmental management system designed to industry characteristics?	V		For the implementation of environmental protection, the Company has instructed its subsidiaries to conform to the relevant laws and regulations and to establish an environmental management system pursuant to ISO14001. In addition to regular audits to ensure compliance with statutory requirements, the Company formulates a plan on pollution prevention and equipment improvement and promotion every year, and sets up the annual objectives in order to effectively reduce pollution emissions and review the environmental management system in a timely manner.	No material differences
(2) Does the Company endeavor to use energy more efficiently and to use renewable materials with low environmental impact?	V		The Company instructs its subsidiaries to plan a management mechanism of energy efficiency and eco-efficiency assessments and to continue to improve the efficiency of the supply facilities or optimize the modules. The subsidiaries shall comply with Corporate Sustainability and Citizenship Policy and Sustainable Development Best Practice Principles to maximize	No material differences

Item	Implementation Status			Deviations from the Sustainable Development Best Practice Principles for TWSE/TPEX Listed Companies and the Reasons
	Yes	No	Summary description	
(3) Does the Company evaluate the current and future potential risks and opportunities of climate change and take corresponding measures for climate-related issues?	V		resources efficiency, increase product value, and reduce environmental impact. The Company manages climate-related risks and opportunities under the current enterprise risk management (ERM) system and referencing the recommendations of the Task Force on Climate-related Financial Disclosures (TCFD is formed by the Financial Stability Board). In order to ensure and advance its interests for the Company, the Company must effectively control and manage risks such that they fall into acceptable parameters. The company intends to achieve this through the utilization of management systems (where various factors in climate change are considered) to conducting scenario analyses, by which possible outcomes can be simulated. Please refer to the Company website, ESG Report and TCFD Report,for details on climate change risks and opportunities, as well as relevant countermeasures.	No material differences
(4) Does the Company collect and calculate relevant data on greenhouse gas, water consumption and the total weight of waste over the past two years and set policies for energy saving and carbon emission reduction, greenhouse gas reduction, water consumption reduction and other waste management?	V		The Company instructs its subsidiaries to collect and calculate relevant data on greenhouse gas, water consumption and the total weight of waste from the subsidiaries in order to improve the ecological benefits and protect the environment, and to formulate related policies for energy conservation and carbon reduction, greenhouse gas reduction, reducing water consumption, and waste management. The achievement on reduction will be disclosed in ESG report yearly.	No material differences

Item	Implementation Status			Deviations from the Sustainable Development Best Practice Principles for TWSE/TPEX Listed Companies and the Reasons
	Yes	No	Summary description	
4. Social Issue				
(1) Does the Company set related management policies and procedures in compliance with regulations and internationally recognized human rights treaties?	V		The Company established the Corporate Sustainability and Citizenship Policy, Code of Business Conduct and Ethics, and Sustainable Development Best Practice Principles to guarantee fundamental labor rights, comply with national labor regulations, and ensure a good working environment, health, and safety for its employees. For further protection and promotion of human rights, the Company supports and respects international standards, including the UN Universal Declaration of Human Rights, the first & second principles of UN Global Compact, UN Guiding Principles on Business and Human Rights, ILO International Labor Standards, Declaration of Fundamental Principles and Rights at Work, as well as relevant local laws and regulations. Additionally, The Company established the Human Rights Policy and human rights management principles accordingly to protect employees and also expects our suppliers to uphold these principles in order to protect the human rights. Please refer to the Company website and ESG Report for details on our human rights management principles.	No material differences
(2) Does the Company set employee benefit measures, including but not limited to remuneration, leave and other benefits and reasonably reflected the business performance or results in the employee remuneration?	V		In addition to offering fair and non-discriminatory compensation, our full-time employees are entitled to a consistent remuneration package. We benchmark local market remuneration annually to ensure our employees' base pay remain competitive. We offer incentive bonuses and annual profit-sharing bonuses to reward employees' diligent contributions to the company. Profit-sharing bonuses in cash are rewarded to employees with	No material differences

Item	Implementation Status			Deviations from the Sustainable Development Best Practice Principles for TWSE/TPEX Listed Companies and the Reasons
	Yes	No	Summary description	
(3) Does the Company provide employees with a safe and healthy working environment, with regular safety and health training?	V		<p>outstanding performance based on our business results. Annual bonuses are rewarded to employees based on their individual performances and results.</p> <p>In order to provide employees with a superior workplace environment that complies with health and safety regulations, the Company has instructed the subsidiaries to introduce ISO 45001. They regularly conduct hazard identification and assessment, take appropriate improvement measures to reduce hazards in the work environment, and host activities on employees' occupational health and safety education and health promotion.</p>	No material differences
(4) Has the Company established effective career development training plans?	V		The Company instructs its subsidiaries to program the annual plans for training courses based on the training needs of each position and the needs of career capability development, and host the training courses according the programming including orientation, general education, professional training, management on employees of basic level, management and talent development on employees of middle level.	No major differences
(5) Does the Company comply with the relevant laws and international standards with regards to customer health and safety, customer privacy, and marketing and labeling of products and services, and implement consumer protection and grievance procedures?	V		In order to ensure the effective communication and handling of customer opinions and promote real-time interaction with customers, the Company has instructed its subsidiaries to establish management procedures for communication with clients and a professional dedicated team of customer service to regularly review client satisfaction, and to provide services to response and communicate with the related customers. The Company	No material differences

Item	Implementation Status			Deviations from the Sustainable Development Best Practice Principles for TWSE/TPEX Listed Companies and the Reasons
	Yes	No	Summary description	
(6) Does the Company establish supplier management policies and request suppliers to comply with environment protection occupational safety and health or labor human rights related regulations and the status of implementation?	V		<p>has established Information Security Management Committee under Corporate Sustainability Committee. The Information Security Management Committee is dedicated to develop strategic plans for information security, and has formulated Information Security Policy and instructed subsidiaries to establish the rules which the employees shall comply in the daily operations in order to ensure the confidentiality and comprehensiveness of the information proprietary to the clients.</p> <p>The Company instructs its subsidiaries to follow the provisions of Taiwan's trade laws, including regulations regarding the import and export of strategic high-tech goods. The marketing and labeling of services operates in accordance with customer needs and operating regulations.</p> <p>The Company has regulated Supply Chain Purchasing and Supply Chain Development Policy and Supplier Code of Conduct, and has been disclosed on the Company’s website respectively on https://www.aseglobal.com/csr/responsible-procurement/supply-chain-management-framework/. The Company instructs its subsidiaries to perform a questionnaire of evaluation for risks of sustainability on each supplier annually. Through the questionnaire, on-site/remote audit or document audits to investigate the implementation status of suppliers on environmental protection, occupational safety and health, and human rights of labors.</p>	No material differences

Item	Implementation Status			Deviations from the Sustainable Development Best Practice Principles for TWSE/TPEX Listed Companies and the Reasons
	Yes	No	Summary description	
5. Does the Company refer to international reporting standards or guidelines when preparing its sustainability report and other reports disclosing non-financial information? Does the company obtain third party assurance or certification for the reports above?	V		In accordance with the ISAE 3000 (Revised), ASEH engaged Deloitte & Touche to perform a limited assurance engagement on ESG report that reflected disclosures presented in accordance with the GRI Standards for core option, SASB Standards, and Taiwan Stock Exchange Corporation Rules Governing the Preparation and Filing of Sustainability Reports by TWSE Listed Companies.	No material differences
6. If the Company has adopted its own sustainable development best practice principles based on the Sustainable Development Best-Practice Principles for TWSE/TPEX Listed Companies, please describe any deviation from the principles in the Company’s operations: The Company has referred to the Sustainable Development Best-Practice Principles for TWSE/TPEX Listed Companies (previously named Corporate Social Responsibility Best-Practice Principles for TWSE/TPEX Listed Companies), and established the Sustainable Development Best Practice Principles in 2018. The Sustainable Development Best Practice Principles was approved by the Board of Directors and disclosed on the Company website, there is no material difference between the principles and the operational status.				
7. Other important information to facilitate better understanding of the Company’s promotion of sustainable Development: <ul style="list-style-type: none"> ● The Company has long been committed to giving back to the community by contributing to society and participating in various welfare activities through the ASE Charitable Foundation and ASE Cultural and Educational Foundation. In 2020, our board of directors have resolved in a resolution to establish the ASE Environmental Protection and Sustainability Foundation for promotion of public interest related to environmental protection. ● By contributing money and professional skills to help to solve problems involving emergency assistance and education. The employees are the greatest pillar of our commitment to social participation. We hope to garner mutual trust and assistance and a harmonious relationship for community building through long-term cooperation and communication, to create a positive and socially beneficial business environment. ● Active involvement in environmental protection activities: On December 20, 2013, subsidiary ASE Inc. committed to invest at least NT\$100 million (the project has been lasted for 10 years up to the present moment) annually for 30 years towards the long-term promotion and development of multiple environmental protection undertakings in Taiwan; a commitment the Company has upheld to date. At present, many environmental protection and welfare activities have been planned and implemented through the ASE Environmental Protection and Sustainability Foundation. Major programs are as follows: <ol style="list-style-type: none"> 1. Energy saving and carbon reduction 2. Natural ecology 3. Environmental education 4. Circular economy 5. Environmental protection ● For more details of the implementation of promoting sustainable development, please refer to the ESG Report of the Company. 				

3.4.6 The Performance of Ethical Management and the Differences between the operations and the Ethical Corporate Management Best-Practice Principles for TWSE/TPEX Listed Companies, and the Reasons:

Assessment Item	Implementation Status			Differences from the Ethical Corporate Management Best-Practice Principles for TWSE/TPEX Listed Companies and Their Reasons
	Yes	No	Summary	
1. Establishment of Ethical Management Policies and Programs				
(1) Does the Company address its ethical management policies and measures and the committed implementation of such policies by the Board of Directors and the management team in its regulations and publicly available documents?	V		The Board of Directors approved and passed a series of ethical corporate management policies, including “Ethical Corporate Management Best Practice Principles”, “Procedures for Ethical Management and Guidelines for Conduct”, “Code of Business Conduct and Ethics”, “Fair Competition and Anti-Trust Laws Compliance Policy” and “Guidance on Prevention of Corruption”. Our ethical corporate management policies, methods and the implementation of relevant policies by the directors and the management are detailed in the Company's website. Please refer to the Company’s website https://www.aseglobal.com/csr/integrity-and-accountability/business-conduct-ethics .	No material differences
(2) Does the Company have enforceable policies to prevent from unethical conduct with clearly stipulated implementation procedures, guidelines, disciplinary actions for violations, and complaint procedures?	V		The Company has passed and announced “Ethical Corporate Management Best Practice Principles”, “Procedures for Ethical Management and Guidelines for Conduct”, “Code of Business Conduct and Ethics”, “Fair Competition and Anti-Trust Laws Compliance Policy”, and “Guidance on Prevention of Corruption”, to clearly prohibit directors, officers, and employees from engaging in the following unethical conducts, and checks and audits are performed according to internal audit procedures to uphold ethical business conduct: 1. Bribery 2. Illegal political contributions 3. Improper charitable donations or sponsorships 4. Providing or accepting unreasonable gifts, money, or other improper benefits. 5. Infringement of trade secrets, trademarks, patents, copyrights, and other intellectual property rights 6. Engaging in unfair competition.	No material differences

Assessment Item	Implementation Status			Differences from the Ethical Corporate Management Best-Practice Principles for TWSE/TPEX Listed Companies and Their Reasons
	Yes	No	Summary	
(3) Has the Company established appropriate compliance measures for the business activities prescribed in Paragraph 2, Article 7 of the Ethical Corporate Management Best-Practice Principles for TWSE/TPEX Listed Companies, and any other such activities associated with high risk of unethical conduct?	V		The Company's "Ethical Corporate Management Best Practice Principles", "Procedures for Ethical Management and Guidelines for Conduct, Code of Business Conduct and Ethics", "Fair Competition and Anti-Trust Laws Compliance Policy", and "Guidance on Prevention of Corruption", clearly define and describe relevant procedures, illustrate the behavioral guidelines, establish reporting systems to prevent unethical conduct. Ethics regulations and penalties of violation are specified in the work rules, and employees are requested to comply. And the Company reviews and revises the abovementioned ethical regulations according to the latest laws and regulations.	No material differences
2. Implementation of Ethical Management				
(1) Does the Company evaluate the ethical track record of whom it has business relationship with and include clauses of business conduct and ethics related in the business contracts?	V		Before the business transaction, the Company will perform a credit check on the business partner and exclude those partners with unethical records. The Company also specifies terms of ethical conduct in its business agreements.	No material differences
(2) Has the Company established a dedicated(or tasked) ethical corporate management unit that reports directly to the Board of Directors on a regular basis?	V		"Corporate Sustainability Committee" comprising directors and top management of the Company is the highest managing organization in governing commercial behavior and business ethics, and its responsibilities include the establishment, supervision, and execution of the policy in ethical corporate management, reviewing the status of promotion and compliance and reporting to the Board of Directors of the Company on a yearly basis. Furthermore, to soundly fulfill corporate governance, the "Corporate Governance Taskforce" under the Corporate Sustainability Committee of the three major subsidiaries is established to promote the policy of ethical corporate management to each operating base of the Company.	No material differences

Assessment Item	Implementation Status			Differences from the Ethical Corporate Management Best-Practice Principles for TWSE/TPEX Listed Companies and Their Reasons
	Yes	No	Summary	
(3) Has the Company established and implemented policies that prevent conflicts of interests and provide appropriate channels for communication and complaint?	V		The Company clearly specifies its conflict of interest policy in “Ethical Corporate Management Best Practice Principles”, “Procedures for Ethical Management and Guidelines for Conduct”, and “Code of Business Conduct and Ethics”. It has established appropriate statements and consultation channels based on relevant regulations. In addition, the directors of the Company shall practice self-discipline and voluntarily and refrain themselves from discussion and voting with respect to any proposal submitted to the Board of Directors that may involve the director’s own interest and may lead to the detriment of the Company’s interest. Directors shall also not collude with one another.	No material differences
(4) Has the Company established effective accounting and internal control systems to implement ethical corporate management policies, and are they regularly audited by the internal audit department or CPA?	V		The Company has effective accounting and internal control systems. Concealed booking or undisclosed accounts are prohibited. To ensure the effectiveness of the design and implementation of the system, internal auditors will prepare annual audit plans and carry out audits for the aforementioned situations irregularly.	No material differences
(5) Does the Company provide internal and external ethical conduct training programs on a regular basis?	V		Besides holding yearly training related to ethical corporate management for the management and promoting ethical behavior in business to the suppliers, the Company and its subsidiaries also design online courses to launch the education training on business conduct and policy and regulation related to ethics for the employees.	No material differences

Assessment Item	Implementation Status			Differences from the Ethical Corporate Management Best-Practice Principles for TWSE/TPEX Listed Companies and Their Reasons
	Yes	No	Summary	
3. Reporting System				
(1) Has the Company established a specific report and reward system, set up conveniently accessible whistle-blowing channel, and designate responsible individuals to handle the reports received?	V		The Company has whistle-blowing channels and specifies these channels in the “Procedures for Ethical Management and Guidelines for Conduct” and “Policy and Procedures for Complaints and Concerns regarding Accounting, Internal Accounting Controls or Auditing Matters”. For information about the Company's whistle-blowing channels and systems, please refer to the company’s website https://www.aseglobal.com/csr/integrity-and-accountability/business-conduct-ethics https://ir.aseglobal.com/html/ir_doc.php .	No material differences
(2) Has the Company established standard operating procedures for the acceptance and investigation of whistle-blowing reports, and mechanisms to ensure confidentiality?	V		The Company has passed and announced “Procedures for Ethical Management and Guidelines for Conduct” and “Procedures for Handling Whistleblowing Cases of Unethical Conduct” to clearly specify, after receiving any report of a violation of ethical regulations, standard handling procedures, and measures and disciplinary actions to be taken after investigation.	No material differences
(3) Has the Company adopted proper measures to protect the whistle-blowers from inappropriate disciplinary actions due to their whistle-blowing?	V		Article 21 of the Company's Procedures for Ethical Management and Guidelines for Conduct stipulates and the regulations for reporting violation to ethical operation clarify clearly that the case handler shall maintain the confidentiality of the whistle-blowers’ identities and the report contents. The Company pledges to protect the whistle-blowers from any inappropriate disciplinary actions due to their whistle-blowing.	No material differences

Assessment Item	Implementation Status			Differences from the Ethical Corporate Management Best-Practice Principles for TWSE/TPEX Listed Companies and Their Reasons
	Yes	No	Summary	
4. Enhanced Information Disclosure Does the Company disclose relevant and reliable information regarding its ethical corporate management policies and their implementation on its website and the Market Observation Post System website of the Taiwan Stock Exchange?	√		The Company publicly discloses its policies and regulations related to corporate ethical management on the Company's website. Please refer to the Company's website https://ir.aseglobal.com/html/ir_doc.php . The operation status and promotion outcomes of the corporate ethical management will be illustrated in detail on the Company's website and the ESG Report.	No material differences
5. If the Company has established its ethical corporate management code of practice pursuant to the Ethical Corporate Management Best-Practice Principle for TWSE/TPEX Listed Companies, please describe the Company's operational status and deviations from the principles: The Company established its Ethical Corporate Management Best Practice Principles by referencing the Ethical Corporate Management Best-Practice Principles for TWSE/TPEX Listed Companies. The Ethical Corporate Management Best Practice Principles have been reviewed and passed by the Board of Directors of the Company and disclosed on the Company website. There is no material difference from the Ethical Corporate Management Best-Practice Principle for TWSE/TPEX Listed Companies in actual practice.				
6. Other important information to facilitate better understanding of the Company's ethical corporate management (For example, the Company advocates its determination and policies on ethical corporate management to its suppliers and invites them to participate in education and training courses and the review and amendment of the Company's Ethical Corporate Management Best Practice Principles): The Company established the Supplier Code of Conduct by referencing its Code of Business Conduct and Ethics and the Responsible Business Alliance Code of Conduct. Suppliers are required to meet labor, health and safety, environmental, business ethics, and management systems criteria and fully comply with the laws and regulations of the countries in which they operate to ensure safe working environments in the supply chain, respect and dignity for workers, and operations complying with environmental protection criteria and business ethics.				

- 3.4.7
If the Company has established corporate governance code of practice and regulations, disclose the means of accessing this information:

The Company's Corporate Governance Best Practice Principles, Sustainable Development Best Practice Principles, Ethical Corporate Management Best Practice Principles and relevant regulations are disclosed on the Company's website.
- 3.4.8
Other important information that may facilitate better understanding of the Company's corporate governance:

None.

3.4.9 Internal Control System and Implementation Status

I. Statement on Internal Control

ASE Technology Holding Co., Ltd.
Statement on Internal Control

Date: February 21, 2023

Based on the results of a self-assessment, the Company states the following with regard to its internal control system during the year 2022:

1. The Company acknowledges and understands that establishing, operating and maintaining an internal control system are the responsibilities of its Board of Directors and management, and such a system has been established. The internal control is a process designed to provide reasonable assurance that the following objectives are achieved: the effectiveness and efficiency of operations (including profitability, performance, and safeguarding of assets); reliability, timeliness, transparency, and regulatory compliance of reporting; and compliance with applicable laws, regulations, and bylaws.
2. An internal control system has inherent limitations. No matter how perfectly designed, an effective internal control system can provide only reasonable assurance of accomplishing its stated objectives. Moreover, the effectiveness of an internal control system may be subject to changes of environment or circumstances. Nevertheless, the Company's internal control system contains self-monitoring mechanisms, and the Company takes immediate remedial actions in response to any identified deficiencies.
3. The Company assesses the design and operating effectiveness of its internal control system based on the criteria set forth in the Regulations Governing the Establishment of Internal Control Systems by Public Companies (hereinafter referred to as the "Regulations"). The criteria adopted by the Regulations identify five key components of internal control based on the process of management control: (1) control environment, (2) risk assessment, (3) control activities, (4) information and communication, and (5) monitoring activities. Each component further contains several items. Please refer to the Regulations for details.
4. The Company has assessed the design and operating effectiveness of its internal control system according to the aforesaid criteria.
5. Based on the results of the assessment, the Company believes that, as of December 31, 2022, its internal control system (including the supervision and management of its subsidiaries) was effective to provide reasonable assurance that the control objectives were achieved, including the effectiveness and efficiency of operations; reliability, timeliness, transparency, and regulatory compliance of reporting; and compliance with applicable laws, regulations, and bylaws.
6. This Statement is an integral part of the annual report and prospectus of the Company and will be released to the public. Any falsehood, concealment, or other illegality in the content made public will entail legal liability under Articles 20, 32, 171 and 174 of the Securities and Exchange Act.
7. This Statement was passed in the Board of Directors' meeting held on February 21, 2023 with none of the twelve attending directors expressing dissenting opinions, and the remainder all affirming the content of this Statement.

ASE Technology Holding Co., Ltd
Chairman: Jason C.S Chang

General Manager: Richard H.P. Chang

- II. If CPA was engaged to conduct a special audit of internal control system, provide its audit report: None.

3.4.10 In the most recent year and up to the date of publication of this report, where the Company and its internal personnel were penalized according to laws or the Company had punished its personnel for violating the provisions of the internal control system, and the result of the penalty might have significant impacts on shareholders' rights or securities prices. Therefore, the content of the penalty, the major deficiencies and the improvements shall be stated: None.

3.4.11 Major Resolutions of the General Shareholders’ Meetings and the Board of Directors’ Meetings in the Most Recent Year and as of the Date of this Annual Report:

Major Resolutions of General Shareholders’ Meetings

Date	Major Resolutions	Implementation Status
Annual General Shareholders’ Meeting held on June 23, 2022	1. Approve and ratified the 2021 Annual Accounting Final Reports and Statements of the Company.	Not applicable.
	2. Approve and ratified the 2021 earnings distribution proposal.	July 5, 2022 was set as the ex-dividend record date, and July 28, 2022 was set as the cash dividends payment date, and total NT\$ 30,501,980,824 was distributed.
	3. Approved the proposal to revise the "Procedures for Acquisition or Disposal of Assets" of the Company.	Relevant procedures have been implemented pursuant to the amended regulations and disclosed on the Company’s website.

Major Resolutions of Board of Directors

<u>Date</u>	<u>Major Resolutions</u>
2022.02.25	1. Resolved to approve the 2022 CPA audit fees for the Company and ASE Inc. (including subsidiaries). 2. Resolved and approved the 2021 Consolidated Financial Statements and Parent Company Only Financial Statements. 3. Resolved and approved to issue the 2021 Statement on Internal Control of the Company.
2022.03.31	1. Resolved and approved the Company’s 2021 distribution proposal of employee compensation. 2. Resolved and approved the Company’s 2021 distribution proposal of director remuneration. 3. Resolved and approved the 2021 Business Report of the Company. 4. Resolved and approved the proposal of 2021 earnings distribution of the Company. 5. Resolved and approved the proposal to revise the "Procedures for Acquisition or Disposal of Assets " of the Company. 6. Resolved and approved the proposal to resolve that the Company plans to invest and establish a subsidiary currently named as "ASE Social Enterprise Inc." as the Company's innovation model of sustainable development and enhancement of synergy. 7. Resolved and approved the proposal of date, meeting location and agenda of 2022 Annual General Meeting.

2022.04.15	Resolved and approved the proposal to revise the " Administrative and Practice Procedures to Prevent Insider Trading " of the Company.
2022.05.06	<ol style="list-style-type: none"> 1. Resolved and approved the proposal of the Company's "Task Force on Climate-related Financial Disclosures" Report. 2. Resolved to revise the agenda of 2022 Annual Shareholders' Meeting of the Company, and added the preparation report of The Company's Task Force on Climate-related Financial Disclosures Report in Status Report.
2022.06.16	Resolved to make an amendment agreement of shareholding transaction because that the tax filing regarding the equity transfer transaction between the Company, its 100% held subsidiaries and Beijing Wise Road Asset Management Co., Ltd. was postponed due to the delay in the approval process by the government of Shanghai and other places as a result of the COVID-19 pandemic. In addition, the Company is negotiating with Beijing Wise Road Asset Management Co., Ltd. and is evaluating on the feasibility to invest remaining proceed due to seller in the partial shareholdings of a holding company (tentatively named as Hong Kong United Ascend Holdings Limited).
2022.07.14	<ol style="list-style-type: none"> 1. Resolved and approved a proposal of 2021 distribution details of employees' compensation for the Company's officers. 2. Resolved and approved a proposal of 2021 distribution details of directors' remuneration.
2022.09.29	Resolved and approved the proposal to revise the "Procedures for Board of Directors Meetings ".
2022.12.15	<ol style="list-style-type: none"> 1. Resolved and approved a proposal to establish the Company's Annual Audit Plan of 2023. 2. Resolved and approved a proposal to establish the Company's Procedures for management of Internal Material Information. 3. Resolved and approved the proposal to revise the " Risk Management Policies and Procedures" of the Company. 4. Resolved and approved the proposal to revise the " Internal Control System and Internal Control System – Operational Regulations for the Management of Other Controls " of the Company. 5. Resolution to revise ASE Technology Holding Co., Ltd. and Subsidiaries Accounting Policy. 6. Resolved to approve the 2023 CPA audit fees for the Company and ASE Inc. (including subsidiaries). 7. Resolved to make an amendment agreement of shareholding transaction and once again extend the payment period of remaining proceed due to seller for disposition shares because the Company is negotiating with Beijing Wise Road Asset Management Co., Ltd and evaluating the feasibility to invest remaining proceed due to seller in the partial shareholdings of a holding company (tentatively named as Hong Kong United Ascend Holdings Limited).
2023.02.21	<ol style="list-style-type: none"> 1. Resolved to issue the 2023 Employee Stock Option Plan of the Company. 2. Resolved and approved the 2022 Consolidated Financial Statements and Parent Company Only Financial Statements of the Company. 3. Resolved and approved to issue the 2022 Statement on Internal Control of the Company.

3.4.12 Written or Otherwise Recorded Dissenting Opinions Made by Directors or Supervisors Regarding Important Resolutions Made in Board of Directors' Meetings in the Most Recent Year and as of the Date of this Annual Report: None.

3.4.13 Resignation or Termination of Chairman, General Manager, Head of Accounting, Head of Finance, Head of Internal Controls, Head of Corporate Governance Officer and Head of R&D in the Most Recent Year and as of the Date of this Annual Report: None.

**3.4.14 Intellectual Property Management Plan and Implementation Status:
Intellectual Property Management Policy and Goals**

To remain a world-leading technology provider, The Company shall continuously focus on research, development and innovation; formulate an intellectual property ("IP") strategy in alignment with its operation and R&D strategies; establish a set of operating model which can effectively utilize the IP rights the company owns to promote various business interests, so as to not only appropriately protect R&D results and enhance the company's competitiveness, but also to ensure the freedom of operation of the company and maximize shareholder benefits.

Intellectual Property Management System

To ensure the effective implementation of the Company's IP policy and goals, the Company and its subsidiaries draws up innovative programs in accordance with its business blueprint and prevailing laws and regulations, as well as continuously strengthen its IP management system. The company's comprehensive IP management ensures that the company's R&D efforts and results are well protected and developed into IP rights. The Company continues to integrate and utilize its high value IP portfolio to promote various business interests that further improve its competitiveness and strengthen its defense capabilities.

A. Patent

The Company's IP management strategy is focused on three equally weighted goals - patent quantity, patent quality and patent value. In addition to early deployment of IP management for critical technologies, the company continuously examines the quality and valuation of its patents through innovative ways to maintain a strong patent portfolio. These actions enable the company to maintain high patent standards and maximize R&D investment returns by strengthening the use of value-added patent rights. The company also actively collaborates with the industry's technology leaders to jointly develop patents, file patent applications and obtain key licensing agreements. These actions enable the company to defend its leadership position in technology as well as maintain its overall competitiveness.

B. Trade Secret

The Company's trade secrets are based on a strong foundation of corporate competitiveness that include cost advantages, technology leadership, quality manufacturing service, and the establishment of smart factories and customer trust. The company adopts secrecy policy and management measures in accordance with laws and regulations on trade secret protection, puts in place a system of measures including information security systems, employee education and on-the-job training, and systematic management, and takes management-oriented approaches to continuously implement and improve those measures, effectively protecting the company's trade secret. Where it is necessary, the company will enforce applicable laws and regulations on trade secret to prevent improper use, leakage or misappropriation of the company's proprietary assets by others in order to ensure that the company's investments, rights and interests are duly protected.

C. Trademark

The Company has registered several trademarks to distinguish the exclusive products and services of the company from the similar products/services of others. The granted trademarks

highlight the quality and uniqueness of the Company’s products and services, and help to effectively market the the Company brand name. The Company may claim its legitimate trademark rights against any other similar marks that are improperly used to cause confusion to customers or consumers, so as to protect the company’s goodwill and market share.

IP Risk Management

The Company’s success is driven by its continuous quest for innovation and the strengthening of its IP management. To protect its proprietary technologies, trade secrets and patents from theft, misappropriation or infringement, the Company has strengthened employees’ IP awareness as well as ensured the inclusion of IP protection measures at work. In addition to regular IP related online and classroom courses, various types of exercises are also conducted to enhance employees’ knowledge and skills on IP protection. The Company has established stringent controls in its IT and email systems, and within its facilities, to strengthen security management and mitigate the risk of information leakage. In case of any risk exposures in IP misappropriation or infringement, the Company has in place a robust response mechanism and standard operating procedure to promptly investigate and where appropriate, enforce legal actions to prevent IP misappropriation or infringement by others, so as to protect the Company’s IP rights.

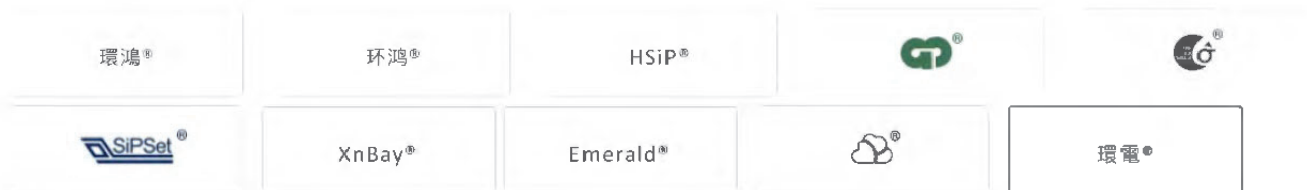
The Company respects the legitimate IP rights of others. However, to the extent that the technology is developed independently by the company or that the company does not have prior knowledge, it may be uncertain as to whether there may be any potential conflict with others’ IP. To a certain extent, the company may consider to rely on third party technology and patent licenses. If the technology license cannot be granted due to unacceptable terms and conditions, the company may be exposed to third party claims for infringement, damages incurred, or the risk of an injunction order. The company may also face customer requests and claims for contractual obligations to indemnify for the damages suffered by the customer due to third-party claim for infringement. Therefore, the company will strategically obtain the necessary licenses for specific technologies, and at the same time, collects high-quality patents that could be utilized for defense against litigation or cross-licensing, so as to ensure the freedom of operation.

Implementation Status

The Company’s patent portfolios comprise a variety of technologies related to semiconductor packaging and testing, and electronics manufacturing. As of January 31, 2023, the Company has a total of 6,099 patents, of which 2,284 were granted in Taiwan, 1,914 were granted in the U.S., 1,858 were granted in PRC, 13 patents in Europe and 30 were granted in other countries. There are a total of 1,864 pending patent applications, including 178 in Taiwan, 515 in the U.S., 1,153 in PRC , 13 patents in Europe and 5 in other countries.

The Company has applied and registered several trademarks in Taiwan, the United States, China and the EU.

日月光®	aCSP®	ASE®	a-EASI®	a-fcCSP®
aQFN®	a-QFN®	a-S³®	a-TiV®	aWLP®
a-WLP®	iSiP®	iWLP®	aSiM®	SiP-id®
SPIL®	 環電		環旭®	环旭®



are registered trademarks in Taiwan. This is a non-exclusive list of the Company’s trademarks and any name, service mark or logo that has been used for or incorporated into the Company’s services but not specified in the foregoing list shall not constitute a waiver of the company’s trademark or other intellectual property rights over that name or logo.

In terms of trade secrets management, the Company carries out annual on-line training for all employees and continues to direct them to secure confidential information and foster subject-specific course and propaganda of non-infringement of IP for R&D departments, enhancing protection of the company’s trade secret and preventing the risk of infringement. The Company implements an interview mechanism in the employee resignation process for Legal department to interview with employee who will resign and alert such employee to continue to fulfill confidentiality obligations after the resignation, reducing the risks of information leakage. The Company and its affiliates collaborate to develop group corporate strategy for protecting critical technologies that effect industry leadership and adopt unified management guidance to continue to maintain the company’s competitiveness and protect the best interests of shareholders.

At least once a year, the Company’s management team reports to the Board of Directors on the progress of the IP management plan and implementation, and sets forth improvement measures based on the Board’s recommendations. The most recent reporting date is December 16, 2022.

Certification

On September 29, 2022, Advanced Semiconductor Engineering, Inc., a subsidiary of the company, filed an application for the renewal of Taiwan Intellectual Property Management System (TIPS) (A Class) certification first certificated in 2021 and successfully accomplished the recertification process. The renewal of TIPS certification (A Class) was issued to the Company on November 4, 2022 and valid for another 2-year-term until December 31, 2024.

3.5 CPA Service Fees

Range of CPA Service Fees

Unit: NT\$ in thousands

CPA Firm	Name of CPA		Audit Period	Audit Fees	Non-Audit Service Fees*	Total	Remarks
Deloitte & Touche	Shih-Tsung Wu	Lee-Yuan Kuo	2022.01.01~2022.12.31	19,760	8,973	28,733	

* Non-audit services including business process control evaluation and introduction, review of the issuance of Eemployee Stock Options, auditing the CSR report and others.

3.5.1 If the Company changes its CPA firm and the audit fees paid for the year in which the change takes place are lower than those in the previous year, the audit fee reduction amount and the reason for the decrease in fees shall be disclosed: Not applicable.

3.5.2 If audit fees have decreased by over 10% compared to the previous year, the audit fee reduction amount proportion and the reason for the decrease shall be disclosed: Not applicable.

3.6 Change of CPA

3.6.1 Predecessor CPA:

Replacement Date	March 6, 2023		
Replacement reasons and explanations	In compliance with independence of CPA and internal job rotation, the engagement partner Shih-Tsung Wu and co-signer partner Lee-Yuan Kuo were replaced by Kai-Ning Hsu and Shih-Tsung Wu .		
Describe whether the Company terminated or the CPA did not accept the appointment	Parties	CPA	The Company
	Status	Not applicable	
	Termination of appointment		
	No longer accepted (continued) appointment		
Other issues (except for unqualified issues) in the audit reports within the last two years	None		
Differences with the Company	Yes	—	Accounting principles or practices
		—	Disclosure of Financial Statements
		—	Audit scope or steps
		—	Others
	None		
	Remarks/specify details: Not applicable		
Other Revealed Matters (Should be disclosed according to item 1-4~7, subparagraph 6, article 10 of Regulations Governing Information to be Published in Annual Reports of Public Companies)	None		

3.6.2 Successor CPA:

Name of accounting firm	Deloitte Touche
Name of CPA	Kai-Ning Hsu and Shih-Tsung Wu
Date of appointment	March 6, 2023
Consultation results and opinions on accounting treatments or principles with respect to specified transactions and the Company's financial reports that the CPA might issue prior to the engagement.	None
Succeeding CPA’s written opinion of disagreement toward the former CPA	None

3.6.3 Reply by predecessor CPA regarding Article 10, Subparagraph 6, Item 1 and Item 2-3 of Regulations Governing Information to be Published in Annual Reports of Public Companies: None.

3.7 The name and title of any Company Chairman, General Manager, and Officers of Finance or Accounting who have held positions at the appointed CPA firm or its affiliates in the past year shall be disclosed along with their tenure period at said CPA firm or affiliates: Not applicable.

3.8 Changes in Shareholding and Pledge of Stock Rights of Directors, Supervisors, Officers, and Major Shareholder Holding More Than 10% of the Shares

1. Changes in shares holding and shares pledged of Directors, Officers, and Major Shareholders

Title	Name	End of 2022		Up to the end of February, 2023	
		Increase (Decrease) in Number of Shares Held	Increase (Decrease) in Number of Shares Pledged	Increase (Decrease) in Number of Shares Held	Increase (Decrease) in Number of Shares Pledged
Director and major shareholder	A.S.E. Enterprises Limited	—	—	—	—
Director (representative)	Jason Chang (Chairman & Chairman of Resource Integration & Decision-Making Committee)	—	—	—	—
	Richard Chang (Vice Chairman)	—	—	—	—
	Chi-Wen Tsai	765,000	—	—	—
	Tien Wu (Group COO)	2,000,000	—	—	—
	Joseph Tung (Group CFO)	400,000	—	—	—
	Raymond Lo	400,000	—	—	—
	TS Chen	300,000	—	—	—
	Jeffrey Chen	—	—	—	—
	Yen-Chun Chang	160,000	—	—	—
Director	Rutherford Chang	—	—	—	—
Independent Director	Sheng-Fu You	—	—	—	—
Independent Director	Mei-Yueh Ho	—	—	—	—
Independent Director	Philip Wen-Chyi Ong	—	—	—	—
Group Chief of Staff	David Pan	—	—	—	—
Group CAO	Dtuang Wang	350,000	—	—	—
Senior VP	Alan Li	70,000	—	—	—
Senior VP and Group Controller	Murphy Kuo	250,000	—	—	—
Senior VP	Anne Chang	76,000	—	—	—
Vice President	Peili Shen	30,000	—	—	—
Vice President	Eddie Chang	30,000	—	—	—
Vice President	Kenneth Hsiang	40,000	—	—	—

2. Stock transfers with related parties: None.

3. Stock pledges with related parties: None.

3.9 Relationships of Related Party, Spouse, Kinships within the Second Degree among the Top Ten Shareholders:

Relationships among the Top Ten Shareholders

January 18, 2023* Units: shares; %									
Name	Shareholding		Spouse & Minor Shareholding		Shareholding by Nominee Arrangement		Major Shareholders Who Are the Spouse, a Relative Within the Second Degree of Kinship, or Other Related Parties		Remarks
	Shares	%	Shares	%	Shares	%	Name	Relationship	
ASE Enterprises Limited Representative : Jason C.S. Chang	684,327,886	15.670	—	—	—	—	—	—	—
Citibank Taiwan as the custodian for all holders of ASEH ADSs as a group	314,152,740	7.193	—	—	—	—	—	—	—
HSBC Taiwan as the custodian bank for Value Tower Limited	265,024,820	6.069	—	—	—	—	—	—	—
HSBC Taiwan as the custodian bank for Brilliant Capital Profits Limited	120,640,482	2.762	—	—	—	—	—	—	—
Cathay Life Insurance Co., Ltd. Chairman : Huang, Tiao-Kuei	119,865,918	2.745	—	—	—	—	—	—	—
Labor Pension Fund	66,067,298	1.513	—	—	—	—	—	—	—
Chunghwa Post Co., Ltd. Chairman : Wu, Hong-Mo	57,396,241	1.314	—	—	—	—	—	—	—
Department of Government Employees Insurance, Bank of Taiwan.	54,712,976	1.253	—	—	—	—	—	—	—
Morgan Managed Van Gard Emerging Markets Equity Index Fund Account	47,828,723	1.095	—	—	—	—	—	—	—
Chase Custodian Investment Account of the Central Bank of Saudi Arabia	47,053,793	1.077	—	—	—	—	—	—	—

*The Company shares for calculation of the shareholding rate is the number of shares as of December 31, 2022 including the number of shares which the employees of the Company exercised the employee stock option. (i.e., the outstanding shares as of January 18, 2023 after the amendment registration)

3.10 The number of shares of One Enterprise held by the Company, the Directors, Supervisors, Officers of the Company and the Enterprise directly or indirectly controlled by the Company

Total Shareholding and Percentage

December 31, 2022; Units: shares; %						
Investee Enterprise*	Investment by the Company		Investments by the Directors, Supervisors, Officers, and Enterprise Directly or Indirectly Controlled by the Company		Total Shareholding	
	Shares	%	Shares	%	Shares	%
Advanced Semiconductor Engineering, Inc.	5,994,143,764	100.00%	—	—	5,994,143,764	100.00%
ASE Social Enterprise Co., Ltd.	5,000,000	100.00%	—	—	5,000,000	100.00%
Siliconware Precision Industries Co., Ltd.	3,785,748,878	100.00%	—	—	3,785,748,878	100.00%
USI Inc.	2,926,735,620	100.00%	—	—	2,926,735,620	100.00%

*Long Term Investment under the Equity method adopted by the Company.

IV. Capital Raising

4.1 Capital and Shares

Type of Shares				Units: Shares;		December 31, 2022
Type of Shares	Authorized Capital					Remarks
	Outstanding shares			Unissued shares	Total	
	Listed shares	Unlisted shares	Total			
Common stock	4,367,242,902	0	4,367,242,902	1,132,757,098	5,500,000,000	

4.1.1 Sources of Capital

Units: Shares; NT\$								
Year & Month	Issue Price	Authorized Capital		Capital Stock		Remarks		
		Shares	Amount	Shares	Amount	Sources of Capital	Capital Increase by Assets Other than Cash	Approved date and document number
2018.04	10	5,000,000,000	50,000,000,000	4,318,391,882	43,183,918,820	IPO	None	April 30, 2018 Jing Jia San Shang Zi No. 10700043490
2018.07	—	5,000,000,000	50,000,000,000	4,319,237,132	43,192,371,320	Exercise of Employee Stock Options: NT\$8,452,500	None	July 25, 2018 Jing Jia San Shang Zi No. 1070007833
2018.10	—	5,000,000,000	50,000,000,000	4,320,148,632	43,201,486,320	Exercise of Employee Stock Options: NT\$9,115,000	None	October 22, 2018 Jing Jia San Shang Zi No. 1070010894
2019.01	—	5,000,000,000	50,000,000,000	4,321,629,382	43,216,293,820	Exercise of Employee Stock Options: NT\$14,807,500	None	January 25, 2019 Jing Jia San Shang Zi No. 1080001176
2019.04	—	5,000,000,000	50,000,000,000	4,322,625,732	43,226,257,320	Exercise of Employee Stock Options: NT\$9,963,500	None	April 23, 2019 Jing Jia San Shang Zi No. 1080004252
2019.07	—	5,000,000,000	50,000,000,000	4,323,767,932	43,237,679,320	Exercise of Employee Stock Options: NT\$11,422,000	None	July 30, 2019 Jing Jia San Shang Zi No. 1080008019
2019.10	—	5,000,000,000	50,000,000,000	4,325,402,582	43,254,025,820	Exercise of Employee Stock Options: NT\$16,346,500	None	October 30, 2019 Jing Jia San Shang Zi No. 1080011193
2020.01	—	5,000,000,000	50,000,000,000	4,329,883,632	43,298,836,320	Exercise of Employee Stock Options: NT\$44,810,500	None	January 21, 2020 Jing Jia San Shang Zi No. 1090000662
2020.04	—	5,000,000,000	50,000,000,000	4,334,711,132	43,347,111,320	Exercise of Employee Stock Options: NT\$48,275,000	None	April 24, 2020 Jing Jia San Shang Zi No. 1090003707
2020.07	—	5,500,000,000	55,000,000,000	4,338,345,132	43,383,451,320	Exercise of Employee Stock Options: NT\$36,340,000	None	July 23, 2020 Jing Jia San Shang Zi No. 1090007154

Year & Month	Issue Price	Authorized Capital		Capital Stock		Remarks		
		Shares	Amount	Shares	Amount	Sources of Capital	Capital Increase by Assets Other than Cash	Approved date and document number
2020.10	—	5,500,000,000	55,000,000,000	4,338,531,132	43,385,311,320	Exercise of Employee Stock Options: NT\$1,860,000	None	October 26, 2020 Jing Jia San Shang Zi No. 1090010269
2021.01	—	5,500,000,000	55,000,000,000	4,350,675,482	43,506,754,820	Exercise of Employee Stock Options: NT\$121,443,500	None	January 26, 2021 Jing Jia San Shang Zi No. 1100000985
2021.04	—	5,500,000,000	55,000,000,000	4,379,428,032	43,794,280,320	Exercise of Employee Stock Options: NT\$287,525,500	None	April 21, 2021 Jing Jia San Shang Zi No. 1100004091
2021.07	—	5,500,000,000	55,000,000,000	4,382,932,382	43,829,323,820	Exercise of Employee Stock Options: NT\$35,043,500	None	July 27, 2021 Jing Jia San Shang Zi No. 1100007888
2021.10	—	5,500,000,000	55,000,000,000	4,397,932,382	43,979,323,820	Issuance of new shares for Y2021 Restricted Stock Awards: NT\$150,000,000	None	October 14, 2021 Jing Jia San Shang Zi No. 1100010745
2021.10	—	5,500,000,000	55,000,000,000	4,403,414,582	44,034,145,820	Exercise of Employee Stock Options: NT\$54,822,000	None	October 29, 2021 Jing Jia San Shang Zi No. 1100011304
2022.01	—	5,500,000,000	55,000,000,000	4,408,018,732	44,080,187,320	Exercise of Employee Stock Options: NT\$46,041,500	None	January 21, 2022 Jing Jia San Shang Zi No. 1110000852
2022.03	—	5,500,000,000	55,000,000,000	4,353,018,732	43,530,187,320	Capital reduction and cancellation of treasury stocks: NT\$55,000,000	None	March 4, 2022 Jing Jia San Shang Zi No.1110002097
2022.04	—	5,500,000,000	55,000,000,000	4,357,508,832	43,575,088,320	Exercise of Employee Stock Options: NT\$44,901,000	None	April 26, 2022 Jing Jia San Shang Zi No.1110004197
2022.07	—	5,500,000,000	55,000,000,000	4,359,927,932	43,599,279,320	Exercise of Employee Stock Options: NT\$24,191,000	None	July 21, 2022 Jing Jia San Shang Zi No.1110007593
2022.10	—	5,500,000,000	55,000,000,000	4,364,218,532	43,642,185,320	Exercise of Employee Stock Options: NT\$42,906,000	None	October 26, 2022 Jing Jia San Shang Zi No.1110011227
2023.01	—	5,500,000,000	55,000,000,000	4,367,242,902	43,672,429,020	Exercise of Employee Stock Options: NT\$30,243,700	None	January 18, 2023 Jing Jia San Shang Zi No.1120000802

4.1.2 Composition of Shareholders

January 18, 2023*

Type of Shareholders Number	Government Agencies	Financial Institution	Other Juridical Persons	Domestic Natural Persons	Foreign Institutions and Natural Persons	Total**
Number of Shareholders	5	1	667	189,803	1,578	192,054
Shareholding (Shares)	137,024,420	4,500,713	779,682,510	602,621,060	2,843,414,199	4,367,242,902
Shareholding Percentage (%)	3.137	0.103	17.853	13.799	65.108(***)	100

* Most recent data provided by the stock agency
** The shares are as of December 31, 2022 which includes the shares exercised from employee stock options and the amendment registration date was on January 18, 2023.
*** The shareholding percentage of Mainland China area investors was 0.0003%.

4.1.3 Status of Shareholding Dispersal

1. Common Shares

Par Value: NT\$10 per share; January 18, 2023*

Range of Shareholding	Number of Shareholders	Shareholding	Percentage (%)
1 ~ 999	90,523	17,949,862	0.411
1,000 ~ 5,000	81,222	160,907,841	3.684
5,001 ~ 10,000	10,623	78,954,869	1.808
10,001 ~ 15,000	3,053	38,078,746	0.872
15,001 ~ 20,000	1,786	32,089,127	0.735
20,001 ~ 30,000	1,505	37,610,203	0.861
30,001 ~ 40,000	771	27,222,533	0.623
40,001 ~ 50,000	434	19,928,940	0.456
50,001 ~ 100,000	833	59,049,860	1.352
100,001 ~ 200,000	449	62,822,653	1.439
200,001 ~ 400,000	252	72,732,079	1.665
400,001 ~ 600,000	134	66,623,327	1.526
600,001 ~ 800,000	72	50,739,242	1.162
800,001 ~ 1,000,000	45	40,536,453	0.928
1,000,001 and above	352	3,601,997,167	82.478
Total	192,054	4,367,242,902	100.000

2. Preferred Shares: Not applicable.

4.1.4 List of Major Shareholders

January 18, 2023*

Name of Major Shareholders	Shares	Shareholding	Percentage (%)
ASE Enterprises Limited		684,327,886	15.670
Citibank Taiwan as the custodian for all holders of ASEH ADSs as a group		314,152,740	7.193
HSBC Taiwan as the custodian bank for Value Tower Limited		265,024,820	6.069
HSBC Taiwan as the custodian bank for Brilliant Capital Profits Limited		120,640,482	2.762
Cathay Life Insurance Co., Ltd.		119,865,918	2.745
Taiwan Labor Pension Fund		66,067,298	1.513
Chunghwa Post Co., Ltd.		57,396,241	1.314
Bank of Taiwan Government Employee and School Staff Insurance (GESSI)		54,712,976	1.253
Morgan Managed Van Gard Emerging Markets Equity Index Fund Account		47,828,723	1.095
Chase Custodian Investment Account of the Central Bank of Saudi Arabia		47,053,793	1.077

*The Company Shares for calculation of the shareholding rate is the number of shares as of December 31, 2022 including the number of shares that the employees of the Company exercised the employee stock option. (i.e. the outstanding shares as of January 18, 2023 after the amendment registration).

4.1.5 Market Price, Net Worth, Earnings, and Dividends per Share

Unit: NT\$

Item			Year	2021	2022	Up to the date of this annual report in 2023
Market Price per Share	Before retroactive adjustment	Highest		133.50	112.00	107.50
		Lowest		81.80	71.40	92.30
	After retroactive adjustment	Highest		133.50	(Note 1)	(Note 1)
		Lowest		81.80	(Note 1)	(Note 1)
	Average			109.03	92.77	102.61
Net Worth per Share	Before distribution			64.13	74.49	(Note 5)
	After distribution			57.00	(Note 1)	(Note 5)
Earnings per Share	Weighted Average Shares			4,365,667,867	4,323,422,198	4,336,545,597
	Earnings per share (diluted)	Before retroactive adjustment		14.40	13.94	(Note 5)
		After retroactive adjustment		14.40	(Note 1)	(Note 5)
Dividends per Share	Cash dividends			6.99598280	(Note 1)	—
	Stock dividends	From retained earnings		—	(Note 1)	—
		From capital surplus		—	(Note 1)	—
	Cumulative dividends			—	—	—
Analysis of Return on Investment	Price/Earnings Ratio(Note 2)			7.57	6.65	(Note 5)
	Price/Dividends Ratio(Note 3)			15.58	(Note 1)	—
	Cash Dividend Yield(Note 4)			0.06	(Note 1)	—

(Note 1) Determine after approval in the General Shareholders' Meeting.

(Note 2) Price/Earnings Ratio = Average Market Price/Earnings per Share.

(Note 3) Price/Dividends Ratio = Average Market Price/Cash Dividends per Share

(Note 4) Cash Dividend Yield = Cash Dividends per Share/Average Market Price.

(Note 5) Earnings not yet settled

4.1.6 Dividend Policies and Implementation

1. Dividend policies

The dividend policy of the Company was approved by the General Shareholders' Meeting on February 12, 2018.

The Company is at the stage of stable growth. In order to accommodate the capital demand for the present and future business development and satisfy the shareholder's demand for the cash inflow, the Residual Dividend Policy is adopted for the dividend distribution of the Company. The ratio for cash dividends shall be not less than 30% of the total dividends; and the residual dividends shall be distributed in form of stocks in accordance with the distribution plan proposed by the Board of Directors and resolved by the General Shareholders' Meeting.

2. Proposal for dividend distribution:

(1) The cash dividend distribution has been resolved by the Board of Directors in accordance with the Articles of Incorporation of the Company, and will be reported to the shareholders' meeting.

(2) The Board of Directors proposed on March 30, 2023 that shareholder dividends to the amount of NT\$38,482,082,645 shall be paid in cash. Cash dividend will be NT\$ 8.8 per share,

3. Explanation of anticipated major changes in the dividend policy: Not applicable.

4.1.7 Impact to business performance and earnings per share resulting from stock dividend distribution:

Not applicable. (The Company is not required to disclose the 2023 financial prediction data pursuant to the Criteria Governing the Public Disclosure of Financial Forecast Information by Public Companies.)

4.1.8 Remuneration of Employees and Directors

1. The percentage or range of remuneration of employees and directors as stipulated in the Company's Articles of Incorporation, which was amended at the Shareholders' Meeting held on August 12, 2021:

According to Article 23 of the Articles of Incorporation, if the Company is profitable, 0.01% (inclusive) to 1% (inclusive) of the profits shall be allocated as compensation to employees and 0.75% (inclusive) or less of the profits should be allocated as remuneration to directors. While the Company has accumulated losses, the profit shall be set aside to compensate remuneration losses before distribution.

The compensation being distributed to employees in the form of stock or cash shall be approved by more than half of the directors at a board meeting at which two-thirds or more of the directors are present and report to the general shareholders' meeting.

The Company distributes profit to employees in the form of shares by a resolution of a meeting of Board of Directors, and in accordance with the provision of the preceding paragraph, may resolve, at the same meeting of the Board of Directors, to distribute the shares by way of new shares to be issued by the Company or existing shares to be repurchased by the Company.

"Employees" referred to in the three preceding paragraphs include employees of controlling or subsidiary companies that meet certain conditions, which are to be prescribed by the Board of Directors.

According to Article 24 of the Articles of Incorporation, The annual net income shall be distributed in the order of sequences below:

- (1) Making up for losses, if any.
- (2) 10% being set aside as legal reserve.
- (3) Allocation or reversal of a special surplus reserve in accordance with laws or regulations set forth by the authorities concerned.

The remainder plus the undistributed earnings shall be distributed in accordance with the proposal submitted by the Board of Directors and adopted by the general shareholders' meeting. However, when earnings are distributed as cash dividends, this may be approved by the majority of the directors at a Board meeting in which over two-thirds of the directors are present, and then reported to the shareholders' meeting.

2. The estimation basis of the remuneration amount paid to employees and directors, calculation basis of shares on the remuneration distributed to employees in stock, and the accounting if there are differences between the estimated the actual distribution amount:

The estimated employee remuneration and director remuneration for 2022 were NT\$155,398,198 and NT\$248,637,101. These figures amounted to 0.25% and 0.40% of the net profit before tax. If the amount is adjusted after the annual consolidated financial statement is disclosed, the differences will be recorded in the following year as a change in accounting estimate.

3. Board Resolution for the Distribution of Remuneration:

Resolution of the March 30, 2023 Board of Director for the allocation of director compensation and employee compensation for 2022 is as follows:

The resolved distribution of employee remuneration is NT\$155,463,000 (paid fully in cash), and that of director remuneration is NT\$247,000,000. The difference between the resolved amount mentioned above and the estimated amount NT\$155,398,198 for employee remuneration and NT\$248,637,101 for director remuneration is NT\$1,572,299.

4. The actual distribution of remuneration to employees and directors (including the number of distributed shares, amount, and share price) in previous year, and whose differences (if any) with the recognized remuneration to employees and directors should be disclosed along with the differences, reasons and status:

The Board of Directors of the Company had approved the earnings distribution plan of 2021 on March 31, 2022 and the actual distribution status:

- (1) The actual distribution of employee compensation was NT\$ 122,000,000 (paid fully in cash), and that of director remuneration is NT\$194,000,000.
- (2) The difference between the actual distribution amount and aforementioned the original estimated employee compensation of NT\$121,934,561 for employee remuneration and NT\$195,095,298 for director remuneration is NT\$1,029,859 in total.

Reasons of the difference: Adjustments for accounting estimates.

Handling Situation: The amount of difference had been recognized as the adjustments for accounting estimates when the Board of Directors approved.

4.2 Corporate Bonds:

2023 as of the date of this annual report

Corporate Bond Type	2019 Unsecured Corporate Bonds, Phase I	2019 Unsecured International Corporate Bonds, Phase II	2020 Unsecured Corporate Bonds, Phase I	2020 Unsecured Corporate Bonds, Phase II
Issue date	April 26, 2019	October 3, 2019	April 22, 2020	August 13, 2020
Denomination	NT\$1,000,000	US\$1,000,000	NT\$1,000,000	NT\$1,000,000
Issuing and transaction location	Market (listed)	Market (listed)	Market (listed)	Market (listed)
Issue price	Issue by denomination	Issue by denomination	Issue by denomination	Issue by denomination
Total price	NT\$10,000,000,000 (Bond-A: 6,500 million; Bond-B: 3,500 million)	US\$100,000,000 (Bond-B: 100 million)	NT\$10,000,000,000	NT\$10,000,000,000 (Bond-A: 3,000 million; Bond-B: 5,000 million; Bond-C: 2,000 million)
Coupon rate	Bond-A: 0.90%; Bond-B: 1.03%	Bond-B: 2.50%	0.90%	Bond-A: 0.72% Bond-B: 0.85% Bond-C: 0.95%
Tenor	Bond-A: 5 years Maturity: April 26, 2024 Bond-B: 7 years Maturity: April 26, 2026	Bond-B: 5 years Maturity: October 3, 2024	Maturity: April 22, 2025	Bond-A: 3 years Maturity: August 13, 2023 Bond-B: 5 years Maturity: August 13, 2025 Bond-C: 7 years Maturity: August 13, 2027
Guarantee agency	None	None	None	None
Consignee	Taipei Fubon Commercial Bank Co., Ltd	Taipei Fubon Commercial Bank Co., Ltd	Taipei Fubon Commercial Bank Co., Ltd.	Taipei Fubon Commercial Bank Co., Ltd.
Underwriting institution	Taishin Securities Co., Ltd.	Fubon Securities Co., Ltd.	Yuanta Securities Co., Ltd.	Yuanta Securities Co., Ltd.
Certified lawyer	Kuo, Hui-Chi (Ture Honesty International Law Office)	Kuo, Hui-Chi (Ture Honesty International Law Office)	Kuo, Hui-Chi (Ture Honesty International Law Office)	Kuo, Hui-Chi (Ture Honesty International Law Office)
CPA	Deloitte & Touche	Deloitte & Touche	Deloitte & Touche	Deloitte & Touche
Repayment method	Repayment in lump sum	Repayment in lump sum	Repayment in lump sum	Repayment in lump sum

Corporate Bond Type		2019 Unsecured Corporate Bonds, Phase I	2019 Unsecured International Corporate Bonds, Phase II	2020 Unsecured Corporate Bonds, Phase I	2020 Unsecured Corporate Bonds, Phase II
		upon maturity	upon maturity	upon maturity	upon maturity
Outstanding principal		NT\$10,000,000,000	US\$100,000,000	NT\$10,000,000,000	NT\$10,000,000,000
Terms of redemption or advance repayment		None	None	None	None
Restrictive clause		None	None	None	None
Name of credit rating agency, rating date, rating of corporate bonds		Rating agency: Fitch Ratings Rating date: September 11, 2018 Credit rating: A+(tw)	Rating agency: Fitch Ratings Rating date: September 4, 2019 Credit rating: A+(tw)	Rating agency: Fitch Ratings Rating date: March 10, 2020 Credit rating: A+(tw)	Rating agency: Fitch Ratings Rating date: March 10, 2020 Credit rating: A+(tw)
Other rights attached	As of the printing date of this annual report, converted amount of (exchanged or subscribed) ordinary shares, GDRs or other securities	None	N/A	N/A	N/A
	Issuance and conversion (exchange or subscription) method	None	None	None	None
Issuance and conversion, exchange or subscription method, issuing condition dilution, and impact on existing shareholders' equity		None	None	None	None
Transfer agent		None	None	None	None

4.3 Preferred Stocks: None.

4.4 American Depositary Receipts:

2023 as of the Date of this Annual Report Unit: US\$

The issuance date of the original ASE			September, 2000	June, 2003
Item				
Issue Date			September, 2000	June, 2003
Issuance and Listing			New York Stock Exchange	New York Stock Exchange
Total Amount			US \$140,000,000	US \$86,808,000
Offering Price per Unit			US\$7 per unit	US\$2.65 per unit
Units Issued*			20,000,000 units; each unit represents five ASE common shares	32,757,600 units; each unit represents five ASE common shares
Underlying Securities			ASE common shares issued through rights offering	ASE issued common shares held by shareholders
Common Shares Represented			100,000,000 ASE common shares; each share has a par value of NT\$10	163,788,000 ASE common shares; each share has a par value of NT\$10
Rights and Obligations of ADR Holders			Same rights and obligations as the shareholders of common shares of the Company	
Trustee			None	
Depository Bank			Citibank	
Custodian Bank			Citibank, Taipei Branch	
Outstanding ADR			As of the Date of this Annual Report, the balance of the American Depositary Receipt was 157,163,870 units, equivalent to 314,327,740 common shares of the Company.	
Apportionment of expenses for issuance and maintenance			None	
Terms and conditions in the deposit agreement and custody agreement			None	
Closing Price per ADR	2022	Highest	8.15	
		Lowest	4.45	
		Average	5.98	
	2023 as of the date of this annual report	Highest	7.70	
		Lowest	6.21	
		Average	7.18	

*One unit of ASE Inc. American Depositary Receipt (ADR) that each unit was equivalent to 5 ASE Inc. common shares was converted to 1.25 units of ASE Technology Holding, Co., Ltd. ADR, which each unit is equivalent to 2 common shares of ASE Technology Holding, Co., Ltd. common shares.

4.5 Employee Stock Option Plan (including the status of employee restricted stock awards):

4.5.1 The implementation of Employee Stock options Plan:

For the purposes of attracting professionals needed by the Company, encouraging employees, increasing employees' recognition of the Company, the competent authority approved to issue the First Employee Stock Option Plan in August of 2018, and the total number of options to be issued under the plan shall be 150,000,000. Each option is entitled to subscribe one new common share of the Company. The exercise price shall be the closing price of the Company's common shares on the grant date.

According to Article 12, Subparagraph 12.3 of the Joint Share Exchange Agreement, the

option plan that were approved to issue in April of 2010 and April of 2015 by competent authority, will be assumed by the Company, and the Company will adjust the stock option exercise price and quantity based on the conversion ratio starting from the effective date of the conversion. According to Article 2, Subparagraph 2.1.4, the employee stock options of the Company which are granted but not exercised yet are as follows:

1. The status of valid employee stock option certificates as of the date of this annual report and effects on shareholder rights:

2023 as of the date of this annual report			
Stock Option Plan	The 2015 Employee Stock Option Plan (Assumption from ASE)*	ASEH (The Company) The 2018 Employee Stock Option Plan	
		First issuance	Second issuance
Effective Date & Total Units	2015/04/17 & 36,535,000 Shares	2018/08/23 & 150,000,000 Shares	
Grant Date	2015/09/10	2018/09/27	2018/11/23
Units issued	36,535,000 Shares	150,000,000 Shares	
Available units for issuance	0 Share	0 Share	
Percentage of Shares to be issued of the outstanding shares as of the date of issuance	0.85%	0.01%	3.05%
Period	The Options will expire at the end of the tenth year from the issue date (the "Expiry Date"). The Options may not be transferred, except by inheritance. If the employee or his/her heir(s) is unable to exercise the Options before the Expiry Date, such Options shall elapse and be cancelled.		
Underlying Shares	The Company will issue new common shares as the underlying shares.		
Vesting Schedule (%)	The Options shall become exercisable from the date two (2) years after the issue date thereof, and the percentage of exercisable Options in different time periods are set forth below.		
	<div> <div>Numbers of Years after the Issue Date</div> <div>Accumulated Percentage of Options Exercisable</div> </div>		
	<div> <div>2 years</div> <div>40%</div> </div>		
	<div> <div>2.5 years</div> <div>50%</div> </div>		
	<div> <div>3 years</div> <div>60%</div> </div>		
	<div> <div>3.5 years</div> <div>70%</div> </div>		
	<div> <div>4 years</div> <div>80%</div> </div>		
	<div> <div>4.5 years</div> <div>90%</div> </div>		
	<div> <div>5 years</div> <div>100%</div> </div>		
Exercised Shares	23,174,270 Shares	0 Share	46,516,500 Shares
Exercised Amount	NT\$1,691,721,710	NT\$0	NT\$2,404,576,390
Unexercised Shares	13,360,730 Shares	620,000 Shares	85,346,000 Shares
Exercise Price per unexecuted share (current exercise price)	NT\$73.0	NT\$66.9	NT\$47.5
Ratio of unexercised shares over the outstanding shares as of the date of this annual report (%)	0.31%	0.01%	1.95%
Expired Shares	0 Share	620,000 Shares **	0 Share
Impact on shareholders' equity	The Option Plan will start to vest within 3 years from the date two years after the issue date. The equity of the shareholders is diluted annually, but the dilution effects are limited.		

* Each Option is entitled to subscribe one new common share of the Company. Pursuant to the Joint Share Exchange Agreement, the Company assumed the employee stock option plan issued by ASE. The price and shares were adjusted according to the conversion ratio (ASE: the Company=1:0.5).

** A total of 11 employees have resigned or retired in 2018 and all of these number of shares has also been cancelled.

2. Names, Granting and Exercise Status of the Officers and Top Ten Employees of the granted Employee Stock Options:														
February 28, 2023														
	Title	Name	Issuance Date	Number of Stock Options Granted	Percentage of Stock Options in Outstanding Shares	Exercised				Unexercised				
						Number of Stock Options	Exercise Price	Exercise Amount	Percentage of Stock Options in Outstanding Shares	Number of Stock Options	Exercise Price	Exercise Amount	Percentage of Stock Options in Outstanding Shares	
Officers and Employees	Chairman of the Board and Chairman of the Resource Integration and Decision-making Committee	Jason C.S. Chang	104.09.10 107.11.23	12,650,000	0.29%	2,060,000	48.54	100,000,000	0.05%	10,590,000	47.74	505,575,000	0.24%	
	General Manager	Richard H.P. Chang												
	Group COO	Tien Wu												
	Group CFO	Joseph Tung												
	Group Chief of Staff	David Pan												
	Group CAO	Dtuang Wang												
	Senior VP	Alan Li												
	Senior VP and Group Controller	Murphy Kuo												
	Senior VP	Anne Chang												
	Vice President	Peili Shen												
	Vice President	Eddie Chang												
	Vice President	Kenneth Hsiang												
	Subsidiary	Chairman & General Manager	Chi-wen Tsai	104.09.10 107.11.23	10,050,000	0.23%	4,128,000	51.68	213,315,500	0.09%	5,922,000	47.50	281,295,000	0.14%
		Vice Chairman and Chief Operating Officer	Yen-Chun Chang											
		General Manager	Raymond Lo											
		General Manager	TS Chen											
		General Manager	Jeffrey Chen											
		Senior VP	Kun-Yi Chien											
		General Manager	JJ Lee											
		Vice President	River Gu											
		Senior VP	Michael Chang											
		Vice President	Rick Lee											
		Senior VP	David Tseng											

4.5.2 The implementation of Restricted Stock Awards Plan:

To attract and retain talents and achieve the Company’s mid- and long-term objectives, the Company aims to motivate employees to do their best to achieve the Company’s operation goals together, the Company issued the 2021 Restricted Stock Awards Plan (“the Rules”) . The Rules are stipulated and based on Article 267 of the Company Act and the Regulations Governing the Offering and Issuance of Securities by Securities Issuers (“the Regulations”) released by the Financial Supervisory Commission.

The issuance of first new restricted stocks of 15,000,000 shares was approved by the competent authority in October 2021 and were granted gratuitously to employees. The number of shares of released and unreleased issued restricted stock awards are listed as follows:

1. The status up to the date of the annual report and the effect on shareholders' equity for all restricted stock awards for which the vesting conditions have not yet been met for the full number of shares:

February 28, 2023

Type of New Restricted Employee Stock	2021 Restricted Stock Awards
Date of Effective Registration & Total Shares	September 7, 2021 & 15,000,000 Common Shares
Issue Date	October 1, 2021
Number of new shares issued with restricted employee rights	15,000,000 Common Shares
Available new shares of restricted stock awards for issuance	0 Common Share
Issue Price (NT\$)	The issuance is gratuitous
New Restricted Employee Shares as a Percentage of Shares Issued	0.34%
Vesting Conditions of New Restricted Employee Shares	<p>1. Employee's continuous employment with the Company through the vesting dates, no violation on any terms of the Company’s employment agreement, working rules, non-compete and Proprietary Information Management agreements or the agreement of restricted stock awards and achievement of both “personal performance requirement” and “the Company’s operation objectives” during the vesting period are required to receive the vested shares. In three years after the date of issuance, the maximum number of shares that can vest each year is 1/3 of the total stock awards granted (“the vesting limit”).</p> <p>The actual total number of vesting shares shall be determined by the vesting ratio set according to the achievement of both personal performance and the Company’s operation objectives and will be specified in the respective agreements of employees by the Company. The share calculation shall be rounded down to the nearest integer.</p>

2.The personal performance requirement are the employee’s personal performance rating for the most recent year prior to the end of each vesting period at “B” (included) rating or better and meeting the personal performance requirement which the criteria was set by the Company and agreed with separate employee.

The Company's operation objectives are based on 4 indexes: consolidated operating revenue, consolidated gross profit and gross margin (%), and consolidated operating profit and operating margin(%) (Collectively, “performance indexes”) of the semiconductor packaging and testing business (including the substrate (materials) business; referred to below as the “packaging and testing business”) of the continuing operation and the Company’s Environmental, Social, and Corporate Governance achievements (“ESG KPI”). Targets A and B achievement levels for the performance indexes are set up in the table below. The indexes will be deemed achieved when either target A or B is achieved. If one out of the three aforementioned performance indexes is achieved, the total number of vested shares for the year shall be 50% of the vesting limit. If two out of the three aforementioned performance indexes are achieved, the total number of vested shares for the year shall be 70% of the vesting limit. If all of the three aforementioned performance indexes are achieved, the total number of vested shares for the year shall be 90% of the vesting limit. If the performance indexes and the ESG KPI are achieved at the same time, the aforementioned total number of vested shares for the year will be adjusted to 60%, 80%, and 100% of the vesting limits, respectively.

The determination of achievement of performance indexes to the target and the achievement levels shall, in principle, be based on the consolidated financial statements of subsidiaries related to the Company's packaging and testing business reviewed by a certified public accountant for the most recent fiscal year prior to the end of each vesting period. However, during the vesting period, if the Company or its subsidiaries acquire or dispose the shareholder equities of other business units, departments or subsidiaries (the "variable business units") through mergers, acquisitions or trades that should be incorporated or has been incorporated into the Company’s consolidated financial statements, the operating revenue, gross profit, operating profit, GHG (Greenhouse Gas) intensity, and Water Withdrawal Intensity of the variable business units shall not be included in the calculation of the aforementioned operation indexes.

The determination of achievement of ESG KPI and standards should in principle be based on a report verified by a third-party impartial agency in the Company's packaging and testing business in the most recent year prior to the end of each vesting period.

Index	Target A	Target B
Consolidated operating revenue	Consolidated operating revenue of the Company's packaging and testing business growth compared to the previous year and the	Consolidated operating revenue of the Company's packaging and testing business growth compared to the average consolidated

		growth rate higher than that of the logic semiconductor industry. The growth rate of the logic semiconductor industry shall be based on the report issued by Gartner, a global research and advisory institution.	operating revenue of previous 3 years and the growth rate higher than that of the logic semiconductor industry. The growth rate of the logic semiconductor industry shall be based on the report issued by Gartner, a global research and advisory institution.
	Consolidated gross profit and gross margin (%)	The total consolidated gross profit of the Company's packaging and testing business exceeds the total consolidated gross profit of the packaging and testing business in the previous year or exceeds the average of the total consolidated gross profit of the packaging and testing business of the previous 3 years.	The total consolidated gross margin of the Company's packaging and testing business exceeds the total consolidated gross margin of the packaging and testing business in the previous year or exceeds the average of the total consolidated gross margin of the packaging and testing business of the previous 3 years.
	Consolidated operating profit and operating margin (%)	The consolidated operating profit of the Company's packaging and testing business exceeds the consolidated operating profit of the packaging and testing business in the previous year or exceeds the average of the consolidated operating profit of the packaging and testing business of the previous 3 years.	The consolidated operating margin of the Company's packaging and testing business exceeds the consolidated operating margin of the packaging and testing business in the previous year or exceeds the average of the operating margin of the packaging and testing business of the previous 3 years.
	ESG KPI	(a) GHG intensity (GHG emissions/revenue): Year 2021: Reduce by more than 6% (Based on Year 2015) Year 2022: Reduce by more than 7% (Based on Year 2015) Year 2023: Reduce by more than 8% (Based on Year 2015) And (b) Water Withdrawal Intensity (water withdraw/revenue): Year 2021: Reduce by more than 6% (Based on Year 2015) Year 2022: Reduce by more than 7% (Based on Year 2015) Year 2023: Reduce by more than 8% (Based on Year 2015)	
Restricted Rights of New Restricted Employee Shares	1. Before the vesting conditions are met, except for inheritance, employees may not sell, pledge, transfer, give to another person, create any encumbrance on, or otherwise dispose of, the restricted stock awards. 2. Before the vesting conditions are met, rights of the restricted stock		

	<p>awards to attend the shareholder’s meeting, submit proposals, speak and vote at the meeting shall be the same as the Company’s common shares issued and shall be performed in accordance with the custodian agreement.</p> <p>3. Before the vesting conditions are met, except the aforementioned rights, the other rights of restricted stock awards, including but not limited to stock dividend, cash dividend, rights to receive from legal reserve and capital surplus, stock options at cash capital increase, shall be the same as the Company’s common shares issued and be performed in accordance with the custodian agreement.</p> <p>4. If the employee achieves the vesting conditions on the book closure date for the Company’s issuance of bonus dividends, cash dividends, subscription of new shares in rights issue, during the book closure period for shareholder’s meeting pursuant to Item 3 of Article 165 of the Company Act, or other statutory book closure period till the record date for rights distribution, the timing and procedures for lifting the restrictions on the restricted stock awards shall be performed in accordance with the custodian agreement or relevant laws/regulations.</p>
Custody Status of New Restricted Employee Shares	The restricted stock awards shall be deposited in a security trust account after the issuance. Before the vesting conditions are met, the employee shall not request the trustees to return the restricted stock awards for any reason or in any method.
Measures to be Taken When Vesting Conditions are not Met	Before the vesting conditions are met, except for inheritance, employees may not sell, pledge, transfer, give to another person, create any encumbrance on, or otherwise dispose of, the restricted stock awards.
Number of New Restricted Employee Shares that have been Redeemed or Bought Back	0 Share
Number of Released New Restricted Employee Shares	5,000,000 Shares
Number of Unreleased New Restricted Shares	10,000,000 Shares
Ratio of Unreleased New Restricted Shares to Total Issued Shares (%)	0.23%
Impact on dilution of shareholdings	Based on the calculation of the Company’s outstanding shares, the maximum dilution of the Company's EPS is estimated to be in the amount of NT\$0.08, NT\$0.20, NT\$0.09 and NT\$0.03 from 2021 to 2024, respectively. The potential dilution of the Company's EPS is limited, therefore, there is no material impact on existing shareholders’ equity.

2. Name list and implementation status of employee restricted stock awards granted to officers and the top 10 employees:

February 28, 2023

	Title	Name	Shares	%	Released				Unreleased			
					Number of released restricted shares	Issue Price (NT\$)	Issue amount	Ratio of released Restricted shares to the total shares issued	Number of released restricted shares	Issue Price (NT\$)	Issue amount	Ratio of released Restricted shares to the total shares issued
Officers and Employees	Chairman of the Board and Chairman of the Resource Integration and Decision-making Committee	Jason C.S. Chang	4,080,000	0.09%	1,360,000	0	0	0.03%	2,720,000	0	0	0.06%
	General Manager	Richard H.P. Chang										
	Group COO	Tien Wu										
	Group CFO	Joseph Tung										
	Group Chief of Staff	David Pan										
	Group CAO	Dtuang Wang										
	Senior VP	Alan Li										
	Senior VP & Group Controller	Murphy Kuo										
	Senior VP	Anne Chang										
	Vice President	Peili Shen										
	Vice President	Eddie Chang										
	Vice President	Kenneth Hsiang										
	Subsidiary	General Manager	6,240,000	0.14%	2,080,000	0	0	0.05%	4,160,000	0	0	0.09%
		Chairman & General Manager										
		General Manager										
		General Manager										
		Vice Chairman and Chief Operating Officer										
		General Manager										
		Senior VP										
		Director & General Manager										
		General Manager										
		Senior VP										
		Senior VP										
		Vice Chairman										

4.6 Status of New Shares Issuance due to mergers or acquisition of shares of another company:

4.6.1 Completed new shares issuance due to mergers and acquisitions in the most recent year and as of the date of this annual report: None.

4.6.2 New shares issuance due to mergers and acquisitions approved by the Board of Directors in the most recent year and as of the date of this annual report: None.

4.7 Financing Plan and Implementations:

As of the date of this annual report, unfinished projects that have completed fundraising: None.

V. Operational Highlights

5.1 Business Activities

5.1.1 Business Scope

1. As each subsidiary is engaged in different business scope, the business scope of the Company (ASE Technology Holding Co., Ltd.) and its subsidiaries (hereinafter referred as “the Group”) includes four major categories listed as follows:
- (1) Investment : General Investment Business

(2) Assembly and Testing : IC Service
 - Assembly: Package and module design, chip packaging (or assembly), multi-chip assembly, micro and hybrid module assembly, memory assembly
 - Testing: Engineering test, wafer probing and final test
 - Materials: Substrate design and manufacturing

(3) Electronics Manufacturing Services

Providing a series of professional services for electronic brand owners domestically or abroad on the aspects of research and development, materials procurement, manufacture, logistics, repair and after services of products of communications, consumer electronics, computers, memories, industrial, automotive and other electronic products.

(4) Others

Real estate development, construction, housing sale, property management and commercial space leasing business.

2. Current products of the Group and its Operating Proportion:

Primary products	Unit: NT\$ in thousands	
	2022	
	Revenue	Sales Percentage
Assembly services	303,947,502	45.31%
Testing services	55,960,182	8.34%
Electronics packaging technology and manufacturing services	301,966,818	45.01%
Others	8,998,141	1.34%
Total	670,872,643	100.00%

5.1.2 Industry Overview

1. Investment :

The Company integrates the Group’s business strategies and operational objectives through investment holdings. Its goal is to efficiently utilize the Group’s resources through the development of various independent businesses by means of investment and shareholding in order to enhance the Group’s overall operational performance and competitiveness on the market.
2. Assembly and Testing:
- (1) Current Status and Development of the Industry

The World Economic Outlook for October 2022 issued by the International Monetary Fund (IMF) indicates a more severe slowdown in global economic activities than

expected, mainly affected by the US, China, and India, which have made the most significant downward revisions to economic growth forecasts. Among these, the US made revisions due to lower household purchasing power and restrictive monetary policy because of weaker than expected performance in the first half of the year. In China, the repeated outbreaks of COVID-19 led to an enhancement in pandemic prevention and control policies, which once again disrupted the global supply chain and restrained global economic growth.

In addition, the rapid rise in consumer prices in various countries has led to an estimated increase of global inflation from 4.7% in 2021 to 8.8% in 2022, reaching its highest level in the past few decades. Inflation has remained high for a long period of time, driving central banks all over the world to accelerate interest rate increases, which has resulted in a decline in purchasing power. In particular, the actions taken by the US and major European economies have caused the global financial contraction. China's stringent control and pandemic prevention policies have weighed on its economic growth. The prolonged war between Russia and Ukraine has triggered a rise in commodity prices, exacerbating the pressure on inflation and adversely affecting the economic recovery during the pandemic, thereby further dampening the global economy. The global economic outlook has turned gloomy with increased uncertainties due to a number of unfavorable factors. Currently, countries around the world are facing cost-of-living crises and restrictive financing environments, all of which have exerted a negative impact on the economic prospect.

Gartner®¹ estimated the growth rate of Worldwide GDP amounted to 5.9% in 2021, which was expected to decline to 2.8% in 2022 and 1.4% in 2023. From the perspective of economies, the IMF made downward revisions to the economic growth rate of developed countries to 2.4% in 2022 from the 2.5% forecasted in July, and estimated a further decline to 1.1% in 2023. The economic growth rate of emerging and developing countries is grown by 3.7% in 2022 and estimated to have remain flat in 2023.

The macro environmental factors, such as a resurgent pandemic, US interest rate hikes, geopolitical conflicts (Russia-Ukraine war and cross-strait frictions), global inflation, and soaring raw material prices, have exerted a profound impact on industry supply chains and affected the demand for end consumer products such as PCs and smartphones. Speaking overall, the domestic and international semiconductor industry started to feel the weakness of the demand for end products and rising inventory from the second half of 2022, with a number of business indicators turning conservative. In addition, the Russia-Ukraine war has not yet come to an end and continues to cause uncertainty in global geopolitics. Moreover, the US suppression and containment of the rise of China's semiconductor supply chain has intensified, increasing the complexity of the economic variables and competition, with more severe challenges ever than before.

The current semiconductor market is polarized between consumer-driven and enterprise-driven markets. In particular, the consumer market is weak due to inflation

¹ Source: Gartner "Forecast: Semiconductors Capital Spending, Wafer Fab Equipment and Capacity, Worldwide, 4Q22 Update", By Bob Johnson, Gaurav Gupta and Samuel Wang, 22 December 2022.

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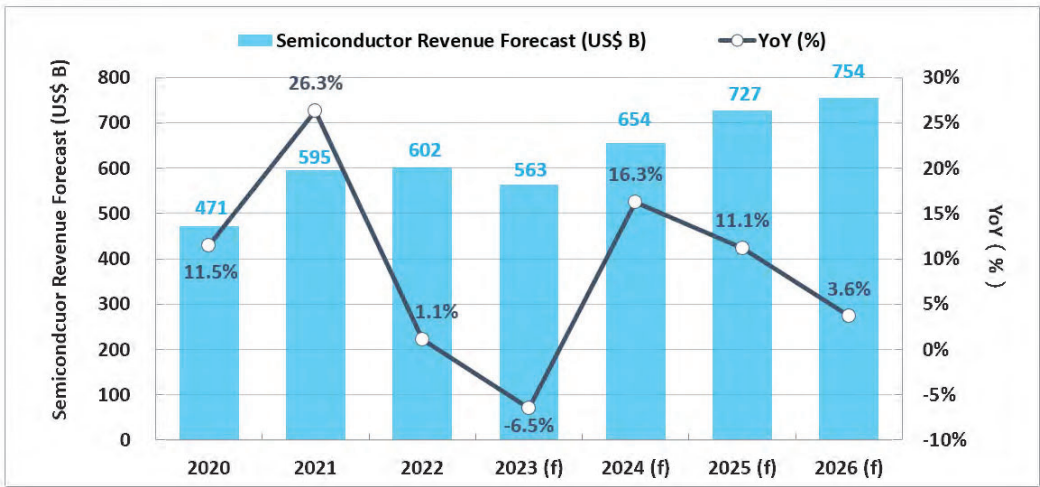
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and rising interest rates, leading to a decline in the disposable income of consumers. In this regard, Gartner² estimated that global semiconductor revenue have reached US\$601.7 billion in 2022, a slight increase of 1.1%, while the revenue for 2023 was estimated to be revised downward to US\$562.7 billion, a decline of 6.5% in annual growth rate. Thus it can be seen, the short-term outlook for semiconductor revenue has worsened, and the rapid decline of the global economy and slowing consumer demand may have an adverse impact on the semiconductor market in 2023.

Despite the overall economic downturn, enterprise-driven markets such as enterprise internet, computing, industrial, healthcare, and commercial transportation will remain relatively resilient. The relative advantages of enterprise-driven markets arise from strategic investment of enterprise to strengthen work-from-home infrastructures, business expansion plans, and continuous digitalization strategies. However, we have observed weak demand in the memory market, increasing inventory, and pressure from customers to reduce prices. Gartner² expected overall memory revenue decrease of 10% in 2022 and may result in a decrease in revenue by 18.7% in 2023. The worsening economic outlook is negatively affecting smartphones, PCs, and consumer electronics, leading to an oversupply in the memory market. Although the deterioration of the overall economic environment has become a drag on consumer demand, investment by enterprises is expected to minimize the impact on the industrial, telecommunications infrastructure, and data center markets.

According to the statistics results of WSTS in November 2022, world semiconductor market grew 4.4% in 2022. In addition, according to the estimate of Primark, the OSAT growth rate could reach 7% quite possibly.

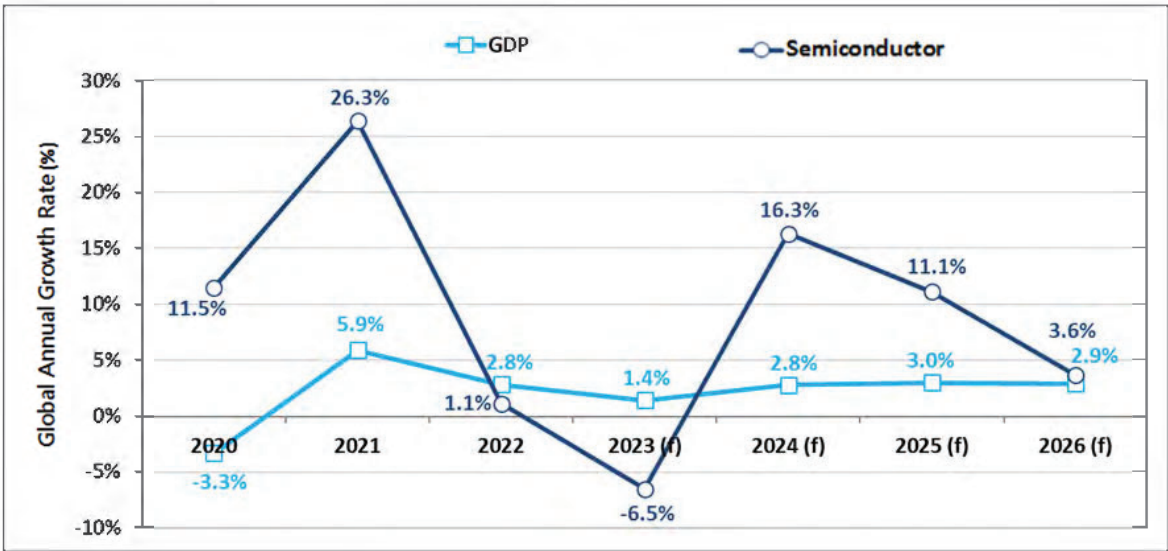
Global Semiconductor Market Forecast



Source : Chart created by ASE Technology Holding Co., Ltd. based on Gartner Research: Gartner "Forecast: Semiconductors Capital Spending, Wafer Fab Equipment and Capacity, Worldwide, 4Q22 Update", By Bob Johnson, Gaurav Gupta and Samuel Wang, 22 December 2022.
Calculations performed by ASE Technology Holding Co., Ltd.
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² Source: Gartner "Semiconductors and Electronics Forecast Database, Worldwide, 4Q22 Update", By Rajeev Rajput, Andrew Norwood, Jon Erensen, Joseph Unsworth, Masatsune Yamaji, Roger Sheng, Bill Ray, Alan Priestley, Kanishka Chauhan, Stacey Yin, Ben Lee, Sridhar Srinivasan, Anushree Verma, Kartikay Gulani, Nikita Singh, Tim Mahon, Jainendra Singh, Tushar Gupta, Nolan Reilly. 19 December 2022
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Worldwide GDP and Semiconductor Industry Annual Growth Rate



Source : Chart created by ASE Technology Holding Co., Ltd. based on Gartner Research: "Forecast: Semiconductor Capital Spending, Wafer Fab Equipment and Capacity, Worldwide, 4Q22 Update", By Bob Johnson, Gaurav Gupta and Samuel Wang, 22 December 2022.
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The prospective of the semiconductor industry in Taiwan: We entered the post-pandemic era since 2022, but the global environment is still facing new challenges. The impacts of the Russia-Ukraine war and inflationary issues have introduced a number of variables to the global economy, affecting the consumption intentions of the global end markets and the demand for semiconductors in Taiwan. Despite the contractionary demand for consumer electronics products, many innovative applications such as AI, IoT, automotive, and high performance computing (HPC) have undergone continuous development, which provide the growth momentum for Taiwan's semiconductor industry amid the turbulent environment, and driving the growth of the total output value of the semiconductor industry in Taiwan. The growth of the total output value of the semiconductor industry in Taiwan was NT\$4.8 trillion in 2022, with an annual growth rate of 18.5%, which is superior to the average of the global semiconductor industry.

Since the effects from the technology war that had resulted from the US-China trade war would be difficult to resolve in the short-run, in addition to the unpredictable and rapidly changing cross-strait geopolitical frictions, the market's demand for emerging technologies has brought a restructuring of global industry supply chains. For the semiconductor industry in Taiwan, these factors have led to an operating environment full of profitable and unfavorable economic signals.

In 2022, the output value of Taiwan's IC industry (including design, manufacturing, packaging and testing) reached NT\$ 4,837.0 billion, an increase of 18.5% over last year. The output value of the IC design industry reached NT\$1,232.0 billion, an increase of 1.4% over last year. The output value of IC manufacturing reached NT\$2,920.3 billion, an increase of 31.0% from last year. Among them, the foundry industry was NT \$ 2,684.7 billion, a growth of 38.3% from last year; the memory manufacturing industry was NT\$235.6 billion, a decline of 18.2% from last year. The output value of the IC packaging and testing industry was NT\$ 684.7 billion, an increase of 7.3% compared to last year. The output value of the IC packaging

industry reached NT\$ 466.0 billion, an increase of 7.0% compared to last year, and the output value of the IC testing industry was NT\$218.7 billion, a year-on-year increase of 7.7%.

The following table shows Taiwan's IC design, manufacturing, packaging and testing industry in 2022, as follows:

Estimated output value of Taiwan's semiconductor industry in 2023

Unit: NT\$ in 100 millions						
	2019	2020	2021	2022	2022 Growth Rate	2023(e)
Taiwan IC Industry Revenue	26,656	32,222	40,820	48,370	18.5%	45,643
Taiwan IC Design	6,928	8,529	12,147	12,320	1.4%	10,800
Taiwan IC Manufacturing	14,721	18,203	22,289	29,203	31.0%	28,213
Foundry	13,125	16,297	19,410	26,847	38.3%	26,486
Memory Manufacturing	1,596	1,906	2,879	2,356	-18.2%	1,727
Taiwan IC Assembly and Testing Industry	5,007	5,490	6,384	6,847	7.3%	6,630
IC Assembly	3,463	3,775	4,354	4,660	7.0%	4,500
IC Testing	1,544	1,715	2,030	2,187	7.7%	2,130

Source: ITRI IEK, ASE Technology Holding Co., Ltd. (2023/2)

Looking ahead to 2023, according to ITRI, the next source of growth momentum for semiconductors lies in emerging applications that will continue to generate new demand in the future, especially the high growth momentum brought about by the automotive and metaverse-related sectors, leading to high performance and large bandwidth HPC as the focus of major manufacturers. These include increasing processor flexibility and number of cores, HPC devices, hybrid IT computing services, new 3GPP 5G standards, mobile phone imaging upgrades, mobile core network on cloud, metaverse applications, and more. Therefore, it is expected that the demand for advanced processes in the end market will increase day by day, which will be the outstanding point to the worldwide for Taiwan.

With respect to the technology, advanced processes will continue to be miniaturized to improve chip performance. In order to overcome the bottleneck caused by continuous miniaturization, the chiplet model will be integrated with 3D chip integration technology to extend or even surpass Moore's Law. Taiwan's highly developed semiconductor industry is characterized by the advantage of clustering and can focus on next-generation innovative products and application services, thereby promoting the developments within the semiconductor industry.

The climate crisis is also the greatest opportunity for digital innovation. The attention to net-zero carbon emissions has driven the issue of energy conservation in the semiconductor sector, which has in turn led the semiconductor industry in Taiwan to continue to develop renewable energy, strengthen control of gas emissions, and actively participate in certification and carbon reduction commitments to achieve sustainability goals. Through international climate actions, green finance, and the commitments of leading manufacturers, investment in green technology has continued to grow year by year to help reduce carbon emissions. Cross-industry applications of AIoT, data-enabling and data-enabled technologies are key to achieving the target of net zero by 2050 and will be next growth momentum for the semiconductor industry.

Semiconductor companies are responding to the net-zero challenge through green innovation, green power development, and green manufacturing, including the use of

advanced technologies to improve energy efficiency for customer products, the use of renewable energy for production activities, the promotion of low-carbon manufacturing to reduce carbon emissions, and the implementation of waste management to reduce load on the environment.

SiP, one of the more advanced packaging/testing technologies, enables a number of chips to be assembled in one package, which meets the requirements of miniaturization, heterogeneous integration, reduced system board costs, shortened time-to-market, and improved product performance. In other words, SiP can satisfy the need to make things smaller, more energy efficient, and better performing. In recent years, ASE has developed packaging technologies that reduce the physical distance between components through heterogeneous integration, which reduces the power consumption and delay of signal transmission, enabling chips to achieve lower power consumption, higher performance, and greater functionality. In terms of future development, we are actively researching and developing the integration of optoelectronics into packaging/testing technology in response to the bottleneck of electrical transmission, which is expected to triple performance in the future and make products three to five times more energy efficient. Through such advanced packaging/testing technology, ASE will promote innovation and energy conservation to achieve green innovation in response to the net-zero challenge.

With regard to the green manufacturing, besides improving energy conservation efficiency of existing semiconductor equipment, we can join forces with manufacturers to develop innovative energy conservation designs and introduce new equipment in the future to maximize energy efficiency. In addition, by reducing the amount of waste at source and prioritizing the use of eco-friendly materials, we will create a low-carbon sustainable environment through waste management and value-added circular economy. This could be achieved, for example, by increasing the recycling rate of hazardous waste, recovery of resources, and waste recycling and recovery with zero incineration. We will actively conduct process improvements, use all renewable energy, achieve carbon neutrality and zero waste at specific plants, and cooperate with upstream and downstream supply chains to jointly promote green processes for a sustainable economy.

The semiconductor process consumes a great deal of energy and emits a huge amount of CO₂ and waste. As a result, semiconductor companies are under a lot of pressure in the face of the global net-zero consensus and customer requirements for sustainability. That is to say, promoting net-zero sustainability has become an issue that the entire semiconductor supply chain has to focus on. In addition, it is crucial for companies to maintain competitiveness and it will be a big challenge to the resilience of operations and the ability to adapt to the transition.

Enterprises should keep implementing green innovations in chips, developing high efficiency and low energy consumption products, and promoting green supply chain transformation projects. For example, they should conduct R&D with upstream equipment and material manufacturers and related material processing plants, and introduce energy-saving solutions, eco-friendly alternatives and waste recycling to drive the sustainable transformation of the entire semiconductor industry chain.

Moreover, electric vehicles have become key players in green transportation. As durability and fast charging become more in demand, compound semiconductors are growing in importance. The industry will face intense competition in the future, and Taiwanese manufacturers can leverage the existing strengths of the domestic semiconductor industry and try to supply innovative parts and components.

(2) The Relationship Among the Upper, Middle and Lower Stream of the Industry

In recent years, the manufacturing issue in the US has gained attention again due to geopolitical problems, and the technology has posed defense and security challenges

for the US. As a result, the past US-China trade war has gradually evolved into a technology war, and the global semiconductor supply chain has started to deglobalization, implying that the costs of semiconductor chips will increase in the future.

In the packaging/testing industry, most of the semiconductor industry used to follow a vertical division of labor between design, fabrication, and packaging/testing. For the chiplet process, fabrication and packaging/testing were usually outsourced to fabrication plants in the past because of the yield rate of chip packaging. However, due to packaging costs, the expansion of foundry business by IDM enterprises such as Intel and Samsung, and the development of chiplet packaging/testing technology with higher yield rate by packaging/testing plants, part of the chiplet process will return to the general packaging/testing process of design, fabrication, and packaging/testing in the future.

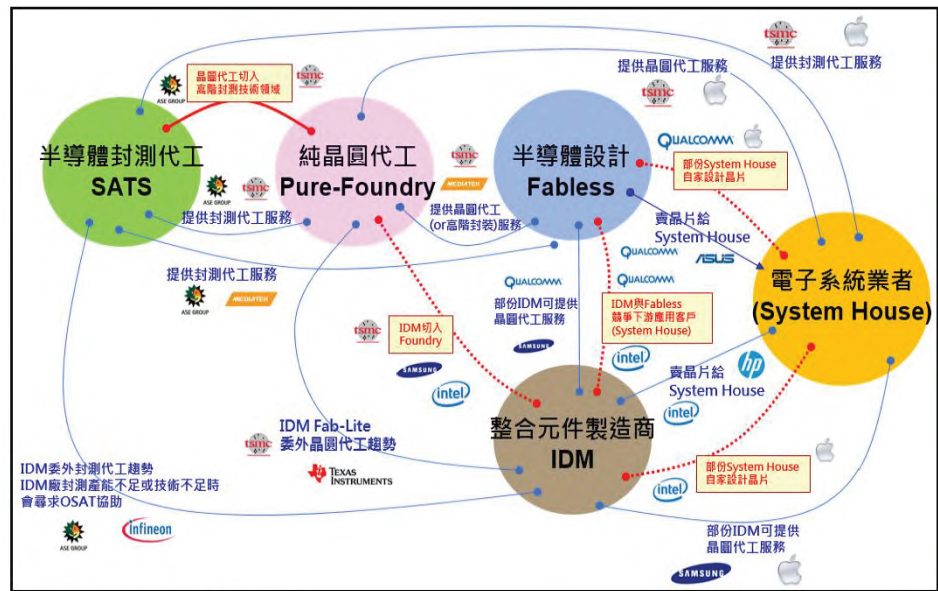
While the global advanced process fabs are expanding to Europe and the US, the chiplet process is moving towards a general packaging/testing process with a division of labor in fabrication and packaging/testing. However, there is a lack of advanced packaging/testing plants for chiplets in the US. When increasing chip production, if the advanced packaging capabilities in the US are not enhanced, chip packaging/testing will have to be done in Asia, which will lengthen the existing semiconductor supply chain and time.

The deglobalization of the semiconductor supply chain will become the new normal in the future, and packaging and testing plants will gradually change from focusing on cost to considering supply chain dynamics and customer needs when expanding their capacity. As deglobalization becomes inevitable, the world's three major wafer plants with advanced processes will set up factories in the United States and Europe one after another. Taiwan's and the United States' global leaders in wafer/packaging and testing will also successively establish advanced packaging and testing plants in Europe and America to serve the local wafer plants that produce advanced process chips and to work with American design industry customers ahead of time, in order to maintain Taiwan's market share and technological edge in packaging and testing.

The key to the success of Taiwan's semiconductor industry is to use science parks as the core driver, thereby formulating a comprehensive technological cluster within the industry. In the post-pandemic era, Taiwan should continue to utilize its strength in semiconductor industry clusters and focus on next-generation innovative products and application services, thereby promoting diverse developments within the semiconductor industry.

An overview on the global semiconductor industry shows a co-opetition relationship within the industry. The quantities and qualities have both shifted in the packaging and testing industry as various application scenarios continue to boom in this new era. On the other hand, advanced processing nodes and advanced packaging technologies present significant growth potential, and companies should continue to invest in their relevant research and developments.

Schematic Diagram of Competition and Cooperation Between Semiconductor Sub-Industries



資料來源：工研院 IEK(2017/11)

Source: ITRI IEK (2017/11)

- IDM 委外封測代工趨勢：The OSAT trend of IDM companies
- IDM 廠封測產能不足或技術不足時會尋求 OSAT 協助：IDM companies facing insufficient capacity or technology would seek help from OSAT companies
- 晶圓代工切入高階封測技術領域：Foundries entering the field of high-level assembly and testing
- 提供封測代工服務：Provision of packaging, testing, and foundry services
- IDM 切入 Foundry：IDM companies entering the foundry industry
- IDM Fab-lite 委外晶圓代工趨勢：The OSAT trend of fab-lite IDM companies
- 提供晶圓代工（or 高階封裝）服務：Provision of foundry service or high-level packaging service
- 部分 IDM 可提供晶圓代工服務：Provision of foundry service from some IDM companies
- 提供晶圓代工服務：Provision of foundry services
- 部分 System House 自家設計晶片：Some electronic system houses design their own IC
- 賣晶片給 System House：Sale IC to electronic system houses
- IDM 與 Fabless 競爭下游應用客戶（System House）：IDM companies and fabless manufacturers compete for downstream customers such as electronic system houses

The semiconductor industry is crucial to Taiwan's economy whether in terms of export value, added-value, employment, or industry-related benefits. Moreover, it is also an important strategic industry to Taiwan, and the government aims to build six core strategic industries, namely, information and digital industries, cybersecurity industry, precision health industry, green and renewable energy industry, national defense and strategic industries, and strategic stockpile industries - on the industrial innovation foundation of promoting 5+2 industry innovation plan which includes Smart Machinery, Asian Silicon Valley, Green Energy, Biomedicine, National Defense, New Agriculture Industry, and Circular Economy. In other words, by strengthening information and digital industries and utilizing the strengths in semiconductor and information and communications industry to achieve a core position in supply chain and achieving forward-thinking industry planning, Taiwan can achieve an early start in global supply chain restructuring in the post-pandemic era.

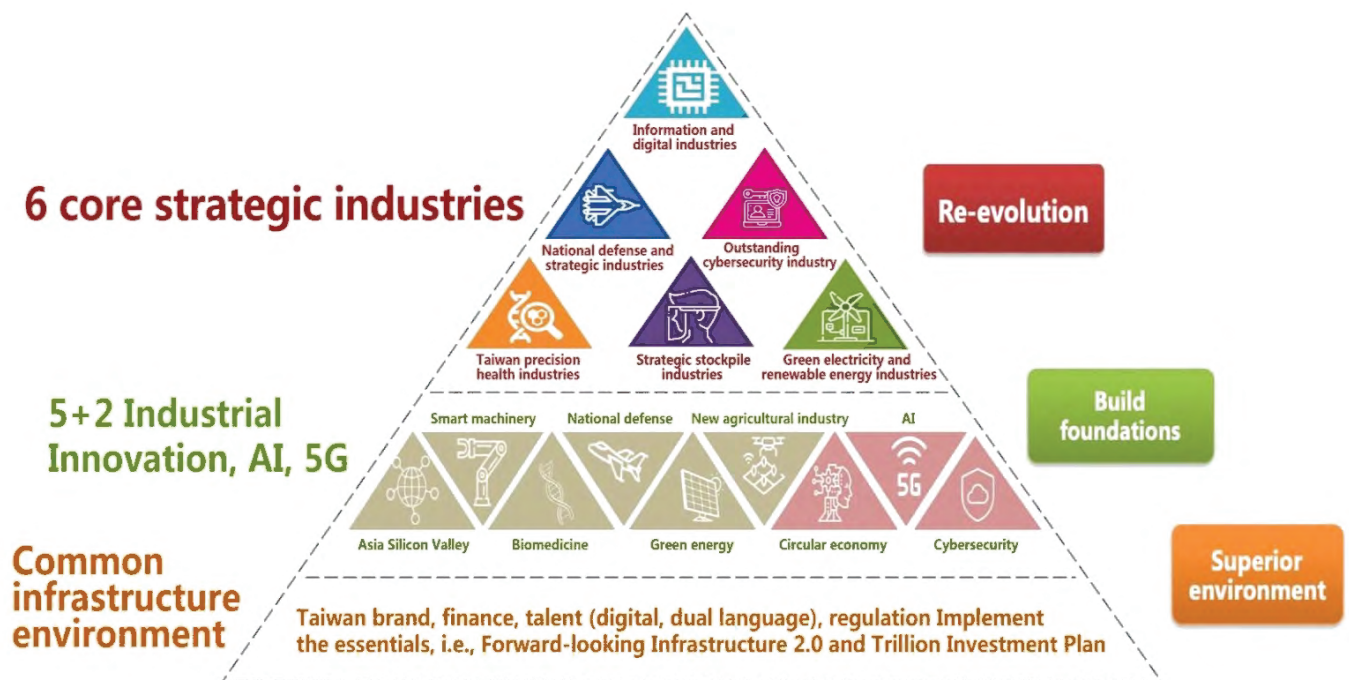
However, in the face of continuous global inflation pressure and the risk of economic recession, the government has proposed four major goals: "alleviating the burden on the people," "stabilizing consumer prices," "adjusting the industrial structure," and "maintaining economic momentum," hoping to protect the quality of life of its people by appropriately expanding fiscal expenditures, while maintaining short-term

economic growth momentum and taking into account the transformation and upgrading of long-term competitiveness.

The Six Core Strategies are Based on 5+2 Industrial Innovation, All of Which are Closely Related to the Development of Semiconductors



- 在 5+2 產業創新的既有基礎上：On the existing basis of 5+2 industrial innovation
- 打造「六大核心戰略產業」讓台灣成為未來全球經濟的關鍵力量：Build "six core strategic industries" Make Taiwan a key force in the future global economy
- 產業發展：Industrial Development
- 5+2 產業創新：5+2 Industry Innovation
- 綠能科技：Green Energy
- 循環經濟：Circular Economy
- 亞洲矽谷：Asian Silicon Valley
- 國防產業：National Defense
- 智慧機械：Smart Machinery
- 生醫產業：Biomedicine
- 新農業：New Agriculture Industry
- 半導體是政府推動 5+2 產業創新的最重要支柱與基礎：The semiconductor is the utmost pillar and foundation for the government to promote 5+2 industrial innovation.
- 半導體是 AIoT 智慧系統應用中的最關鍵元件：The semiconductor is the most critical component in the application of AIoT smart system.
- 六大核心戰略產業：Six Core Strategic Industries
- 強化資訊及數位產業，利用半導體和資通訊產業優勢：Strengthen the information and digital industry and leverage the advantages of semiconductors and the ICT industry.
- 搶占供應鏈核心地位，促進物聯網和人工智慧的發展：Seize the core position of the supply chain and accelerate the development of AIoT and AI.
- 結合 5G 時代、數位轉型、以及國家安全的資安產業：Combine 5G, digital transformation, and national security with the information security industry.
- 打造世界信賴的資安系統及產業鏈：Build worldwide trusted information security system and industry chain.
- 打造接軌全球的生物及醫療科技產業：Build a biological and medical technology industry gearing to the world.
- 成為全球克服疫病挑戰的關鍵力量：Become a key force in the world to overcome the challenges of the pandemic.
- 發展軍民整合的國防及戰略產業，推動軍民技術整合：Develop military-civilian integrated national defense and strategic industries, and expedite military-civilian technology integration.
- 激發民間製造能量，進軍航空及太空產業：Stimulate private manufacturing capacity and advance to the aviation and space industries.
- 加速發展綠電及再生能源產業：Accelerate the development of green power and renewable energy industries.
- 台灣將成為亞太綠能中心：Taiwan will become the Asia Pacific green energy center.
- 建構關鍵物資供應的民生及戰備產業鏈：Construct the livelihood and combat readiness industry chain of key material supply.
- 重要的產業鏈留在國內，維持一定的自給率：The vital industry chain stays at home and maintains a certain self-sufficiency rate.

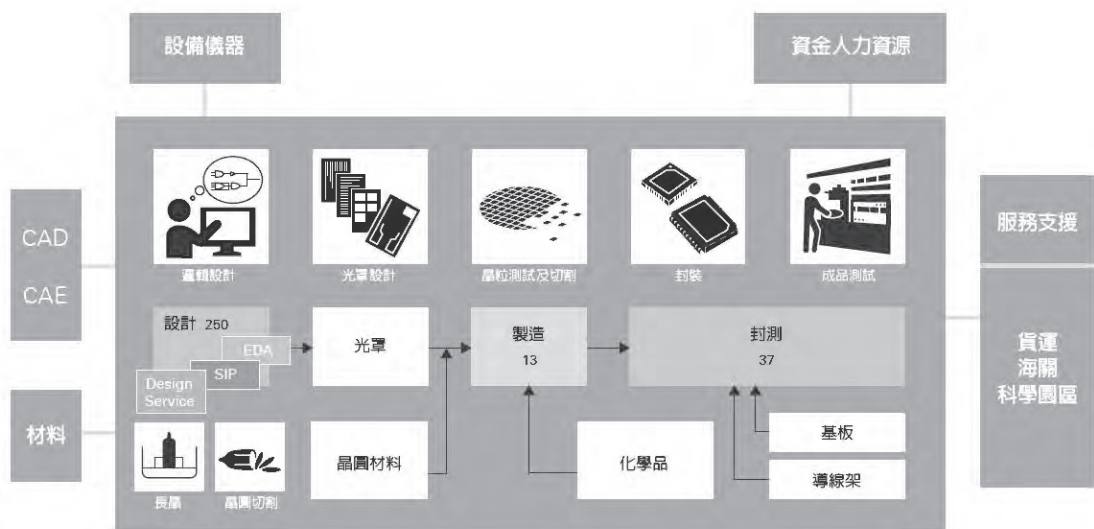


Source: National Development Commission (2021/5)

According to the statistics on the structure of Taiwan's semiconductor industry by the Industry, Science and Technology International Strategy Center of the Industrial Technology Research Institute , there are 250 IC design companies, 13 wafer manufacturing companies, 37 packaging and testing companies, photomask companies, substrate manufacturers, lead frame manufacturers, Wafer material manufacturers and the system assembly industry for various applications make the relationship between the upstream, mid-stream and downstream industry chains inseparable, thereby improving the timeliness and cost competitiveness of customers' products, making Taiwan's semiconductor industry a leading role.

In the semiconductor industry supply chain, the packaging and testing business of the Group is mainly responsible for midstream packaging and testing and downstream packaging material supply. The Group provides customers with semiconductor manufacturing services for chip packaging and testing. Most of the major wafers are provided by internationally renowned semiconductor companies and have maintained a good business relationship with the Company for a long time. The Group also enhances each other's competitiveness through vertical and horizontal division of labor through strategic alliances and partners.

Taiwan's semiconductor industry structure map



Source: Industry, Science and Technology International Strategy Center, ITRI (2022/5)

Note: The number in the diagram represents the number of major companies in Taiwan

CAD : Computer Aided Design CAE : Computer Aided Engineering

- 材料：Materials
- 設備儀器：Equipment
- 資金人力資源：Funding and Human Resources
- 服務支援：Service and Support
- 貨運海關：Customs
- 科學園區：Science Park
- 設計：Design
- 光罩：Photomask
- 製造：Manufacturing
- 封測：Assembly and Testing
- 晶圓：Wafers
- 化學品：Chemicals
- 基板：Substrate
- 導線架：Lead Frames
- 長晶：Crystal Growth
- 晶圓切割：Wafer Slicing
- 邏輯設計：Logic design
- 光罩設計：Photomask Design
- 晶粒測試及切割：Die testing and cutting
- 封裝：Assembly
- 成品測試：Finished product testing

(3) Product Development Trend

The semiconductor industry is facing inevitable difficulties in adjusting supply and demand in the short term, but changes in med- and long-term structural demand have emerged. Semiconductors are ubiquitous, and the increasing semiconductor usage in the end products with concomitant value enhancement, coupled with the flourishing development of emerging technology applications in the future, will lead the demand for the entire semiconductor industry in the medium to long term.

The semiconductor industry has entered a correction stage due to the slowdown of global economy. However, after the supply and demand adjustment, the demand for core and peripheral computing capabilities in the overall network architecture will increase due to the enhanced penetration of emerging technology applications and the widespread utilization of 5G and IoT devices in recent years. In terms of cloud data center computing, the challenge is how to process huge amounts of data in a short time and make inferences to obtain corresponding results, considering the increasing complexity of the data and information returned from the devices. This has become a topic of concern for all parties, including servers, data centers, 5G/6G generation, electric vehicles, industrial electronics, IoT, metaverse, quantum computers, and so on.

The demand for semiconductors equipped in end products will also increase accordingly.

For example, the rise of IoT devices drives the demand for various sensors, the computation demand for different applications drives the development of diverse IoT AI chips, electric vehicles need to be supported by semiconductors with various powers, self-driving cars drive the demand for sensing components and perception fusion computing chips, etc. These are all the best evidence that the semiconductor demand is expected to increase significantly in the medium and long term.

Various information collected by IoT devices is provided to the backend for large-scale simulation computing during Post 5G and Beyond 5G era. The goal of the future backend data center is to speed up and optimize information processing. Moreover, high-performance computing (HPC) can achieve the functions of high-speed data processing and complex calculation, which has become quite remarkable recently.

Benefited from AI and HPC, the demand for innovative applications remains strong. The growth mainly derives from AI, HPC, automotive, IoT, new energy, etc. and the numerous derived innovative applications will spark off new demand for advanced processes with higher computing capability.

Therefore, leading semiconductor manufacturers have recently aimed for the business opportunities of advanced semiconductors, especially focusing on high performance, low latency, low power system circuits, AI edge computing, quantum computers, emerging heterogeneous integrated semiconductors. This demonstrates that they are optimistic that the future of the semiconductor industry will keep growing along with the emergence of new technologies.

Regarding the development of application products in the future, automotive, HPC, and IoT are still applications with high growth in the long run. The next generation of computing will focus on collecting information through IoT devices and providing large-scale simulation computing to the back-end. HPC will become a remarkable attraction of the future market.

After 2023, high-growth applications of IoT products will focus on high computing capability and innovative applications of non-traditional IT products. For automotive products, it will be mainly on autonomous driving and electric vehicle applications. In addition, the growth rate of industrial automation and medical-related devices also cannot be underestimated. The enhancement on computing capability also brings the problem of chips increase and power consumption. In the future, It is expected to enhance chips computing capabilities and solve power consumption problems of processors by miniaturization and introduction of new materials.

Heterogeneous integration packaging/testing technology can be applied to enhance high-end computing chip-stacking density and computing performance. Silicon photonics (SiPh) optoelectronic integrated chip production can improve optical signal conversion efficiency and data transmission speed. These will be beneficial to meet the needs of smartphones, automotive, aerospace, medical care, IoT and other end products to integrate diverse functions and enhance computing performance. SEMICON Taiwan 2022 spotlighted seven key industry themes: Advanced Manufacturing, Heterogeneous Integration, Compound Semiconductors, Auto Chips, Smart Manufacturing, ESG and Sustainability, and Semiconductor Cybersecurity. This means that heterogeneous integration technology with HPC is still a highlight, which includes development trends from chip-side to system-side, HPC, and 3D chiplet stacking technology.

From the 2023 top ten technology trends prediction released by Alibaba DAMO Academy, generative AI is expected to change the way digital content is produced. The progress in 2022 was significant, mainly due to the breakthrough development of many application models, sufficient data accumulation and lower computing costs. Other notable trends include the industrialization of chiplet production, hardware-software integrated cloud computing architecture, in-memory computing, digital twin and other aspects.

Chiplet is a technique that decomposes a traditional system-on-chip (SoC) into multiple chip modules, which are fabricated separately and then interconnected through advanced packaging to form a complete chip. The interconnection standards of chiplets will gradually unify, accelerating the industrialization of chiplets. Driven by advanced packaging technologies, chiplets may reconstruct the R&D process of integrated circuits and reshape the chip industry landscape.

In-memory computing integrates computing units and storage units on the same chip, achieving the goal of performing computation while doing data storage. In the future, chips of in-memory computing will be used for more powerful applications, such as high-computability scenarios for cloud inference, which will promote the evolution of traditional computing architecture to a data-centric architecture, and have a positive impact on the development of cloud computing, artificial intelligence, Internet of Things and other industries.

DAMO Academy is also optimistic about software-hardware integrated cloud computing architecture and believes that a new architecture centered on the CIPU will become the development direction of cloud computing. Through software definition and hardware acceleration, it will maintain high flexibility and agility in cloud technology development, while comprehensively accelerating cloud applications. Based on this, CIPU will become the standard for next-generation cloud computing, bringing new development opportunities for core software development and dedicated chip design.

Looking ahead, the ITRI Industrial Economics and Knowledge Center has compiled some key observations from the International Consumer Electronics Show (CES 2023) in the United States, which can be regarded as the global annual high-tech trend indicator. ITRI compiled that with key technologies such as 5G, AIoT, high-speed computing, sensor fusion, and Web/3D, it will drive the implementation of various innovations, which includes self-driving and electrification of various mobile vehicles, immersive health and fitness experience, metaverse, smart home networking, and environmental sustainability innovation. In addition, major international manufacturers are actively cooperating with innovative start-ups to carry out technology and service innovation through platform strategies, bringing more innovation momentum. The highlights are as follows: 1. The new concept of the metaverse of things (MoT) is developing faster than expected; 2. Post-pandemic healthcare technology is undergoing rapid development, focusing on digital therapeutics, fitness tech and mental wellness; 3. Car technology is based on user needs, with vehicle safety, entertainment, and convenience as the main growth drivers; 4. Matter, a smart home standard, was officially launched in pursuit of smarter and more sustainable smart home appliances.

In terms of post-epidemic health technology development, manufacturers pursue to use more diverse and precise physiological signal sensor technologies to create a personal multi-dimensional health life. Health life is implemented in three aspects: digital therapeutics, fitness tech and mental wellness. With more sophisticated sensor technologies along with AI analysis through high speed computing, we are able to improve the accuracy and expand the scope of applications, making disease prevention, detection, treatment and healthcare easier and more effective.

Although the world has returned to normal lifestyles from home quarantine mode, Metaverse digital twin development has become a major trend. Through the integration of two major technologies of virtualization and immersion, the business opportunities arising from the "MoT" are likely to be realized sooner than expected.

As the CES 2023 back to a physical exhibition show, automotive technology is one of the main battlefields with the highest attention. Automotive manufacturers are no longer constrained to the traditional automotive supply chain. As the degree of vehicle intelligence and electrification increases significantly, automotive electronics are tend to open up, welcoming emerging forces from various industries. The advancement in the computing power of high-end automotive chips will boost the development of autonomous driving, leading to rapid growth of automotive semiconductors. The establishment of an automotive ecosystem will become the key to secure market share. The highlights of the CES 2023 automotive technology include: 1. A large number of sensors will be introduced into the cockpit to monitor the drivers status and ensure driving safety. 2. Time spent in the car will also be used in a more active manner, with games to be introduced into the car system not only for passenger entertainment, but also for drivers to relax more thoroughly while waiting for charging. 3. Through the connection between the car system and the home system, both places can be interactively controlled and seamlessly connected to facilitate time management. From household, personal, and even to the car cabin spaces, it is emphasized more on creation of private domain and immersive atmosphere than before the pandemic, so as to connect user's interaction with his/her feeling by means of improving the display screens.

The trends of development for some products are as follows:

A. End-Use electronics product applications analysis:

- High speed interconnection standardization: Processor chips for data center, edge computing and AI require characteristics of high computing power, high bandwidth and low latency. Many companies utilize advanced packaging for chiplet one after another, high speed intra-chip interconnect technology becomes more important. To simplify and standardize the protocol, 12 promotor members such as AMD, Intel, Google, Qualcomm and TSMC, etc. found Universal Chiplet Interconnect Express (UCIe). This will break up the competitive situation and bring benefit to the whole chip industries, streamline the standardization and reduce the design cost.
- Artificial intelligence development: The emergence of new algorithms allows users to easily experience the application of artificial intelligence. For example, using the functions of natural language processing and automatic image generation to create artificial intelligence chatbots, which brings more humanized interaction. In the backend, they require a lot of massive computing for building model and inference functions, which will drive the development of processor chips. It's expected that we will see AI applications connected with our everyday life more frequently.

In recent years, CES began to extend its attention to enterprise technology, particularly in the fields of AI and machine learning (ML), as well as self-driving cars and smart cockpits. With the maturation of edge AI hardware performance, coupled with advancements in computer vision and algorithms, CES 2023 featured not only innovative consumer products enabled by AI, but also a number of business process solutions that achieve automation, expansion and improvement in business products across vertical markets through AI, such as autonomous robots for various tasks, AI-driven machines,

advanced self-driving transportation applications, and complex smart home devices.

One of the current features of edge AI is sensor fusion, which integrates data from several sensors to create complex images related to processes, environments or situations, effectively improving the efficiency, security and productivity of devices. By deploying computing resources at the edge of the network, computing services are provided closer to the user. At the same time, wired and wireless internet services are integrated to optimize communication and computing resources, this will minimize service delays and significantly improve the efficiency of the use of end devices for businesses and individuals.

In the field of AI, CES 2023 showed that conversational AI will continue to be an essential area of marketing technology in the future. Conversational AI will serve as a voice assistant that can conduct human-like conversations, capture semantic contexts and provide intelligent responses.

- High performance computing: According to Prismark, server market remains strong demand in 2022 because cloud service providers like Meta, Azure, Google and AWS are keeping investing in data center infrastructure. In 2023, it's expected with moderate growth but followed by stronger growth in 2024 and beyond. It's mainly because the makers of the industries introduce Intel's new platform in succession and market share of AMD keeps growing. In addition, the importance of AI accelerator from Nvidia is undoubtedly contributed to the strong demand of overall server market.
- Automotive semiconductors: At CES 2023, the breadth and depth of automotive-related demonstrations continued to expand, with automotive semiconductors poised for high growth and automotive supply chains undergoing major reforms. Automotive manufacturers are not restricted to the traditional automotive supply chain. With a significant increase in vehicle intelligence and electrification, from the concept of human-vehicle interaction to driving monitoring technology, automotive electronics are also embracing new trends; for example, electric vehicles that can interact with people, in-car air conditioning that can sense drivers, steering wheel screens that can be controlled by gestures, in-car VR systems that can detect driving conditions in a timely manner, detection systems that can remind drivers to be concentrated, and even in-car networking experiences that can provide the ultimate visual and auditory entertainment integrated with 5G technology.

International leading manufacturers are developing scalable SoCs that can support both digital cockpits and advanced driver assistance systems, meeting the demand for hybrid critical workloads for driver assistance safety systems, configuration-enabled digital dashboards, infotainment systems, driver monitoring systems, and parking assistance systems through isolated virtual machines and real-time operating system support management procedures that support open-system architectures for vehicles.

- Consumer electronics: It is inevitable that the consumption demand as a whole of wearable devices slows down. However, smart watch, wireless Bluetooth headphones is still a potential market with 12% high CAGR until 2026.

B. As electronic products get smaller yet more functional, the Company will continue to focus technologies on SiP modules, 2.5D/3D ICs, fan-out wafer level package, and miniaturization.

C. Demand increased for high level packaging: As IC designs have grown more intricate, the need for higher I/O, fine pitches, higher heat dissipation requirements and stable electrical characteristics have driven the development of advanced packaging techniques, including :

- Copper pillar bumps
- Multi layers metal RDL technology with 1 um line width and space
- Through Silicon via interconnection technology
- Integration of passive components
- Ultra-thin wafer grinding and wafer level packaging
- 7 nm/ 5 nm/ 3nm wafer level packaging
- Fan-Out Wafer Level Packaging
 - Fan-out Package on Package technology
 - Fan-out Embedded Bridge die technology
 - Fan-out Multi-Chip Module technology
- Thin & High Bandwidth PoP
- SiP (System in Package)
- 2.5D/3D High-rank integrated assembly technology

(4) Competition in the industry

In recent years, the development of the global semiconductor industry has attracted considerable attention. The bumpy state of the global economy, supply chain restructuring, and sustainability issues have caused fluctuations in the consumer market that affect the global demand for chips. Enterprises are continuously seeking cross-industry collaboration opportunities and creating a diversified competitive landscape in order to remain resilient under the challenges of reform and transformation, these are all important factors affecting the competitiveness of the semiconductor industry. The rapid decline in demand of consumer electronics products in 2022 exerted an impact on the supply chain of the global semiconductor industry. As competition between the US and China accelerates, the formation of a regional supply chain for semiconductors will continue to affect the coopetition of semiconductor manufacturers.

Taiwan, with its excellent semiconductor manufacturing capabilities, stands in a crucial position in international geopolitics. However, the US has aborted its neutral role recently, promoted the CHIPS Act, and prohibited its citizens from serving semiconductor companies in China. A variety of restrictive measures has affected the international semiconductor industry. For the semiconductor industry in Taiwan, on one side is an export trading party and a source of foreign exchange, and on the other is an important supporter in international politics. How to weigh the pros and cons, make effective strategies and operate flexibly in the coopetition of powerful countries are issues that must take into consideration deeply.

Net-zero carbon emission has become a common goal for international enterprises, and the semiconductor industry is no exception. Net-zero carbon emission is a key turning point for sustainable development of enterprises. More than 130 countries or regions around the world have declared their commitments to net-zero emissions. In the process of global development, the semiconductor industry in Taiwan has mastered the net-zero regulations of various countries to assist the industry in evaluating the pros and cons regarding international expansion.

In the face of sustainable development demand for society and environment, and in

response to important issues and challenges, the future development of emerging technologies will focus on (a)Enabling Technology: technologies that facilitate the development of various fields to accelerate digitization, virtualization and automation, such as AI, 5G, big data, blockchain, cyber security, etc.;

(b)Transforming Technology: technologies that assist in the transformation of key industries, such as biotechnology and medicine, continuous care of health data, future transportation and logistics, and new space technologies; and (c)Sustaining Technology: technologies that help to maintain the development of ecosystems, such as the three major technology sectors covering low-carbon energy systems, renewable energy and natural ecosystems.

In the future, the technology will integrate with human imagination, and its influence will become far-reaching. At current stage, technology content and application contexts in various fields will keep evolving, accelerating the transformation of global enterprises towards value creation, efficiency enhancement and cost reduction. Enterprises will face the challenges to select, adopt, adapt and replace the emerging technologies.

The semiconductor industry is the most important part of the global interconnected economy, supporting the application and development of many industries. Yet the global semiconductor industry is changing rapidly. For diverse industry issues, in addition to proper assessment of business risks and rewards, a more flexible and digitalized supply chain needs to be planned to meet the ever-changing market demands and strengthen corporate resilience to stand out from the highly competitive international situation.

3. Electronics Manufacturing Services :

2022 reports from the professional market research organization depict that the 2022 global electronic manufacturing service revenue will reach 725 billion US dollars. It is estimated that the global electronic manufacturing service revenue can reach more than 900 billion US dollars in 2026, and the compound growth rate is about 6.8% from 2021 to 2026. The overall market is showing a steady growth trend.

5.1.3 Research and Development

The Group R&D Expenses during the Current Fiscal Year up to the Date of Publication of the Annual Report:

Unit: NT\$ in thousands			
Item \ Year	2021	2022	2023 up to the end of February
Operating Revenue	569,997,133	670,872,643	85,115,929
R&D Expenses	21,053,633	24,369,907	3,502,760
Percentage of R&D Expenses to Operating Revenue	3.69%	3.63%	4.12%

1. Investment :

The Company’s business is primary on long-term investment and the company has no need for R&D.

2. Assembly and Testing:

Successful Development of Technologies or Products:

A. Successful Development of New Products

Assembly Technology

New Package	
3D SiP	a. 2.5D Through Silicon Via Interposer System in Package
	b. 3D Through Silicon Via Stacking System in Package
	c. aMAP Flip Chip PoP
	d. aMAP Wire Bond PoP
	e. Integrated Passive Device Integrated QFN Package
	f. Embedded Active/ Passive Laminate Substrate
	g. Fine Pitch Die-to-Wafer Stacking Technology
	h. 6L SESUB_Glass Die Packaging Challenge & Solution
	i. High Dk EMC Material with 3D Structure Technology Development for Application on mmWave Product
	j. mmWave Antenna on Package (AoP) with Antenna Component on 2nd Surface Mount Technology
	k. IC and Passive Component Integrated by Double Substrate POP
OEP	a. High Power LED Package
	b. eCompass Magnetic Sensor Package
	c. Si-Photonic Packaging
	d. Laser Beam Quality Measurement Technology
	e. PCB Crease Defect Inspection Technology
	f. Wave-front Sensor Active Alignment Technology
WLCSP	a. Integrated Resistor Passive Device
	b. 2-layer PI, Cu-Plated RDL Technology
	c. Bonded Wafer Thinning Technology
	d. BoT aCSP
	e. RDL 2/2um
	f. WLCSP Thin Die Development
	g. FOPoP PKG Development
	h. Advanced Fan out with Bridge Die , HDCL
	i. FXPoP (PoP: Package on package)
	j. ASIC Integrated with Capacitor
	k. RF Device Integrated by 300mm Thick Cu FOSiP
PLCSP	FOPLP PKG Development
Flip Chip	a. 7 nm Cu/ELK Lead Free FC Solution
	b. 40 um Fine Pitch FC & WB Hybrid Stacked Chips Package
	c. Ultra-High Density Substrate Strip
	d. Flip Chip Package with Mold Only Process
	e. Flip Chip Through Mold Via Package
	f. 1 Layer Embedded Trace Package
Wire Bond Package	a. 16 nm Cu/ULK Wafer Wire Bond Package
	b. Cu Wire Bond BGA/ Lead Frame Package
	c. Cu Wire Pad to Pad Bonding
	d. Low Cost & High Performance aS3 / aQFN
	e. FC QFN For ATV
	f. High Thermal HS Evaluation

New Package	
	g. aEASI P2
	h. Mobile DRAM
	i. Adv. QFN (13.8x15.6mm) Evaluate
MEMS Packaging	Wafer Level MEMS Packaging
Wireless Module	a. BTLE+Accelerator SiP Module Application Solution
	b. Wi-Fi 11n 2x2 Channel SiP Module Total Solution
	c. Irregular FC Cu-Pillar PA SiP Module Solution
	d. Ultra-Thin Double Side Wireless Module Technology
	e. Thin mold compartment with Internal Shielding
Wireless Communication Module	a. Highly Integrated SiP Module Packaged LTE Module Solution
	b. MCU Wireless Connection Module Total Solution
	c. 5G AiP Development
Bumping	
Plating	Low Ag of Sn/Ag Lead-Free Bump Plating Technology

New Test Product

New Test Product	
Wafer Probing	a. High Channel Density 4-Wire VI Source Module
	b. Digital I/O & PPMU Module
	c. Fiber Module Control Card
	d. Embedded-Die Substrate Open/Short Tester
	e. Multiple Wafer Stacked Map Analysis Tool
	f. High Speed Pattern Module
	g. High Current VI Source Module
Final Testing	a. Test Data Analysis System
	b. Yield Monitor System
	c. Open/Short Tester
	d. Open/Short Tester Compact Module
	e. Online Real-time Fail Bin Analysis Report Generation System
	f. ATVMCU Testing Solution
	g. mmWave Antenna in Package
	h. mmWave FEM
	i. Wi-Fi 6e SiP
Test Equipment Development	a. High Density Channel Sharing Board
	b. High Swing Time Measurement Module
	c. Multi-Channel RF-VNA Integrated System
	d. Multi-Channel Multi-Function and Multi-Process SiP Tester Development
	e. High Density Channel Test Block

Test Technology

New Test Technology	
Final Testing	a. SiP ARM+Memory Modules SLT Technology
	b. SiP GaN Power Module Testing Technology

	c. SiP Computer Audio Module Testing Technology
	d. CIS Testing Development
	e. Facial Recognition Sensor Testing Solution
	f. SiP TWS Module Testing Technology
	g. Wi-Fi 6 Module Test Technology

B. Successful Development of New Technology

Assembly Technology	
Advanced Technology	
3D SiP	a. 2.5D TSV Stacking
	b. 3D TSV Stacking
	c. Integrated Passive Device
	d. Thin Core FC PoP Technology
	e. Fine Pitch Die-to-Wafer Stacking Technology
	f. 65 nm SRAM TSV Qualification
	g. Compartment Shielding Technology
	h. Selective Molding Solution
	i. SiP COW
	j. Pressure Sensor
	k. 3D Molded with High Dk EMC Material Technology
	l. Low Temperature Surface Mount Technology
	m. 2.5D FCBGA with HBM
	n. High Bandwidth PoP
	o. IPD on High Bandwidth PoP
	p. MCM-WB-SFCCSP(Cu Pillar Bump/Cu Wire Bonding)
	q. FO-PoP(Fan Out PoP) Pre-Stack Memory
	r. FO-PoP(Fan Out PoP) with LSC(Land Side Capacitor) Technology
	s. FC Enhanced PoP with LSC(Land Side Capacitor)
	t. FC Bare Die PoP with LSC(Land Side Capacitor)
	u. FC Exposed Die Enhance PoP with Coreless Substrate With LSC(Land Side Capacitor)
	v. FO-SiP(Fan Out SiP)
	w. FO-EB-T FCBGA with HBM
	x. Highly Thermal Performance 5G mmWave Antenna in Package with EMI Shielding Integration
	y. Miniaturization 5G mmWave Antenna in Package with High Performance Array Antenna
	z. Double Side PKG Solution with High Reliability Performance
	aa. SiP Module of Integrating SoC, PMIC, Passive and LPDDR of Molded Thin Substrate PKG Structure
	bb. WB-FCCSP (Cu Pillar Bump/ Ag Wire Bonding)
OEP	a. Pico Projector Microdisplay Qualification
	b. High Aspect Ratio TSV Plating Technology
	c. Low Cost TSV Technology
	d. VCSEL Far-Field Measurement Technology

Advanced Technology	
	e. Laser Speckle Elimination Technology
	f. Eyes Safety Test of Laser Product
	g. Optical Eye Tracking Module
	h. RFFE DSM Projects
	i. High Accuracy LD Bonding Technology
WLCSP	a. Embedded Active Si Substrate
	b. 50 um Wafer CMP Grind Technology for 200mm TSV Wafer
	c. 50 um Wafer Carrier Release Technology for 200mm TSV Wafer
	d. Reliability Research and Optimization of Large Size (8x8mm) for WLCSP
	e. RDL LF Bump
	f. RD Cu Pillar
	g. IR Through BSL
	h. Advanced BSL
	i. Advanced Laser Dicing
	j. aWLP/II InFO-Like Class InFO Structure
	k. 4-layer Polymer, Cu-Plated RDL Technology
	l. FOCoS
	m. Fan Out DBG (Dicing Before Grinding) Technology
	n. CPD Wafer with 8 Hi HBM Grinding Technology
	o. M-S Multi Dies (2 Dies)
	p. FI-aWLP M-Series Lite
	q. FOCoS-CL, FOCoS-CF-P
	r. Extremely-Thin WLCSP
	s. Molded Type WLCSP
	t. FO-MCM
	u. 45um Si-Interposer Technology
	v. 8"/12" Ball On Trace WLCSP
PLCSP	FO-Adaptive Patterning PLCSP
Flip Chip	a. Fine Pitch NCF Under-Fill Technology
	b. 40 um Pitch FC Solution for 28 nm ELK Wafer
	c. 300mm Wafer 50um Backgrind Technology
	d. Laminated FC CSP
	e. 28nm Wafer Tech with Embedded Pattern Plating
	f. High Frequency Wide Stack Packaging Technology
	g. Wafer-Level Flip-Chip Package Product Bump Pitch Fine Structure Development Research Project
	h. 2.5D Advanced IC Assembly
	i. Silver Alloy Wire for Hybrid Flip Chip BGA Technology
	j. FOPoP_ W/I
	k. IC Flip Chip Bond on High CTE Substrate by LAB
	l. On Substrate

Advanced Technology	
	m. Small size FCCSP
	n. FC-ETS (Embedded Trace Substrate) With LSC(Land Side Capacitor)
	o. Recon(Reconstitution) Exposed Die FCCSP
	p. EHS-ED-FCCSP
	q. Large size FCBGA
	r. FCBGA with Ultrahigh Thermal Performance TIM (Thermal Interface Material)
	s. FCLGA with Ultrahigh Thermal Performance TIM
	t. FCBGA with EPS (Embedded Passive Substrate)
	u. FCBGA with LSC (Land Side Capacitor)
	v. FO-MCM FCBGA
	w. FO-EB FCBGA
	x. Antenna FCBGA with LSD(Land Side Die)
	y. Flip Chip Finger Print Sensor Packaging Technology
	z. Advanced Wafer Thinning Technologies - 25 um for 8" & 12" Wafer
	aa. Advanced Wafer Thinning Technologies - 50 um for 12" Bumping Wafer
	bb. Flip Chip Tech. on 7/5/3nm ELK Wafer
	cc. Flip Chip With 130um Pitch Lead Free Bumping
	dd. 40um Pitch Cu Pillar Bumping
	ee. TCB(Thermo-Compression-Bonding) Technology
	ff. LAB(Laser Assisted Bonding)
Wire Bond Package	a. 20 nm Ultra Low K Cu Wafer Wire Bond Package
	b. 18 um Cu Wire Bond Technology
	c. Cu Wire Pad to Pad Bonding
	d. Cu Wire Bond Packaging Technology
	e. Development and Application of Substrates for Embedded
	f. FCQFN Development
	g. Fine Pitch Wire Bonding Technology
	h. Double-Sided SMT Packaging Technology
	i. Pressure Sensor Packaging Technology
	j. Passive Components Direct on Die Assembly Structure Development
	k. Die Exposed by Stack to Enhance Thermal Disspansion of WB Package Structure Development
	l. Single Layer Substrate Package
	m. EHS-TFBGA
	n. MR(Multi-Row-Routable)-QFN
	o. Wire Bond Finger Print Sensor Packaging Technology
	p. 40um Linear Pitch, Cu Wire Bonding
	q. Wire Bond Technology on 12nm ELK Wafer
	r. Passive Integrated Mapped Quad Flat No Lead Packaging

Advanced Technology	
AI-Based Visual Inspection	Intelligent Substrate Defect Inspection Powered by Deep Learning and Computer Vision
Green Package	a. QC080000 Green System Certification
	b. RoHS Certification on Chemical Lab

Bumping	
Plating	a. 40 um Fine Pitch Cu Pillar Bumping
	b. High Aspect Ratio Cu Pillar Bumping Plating
	c. 15um TSV Filling Plating
	d. Fan-Out Package for Lead-Free Bump
	e. Lead Free (SnAg, SnCu) Wafer Bumping
	f. 100um Pitch Eutectic Bump
	g. 100um Pitch Lead Free Bump
	h. 40um Pitch Cu Pillar Bump
	i. Bumping on 10/7/5/4nm ULK/ELK Wafer
	j. Thick Cu Trace for WLCSP

Test Technology

New Test Technology	
Wafer Probing	a. SiP-GaN Power Wafer Probing Testing Technology
	b. ADAS Sensor Wafer Probing Test Technology
	c. Ambient Light Sensor Wafer Probing Test
	d. High Efficiency Parallel Test of Multi-Channels' Resistance of WLCSP RF-Switch
	e. Low Cost PMIC Wafer Probing Testing Technology
	f. Capacitance Measurement with DC Current
Final Testing	a. SiP-Product Application Testing Technology
	b. SiP-EFA/Function Detectability
	c. Design FMEA(SiP Design Failure Mode and Effect Analysis)
	d. SiP / SLT "System Level Testing" Technology
	e. SiP-GaN Power Product Application Testing Technology
	f. ALS+Prox. Sensor Test Solution
	g. FPCB Module Test Solution
	h. InGaAs PD Test Solution
	i. Long-wavelength IR Light Source Technology
	j. Optical Eye Safety Test Technology
	k. SiP TWS Module Testing Technology
	l. SiP 2G-GPS Module Testing Technology
	m. SiP TWS Module Testing Technology, Audio & BT Test
	n. Advanced ALS Testing for Smart Glasses
	o. LiDAR Sensing Testing Solution
	p. ADAS Sensing Testing Solution
	q. Biometric Sensor Testing Solution
	r. Facial Recognition Sensor Test Technology

New Test Technology	
	s. Wi-Fi 6 module Test Technology
	t. Linear Hall-effect Sensor Test Technology
	u. Controllable Instantaneous High Current Detonator Lead Controller Test Technology
	v. Advanced ALS Testing for Smart Glasses
	w. Biometric Sensor Testing Solution
	x. Proximity Sensor Testing Solution
	y. Ultrasonic Touch Sensor Testing Solution
	z. Test Optimization of 802.11ac Transceiver
	aa. Wearable Device SiP Module Test Technology
	bb. Touch Sensor IC High UPH and Low Cost O/S Test Solution
	cc. Auto-Learn Embedded IC & Generate the Open/Short Test Program Technology
	dd. PMIC High UPH Test Methodology
	ee. Auto-Learn Open/Short Testing Technology
	ff. Auto-Learn Leakage Testing Technology
	gg. Pin to Group Testing Technology
	hh. Ka-band AiP Near/Far-Field Automatic Test Solution
	ii. Eye Tracking Sensor Module Test Solutions
	jj. AoP Bluetooth SiP Test Solution
	kk. Develop 2um Ultra-Fine Pitch Test Substrate
Test Equipment Development	a. Asynchronous Command Sending Auto-Testing Control System
	b. Multiple Functions and Modules Integration System
	c. Programmable V-I Combo Source-Meter Control Interface
	d. Cascade Data-Stream Extended Control Unit in the Integration Core System
	e. Programmable I/O Channels Phase Delay Technology
	f. High Performance Digital Testing Module Development
	g. Hardware Module Control Platform and Common Tester User Interface Development
	h. High Channel Density SOC Tester Development
Test Data Analysis	a. Substrate Overlay Analysis - Center of Gravity Offset Detection Algorithm
	b. Fast Shmoo- Nearby Searching Algorithm
	c. Substrate Overlay Analysis - Visualized Image Recognition Failure Detection Algorithm
	d. Substrate SECS/GEM Recipe & SECS/GEM Automation System for Recipe Ensuring & Production Data Storing at Substrate Cu Plating Line
	e. IV-Curve Generator & Analysis Tool
	f. BGA Ball Fail Highlight Tool
Other Technology	
New Test Technology	
Wafer Saw	a. SD(Stealth Dicing) Laser Technology
	b. Plasma Dicing Technology
	c. Remote Plasma
	d. SiC/GaN Wafer Die Saw Technology

3. Electronics Manufacturing Services

Successful Development of Technologies or Products:

A. Successful Development of New Products

Wireless Communication	a. WiFi SiP Module 802.11 ac 2x2
	b. WiFi SiP Module 802.11 ax 2x2 with Dual-Core Bluetooth5.2 & a ScanRadio +ZigBee
	c. UWB SiP Module with 802.15.4z 4-Antenna (1T+3R) +ZigBee
	d. 5G mmWave AOP/AIP Module, band n257, n258, n259, n260, LB antenna 1x4, HB antenna 1x4
	e. 5G mmWave transceiver Module, band n257, n258, n259, n260, RF 32-port
	f. Wi-Fi 11ac 2x2 Channel SiP Module Total Solution
	g. Wi-Fi 6E Enterprise Access Point
Storage & Computer	a. Intel 12th/13th Generation Core Processors for workstation Motherboard
	b. NAS Tower Products
	c. Rack Density Server Products
	d. Edge Server
	e. Intel Thunderbolt4 Dock
	f. Sub-Function Module Card
Industrial Products	a. OM9 Hand-Held POS Terminal
	b. PD-03 Payment Device
	c. AIO (All In One) POS
	d. Next Gen. of 5G NR Ultra-Rugged Handheld Device / Slim Handheld Device / Ultra-Rugged Tablet
	e. Next Gen. of LTE Android Rugged Smart Handheld Device / Slim Handheld Device
	f. LTE System on Module, SOM
	g. Wearable Terminal
	h. Smart Badge
	i. Ring Scanner
	j. Personal Shopper
	k. 5G Android Rugged Handheld Terminal
	l. Ultra-Rugged Handheld UHF RFID Sled
	m. Slim Rugged Handheld Device Main Board
Consumer	a. TWS SiP
	b. Stylus
	c. Wireless Charger
Car Electronics	a. On-Board Charger Power Module for EV
	b. Traction Inverter Power Module for EV
	c. Automotive Zonal Network Control Module
Miniaturization & Automation	a. Double Side Mold Miniaturization SiP Package Module
	b. TWS Miniaturization SiP Package Module
	c. Metal Fence EMI Miniaturization SiP Package Module
	d. Film Assistant Mold to Expose Component
	e. Ultra Thin Thickness PCB SiP Package for Wearable/Watch/Phone Main Board
	f. EMI Shielding is the Combination of Dispensing and Metal Fence Compartment Shielding for the Package

B. Successful Development of Advanced Technology

Wireless Communication	a. Double Sided Molding SiP Module
	b. Compartment Shielding Technology
	c. Selective Shielding Technology
	d. Noise Isolation Technology
	e. RF on-Board Design
Storage & Computer	a. Workstation Motherboard with DDR5 SO-DIMM Maximum Capacity up to 128GB
	b. Workstation Motherboard with Thunderbolt™ 4 Certificate
	c. Edge Server with Intergrating 5G and Wi-Fi
	d. Integrate Intel Thunderbolt4 high Speed Technology
	e. PCIe Gen4 Test Platform with Temperature Control Feature
	f. Enterprise SSD JESD219A Workload Implementation
	g. PCIe Gen.4 Generic Manufacturing Testing Platform
Industrial Products	a. Rugged Hand-Held Device with Water-Proof and Drop Endurance Mechanical Design
	b. World Wide 5G NR Android Smart Handheld Device
	c. 5G NR Tunable Antenna Design
	d. System on Module (SOM) with 5G NR WWAN Capability (Sub-6GHz and mmWave)
Consumer	a. AES, Active Electrostatic Solution
	b. EMR, Electro Magnetic Resonance Technology
	c. NFC Wireless Charging Technology
	d. Next Gen. of GPS Bike Computer
Car Electronics	Telematics Technology
Miniaturization & Automation	a. Anti- Sulphur (Vulcanization) Structure of Ceramic Circuit Substrate and Manufacturing Method
	b. Jig Saw Street 0.25mm
	c. PCI and EMVCo Certification
	d. Irregular Shape Mold Package Cutting with Laser and Blade Saw Process
	e. Glue Vacumm Printing for Compartment Groove of the Package to Achieve EMI
	f. Glue Spary Coating for Molding Package EMI Shielding
	g. 150 micron pitch WLCSP MUF Technology
	h. 40µm Narrow Trench Technology for EMI Compartment Shielding
	i. Multi-Layers Sputtering for EMI Shielding
	j. Passive Component Stacked Up
	k. TMV(Though Mold Via) Process
	l. Film Assistant Mold for Exposed Components
	m. Double Side Molding Technology
	n. Double Side Selective Sputtering Technology
	o. Multiple-Step Molding Technology
	p. Laser Ablation for Antenna and Specific Sensor Exposure
	q. Metal Fence for EMI Shielding
	r. Introduce Embedded IC PCB Technology on SiP Module
	s. Irregular Structure Selective Shielding Technology
	t. IC Component Stacked up
	u. Shielding Train Technology for Compartment Shielding

	v. WLCSP of 150um Bump Pitch is in Mass Production of MUF SIP Module.
	w. Double Side Mold Miniaturization SiP Package Module
	x. Molding with Interposer and Grinding to Exposed Pad
	y. Molding with Chamfer Design for SiPlets Module
	z. WLCSP of 150um Bump Pitch is in Mass Production by T6 solder paste printing process
	aa. Min distance between passive components 40um done engineering build (MP is min 55um)
	bb. T6 solder paste introduction for 150um ball pitch WLCSP
	cc. Pre-tape process development for EMI shielding
	dd. Auto module release and deburr machine for productivity and quality improvement
	ee. 1 Solder Paste Intelligent Management Cabinet
	ff. 2nd generation Dual robot WiFi module Testing Handler
	gg. JEDEC Tray Stocker with AMHS
	hh. WiFi module coplanarity automatic measuring and Reel tape packing Machine
	ii. AE E-Tech Assembly Automation Line
	jj. AGV+Robot Common Platform for AMHS
	kk. Automatic Loading /Unloading Carrier and Carrier Back Flow for Watch Sputter Line
	ll. AMR One-Class Classification
	mm. AMR for SMC(PCIE,Chip RC,Dimm)
	nn. AI vision to judge dirty spots on the Socket of FCT tester
	oo. X-Ray AI for Solder Void Detection
	pp. Siemens P&P Data Collector Platform
	qq. ESD Data Automation (Static Bracelet)
	rr. ESD Data Automation (Equipment)
	ss. ICT Status Real Time Monitor
	tt. Equipment Automation Program
	uu. Golden Sample Management System
	vv. First Article Inspection System
	ww. Panasonic Recipe Monitor

5.1.4 Long-Term and Short-Term Business Development Plan

1. Short-Term Development Plan
- Retain existing customers and attract more integrated device manufacturer (IDM) customers
 - Enforce group production strategies and achieve the most advantageous deployment
 - Obtain high-end packaging orders and increase profitability
 - Improve resource utilization rates and reduce resource consumption and waste
 - Upgrade manufacturing techniques for eco-friendly products and accelerate product innovations to increase business opportunities
 - Conduct trial production and development to achieve mass production
 - To satisfy most concerned items by target customers and win the market share.
 - To develop technologies and products rapidly in line with market trends and speed up the time to market.
 - To expand and to consolidate capacities at Taiwan and abroad continuously for the advanced assembly and test of productivity to satisfy the market growth trend.

- Maintain relationship with existing customers and develop new EMS / ODM clients

2. Long-Term Development Plan

- Consolidate group resources and provide customers with more comprehensive services
- Improve cost structuring and offer customers more competitive prices
- Enforce customer segmentation, increase customer satisfaction, expand production scale and create cost advantages to make prices more competitive
- Assure technological leadership to increase market share
- Preparing new applications in line with the industrial development trends and continue the growth drive to ensure leading position of the Company in the semi-conductor assembly industry.
- Adding Miniaturized and Solutions to the existing DMS (Design and Manufacturing Services) model, which means providing design and manufacturing services with miniaturization and solutions throughout the value chain process to become D(MS)²

5.2 Market and Sales Overview

5.2.1 Market Analysis

The Group Sales by geographical area in 2022

Unit: NT\$ in thousands		
Region	Sales Revenue	%
USA	446,484,639	66.55%
Taiwan	83,655,142	12.47%
Europe	63,542,468	9.47%
Asia and others	77,190,394	11.51%
Total	670,872,643	100.00%

1. Market Share

(1)Assembly and Testing:

ASEH share of the global outsourced semiconductor assembly and test services market in 2022 and 2021

According to our 2022 consolidated assembly and test revenues, our share of world wide outsourced assembly and test market was around 31.3% (Remark 1).

Remark 1: 2022 global outsourced assembly and test market was estimated based on the publicly available revenues of top 20 assembly and test service providers.

According to our 2021 consolidated assembly and test revenues, our share of global outsourced assembly and test market was 28.6% (Remark 2).

Remark 2:2021 global outsourced assembly and test market was estimated based on the publicly available revenues of assembly and test service providers.

(2) Electronics Manufacturing Services:

In 2022, the subsidiary USI OEM revenue was \$10,140 million US dollars, increasing by 18% since 2021, accounting for about 1.4% (Remark 3) of the global EMS/ODM market in 2021 and maintains a stable market share.

In 2021, the subsidiary USI OEM revenue was \$8,575 million US dollars, increasing by 23% since 2020, accounting for about 1.3% (Remark 3) of the global EMS/ODM market in 2021 and maintains a stable market share.

Remark 3: The statistics of the global outsourced assembly and test market in the year of 2022 and 2021 is based on combined data from NVR(New Venture Research Corp.) 2022 and 2021 analysis, and taking into account the public revenue

information of the OEM industry.

2. Supply-and-demand status and growth in future market:

Despite the easing COVID-19 pandemic and successive reopening of borders, the war between Russia and Ukraine has not ceased yet, the U.S.-China technology coopetition continues to increase, and the cross-strait relationship is increasingly tense. In addition, the global inflation causes the pressure of raising interest rates and monetary policy changes, the global economy is facing a general slowdown or even recession under the impact of these multiple and uncertain factors, and the semiconductor-related industry is also under pressure of oversupply and inventory adjustment. Looking ahead to the slow growth of 3C products, the growth momentum of the semiconductor market will continue to be 5G, HPC, AI and automotive electronics. Therefore, advanced wafer level package, System in a Package, or wire bond package are all areas that semiconductor manufacturers should not overlook. For the estimation demand and production value of the global semiconductor market in 2023, please refer to the content of " Industry Overview" in previous paragraph 5.1.2.

As of EMS, the outsourcing demand for electronic products has been increasing globally. As the EMS service model matures and service abilities enhance, the service scope of the global EMS market broadens and the total outsourced volume increases year by year. To satisfy the increasing demands of brand owners, the scope of EMS services keeps expanding and gradually extends to the higher end of the product value chain. This trend provides more possibility of development for the manufacturers such as the subsidiary USI Inc. that are capable of product planning, designing, and R&D. According to market analysis and USI Inc. meta-analysis, the global EMS/ODM market will remain a steady growth and it is estimated that the average growth rate of 2021~2026 is 6.8%.

3. Core Niche

Along with the factors of increasing popularity of 5G mobile communications, introduction of HPC products into the market and progressive increase in the market share of electric vehicles and self-driving cars, electronic supply chain remains to pull in for production aggressively. Furthermore, major IDM firms are also speeding up and increasing the outsourcing. Looking forward to 2023, traditional wire bonding, advanced packaging, testing OEM service, and System in a Package (SiP) will all continue to grow, and the semiconductor industry chain and packaging/testing capacity will continue to be in short supply. In addition to adjust the internal operating mechanism based on the status of epidemic, the Group is also focusing on the development trend of intelligent electronic products, and continues to devote itself to the development of advanced packaging and testing technologies. We will turn the crisis into opportunity and hope to achieve good results in the future. The competitive advantages that we rely on are as follows:

- (1) Continuous technical development to ensure that the technologies and quality of the high-end products remain in a leading position.

With the development of 5G mobile networks, the Internet of Things (IoT), Artificial technology (AI), digital consumer electronics and wearable device application products, the chips must meet the expanded functional requirements, and move towards, low prices, multifunction, high-performance, high-integration, lower-cost evolution trends, more advanced packaging technology and more complex wafer test technology requirements, the Group continues to use advanced packaging and testing technologies 2.5D & 3D IC, SiP, Fan-out / Fan- in WLP, Flip Chip, Bumping and Optical Package, etc., to provide new products to customers with high-quality.

At the same time, the Group allocates 3 to 5% of its annual revenue in technology research and development. In addition to leading the market share in competitors,

the Group obtains more than 100 patents each year, which encourages colleagues to maintain their leading positions in technology research and development.

(2) Proactive Planning and Grasping Opportunities of Outsourced Manufacturing of IDM giants.

In order to maintain the efficiency of semiconductor operations and reduce costs, major IDM manufacturers must develop toward Fab Lite, which has been the reason for the increase in the proportion of outsourced packaging foundries for many years. Affected by the trade war between the United States and China, some large IDM factories have been forced to close their factories and subcontracted wafer manufacturing and packaging production. In addition to catering to the growing trend of semiconductor outsourcing, ASE Group has adopted more aggressive operating strategies in recent years, approaching customers and markets, and striving for potential business opportunities with sufficient capacity and leading technologies. Today, our strategy has gained more opportunities for IDM manufacturers to cooperate in assembly and test business. Furthermore, the Group's Assembly and Testing Business Group is equipped with advanced engineering technologies, service capabilities, and flexibility of productivity arrangement. We also have outstanding capabilities for supply chain integration and stable human resources. These are all our competitive advantages in the assembly and testing industry.

(3) The Group has established a solid supply chain partnership with large international brands for a long time to grasp the changes in market demand and the mainstream trend of technology industry development.

The Group has established a professional management team with extensive experience. The Group has advanced product management system and obtains various international standard certifications.

The Group has efficient supply chain management capabilities to quickly meet market demand and establish cost competitive advantages.

The Group's product portfolio is rich and balanced with high technology content

The Group's manufacturing skill is in the leading position of its peers.

4. Advantages and Disadvantages of Future Prospects, and Strategies to Face the Challenges

A. Advantages

- The gradually increasing demand for new products and technologies is a great opportunity, which has always had advantages in R&D and innovation.
- As IDMs continue to place orders for assembly and testing services, there will be more leeway and business opportunities for the IC assembly and testing industry in the future.
- 2.5D & 3D IC technology is very important because it meets the demand for small and lightweight products with high performance and high efficiency, and the Group already invested a lot of resources in the relevant R&D several years ago. Our assembly technologies are more advanced than those of our competitors.
- As a semiconductor assembly and testing company in Taiwan with substrate production lines and the capacity to steadily produce high-end substrates, the Company possesses key high-end assembly materials that enable it to bring down IC production costs and increase profitability.
- In addition to products assembled with conventional BGA, QFP, and QFN technologies, the Group also produces many high-end products such as chipsets, graphics processing units, photovoltaic products, and wireless communications modules. There are potential customers and bigger markets that can be developed.

- In the upcoming years, the demand for integrated circuits will continue to increase by a large margin. By taking the cluster effect and supply chain principles into consideration, the Group has appropriately deployed in geographic locations and in resource utilization so as to be ready for growth and seize the first business opportunity.
- Continue to hold the leading position in advanced technology along with high-yield and stable production lines, which will enable us to take more packaging orders
- Due to the increasing demand for portability and miniaturization of electronic products, customers' demand for miniaturization technology has become extensive. It will bring more business opportunities for the subsidiary USI with mass production experience that has been in the field of miniaturization, and has continued to invest in R&D.
- International large-scale brand owner has shown trend of continuing to release OEM orders, which will continue to and bring more business opportunities to the electronics foundry industry in the future.

B. Disadvantages

- Domestic competitors have been very active in their efforts to attract ASE customers. Alliances established among them may occur influence potentially.
- The thresholds for new technologies are gradually lowering. Competitors are improving their ability to copy while the product profit cycle is becoming shorter. This is an external threat to the Group, which has always had advantages its technologies. The investment of large amounts of capital and manpower in the R&D of new technologies means that there is less flexibility in terms of subsequent price adjustments. In an era of minimal profits, this factor is unquestionably a challenge.
- Customers are demanding ever higher standards in IC final assembly and testing. The Group must surpass its competitors' standards and customer expectations to improve performance.
- The semiconductor back-end assembly and testing business is capital-intensive. It is greatly affected by conditions in the semiconductor market, and management is also impacted by the business cycle. IC assembly and testing companies need to make careful assessments when developing investment plans and conducting personnel, machine, capital, and technical planning. Flexibility is necessary to meet demand when facing large numbers of orders in growth times and to cope with the impact when the number of orders drops during industry recessions.
- The demand for assembly and test services is expected to grow, but fluctuation of capital market, exchange rate, and raw material prices will be our main concern. Besides, the competition will be more intensive after the China Government starts to support the local companies of semiconductor industry. Moreover, the impact brought by geopolitical issues is not to be underestimated.
- Since customers have become more stringent on the quality and cost requirements, in order to be distinctive, the subsidiary USI must exceed their expectations and of the competitors.

C. Strategies to Face the Challenges

- Consolidation of group resources and sharing of technologies are necessary to offering turnkey services to create more added value and greater economic benefits. At the same time, the competitive advantages of the group must be strengthened to win more business opportunities in the future when the market grows more prosperous.

- The Group’s unique advanced production processes, flexible production, and diversified production lines can be utilized to meet urgent customer needs and fill large orders for new products and technological services.
- The solid financial structure of the Company provides stable resources that are sufficient to develop new technologies and new products.
- Technological advantages can be used to improve and perfect designs, establish optimal production processes, increase production process stability, and enhance the Group's competitiveness in terms of cost and quality to win major business opportunities.
- The advanced technologies, capital advantages, and capacity to consolidate resources can be utilized to retain existing customers and attract new customers to expand the business.
- Inter-plant technology exchanges and cross-departmental coordination will be maximized to increase synergy.
- The vertical integration and horizontal cooperation with regard to materials, packaging, testing, and systems enhance the competitiveness of the Company and make it possible to offer more comprehensive services. These factors also provide the flexibility to make adjustments at any time to face a range of external challenges.
- The Group continually works to strengthen its technological advantages to ensure that the diverse needs of customers can be met and to improve the competitiveness of the Company's service quality. Meanwhile, a network for safeguarding company patents must be established to maintain the company's competitiveness.
- The percentage of customer orders for the Group's turnkey services can be raised by increasing the pace of solution integration solutions to provide customers a comprehensive framework offering rapid, satisfactory services.
- Strengthen sales marketing activities and relationship with customers
- Develop technology and products that meet market demand
- Rationalize supply chain management to reduce purchasing cost
- Improve product design and material specifications
- With USI's unique advanced technology, flexible production capacity, and diverse production lines, we can satisfy customers if they need to develop new products, new technologies, or a large number of immediate needs.
- Expanding the factory productivity beyond PRC and acquire outstanding companies of the same industry by merger to accelerate the growth of the Company.

5.2.2 Applications and Production Process of Main Products

1. Investment: not applicable
2. Assembly and Testing:
 - (1)Applications of Main Products:

Assembly Technology	
Main products	Applications
<ul style="list-style-type: none"> ● Plastic Dual In-line Package(PDIP) 	<ul style="list-style-type: none"> ◆ Household appliances, communications equipment, auto components, and remote control information systems for airplanes, weapon, and space shuttles and navigation equipment

Main products	Applications
<ul style="list-style-type: none"> ● Plastic-Leaded Chip Carrier(PLCC) ● Quad Flat Package(QFP) ● Bump Chip Carrier(BCC) ● Flip Chip Packaging Technology ● Low Profile Quad Flat Package(LQFP),Thin Quad Flat Package(TQFP) ● Ball Grid Array(BGA), Thin Profile Fine Pitch Ball Grid Array(TFBGA), Low Profile Ball Grid Array(LBGA) ● Flip Chip Ball Grid Array(FCBGA), High Performance Flip Chip Ball Grid Array(HFC BGA) ● Thermally Enhanced Ball Grid Array(TE BGA) ● Very Thin Profile Fine Pitch Ball Grid Array (VF BGA) ● Land Grid Array(LGA) ● Exposed Pad Quad Flat Package(Exposed Pad QFP) ● Heat Slug Ball Grid Array(HSBGA) ● Quad Flat No-leads(QFN) ● Flip Chip Chip Scale Package(Flip Chip CSP) 	<ul style="list-style-type: none"> ◆ Personal computers , laptops, tablets, smartphones, and other smart mobile devices ◆ Computers—graphics processing units, cloud servers, personal computer server(PCS) & server microprocessors, voltage regulators, flash memory cards, hard disk drives, etc. ◆ Microprocessors, communications equipment, wireless communications networks, etc. ◆ Network communications products—wide area network (WAN) and local area network(LAN) servers, adapters, switches, routers, and cellular base stations ◆ Consumer products—video cameras, DVD players, TV game consoles, digital set-top boxes, PDA, MID and information appliances ◆ Other products—automatic car components, Telematics
<ul style="list-style-type: none"> ● Small Outline Package(SOP), Small Outline J-Lead Package(SOJ) ● Thin Small Outline Package(TSOP) ● Stacked Chip Scale Package(SCSP) 	<ul style="list-style-type: none"> ◆ memory ICs ◆ Personal computers, peripheral equipment , etc.
<ul style="list-style-type: none"> ● 3D Package ● 2.5D Package ● Stacked Ball Grid Array(Stacked BGA) ● Multi-Chip Module Ball Grid Array(MCM BGA) 	<ul style="list-style-type: none"> ◆ Mobile devices, including cell phones, IoT components, etc. ◆ High-end and Cloud servers, including graphics processors, network processors, etc. ◆ Hard disk drives of laptops and personal computers
<ul style="list-style-type: none"> ● Panel Level Chip Scale Package (Panel Level CSP) ● Wafer Level Chip Scale Package(Wafer Level CSP) ● Flip Chip Chip Scale Package(Flip Chip CSP) ● Through-Silicon Via Technology(TSV Technology) ● Integrated Passive Devices(IPD) ● Silicon Interposer ● Wafer Level Microelectromechanical Systems (Wafer Level MEMS) ● Fine Pitch 3D Chip Stacking Technology ● Heterogeneous Chip Integration System in Package(Heterogeneous Chip Integration SiP) 	<ul style="list-style-type: none"> ◆ Cell phones, NB, digital cameras, IoT, IoT components, biomedical care, etc. ◆ Wearable / portable consumer electronics and game consoles ◆ Network 、Network Switch 、Server 、AI Computing 、Graphic

Main products	Applications
<ul style="list-style-type: none"> ● Fine Pitch Chip-on-Chip System in Package Solution(Fine Pitch CoC SiP Solution) ● Embedded Active/Passive Substrate ● eCompass Magnetic Sensor Package ● Fan-out RF Multiplexer Module ● Multi-chip Fan-out WLP Package ● Multi-chip Fan-out WLP with Embedded Bridge Die and Passive Component Package ● PMIC Integrated with Inductor ● 300x300mm Panel Fan out Chip Last Packaging with Double Side Assembly 	
<ul style="list-style-type: none"> ● Microelectromechanical Systems-Based Micro Display(MEMS-based Micro Display) ● Security Sensor Components ● DDR2 800 Memory ● Fan-out Package-on-Package Technology (Fan-out PoP Technology) ● Fan-out Wafer Level Packaging (Fan-out WLP) ● Wireless Connectivity System in Package Module(Wireless Connectivity SiP Module) ● Wireless Communication System in Package Module(Wireless Communication SiP Module) ● Double-Side Molded Front-end SiP Module (DSM FE Module) ● Optical Communication Module 	<ul style="list-style-type: none"> ◆ Projectors and high definition televisions (HDTVs) ◆ Security identification devices of personal computers, notebook computers, and e-commerce ◆ Memory of computer, communication, and consumer electronics products ◆ System-in-Package(SiP) products inside computer, communication, and consumer electronics products(Application-Specific Integrated Circuit [ASIC] + Multi-Chip Package [MCP] Memory, Baseband [BB] + SDRAM) ◆ Portable consumer electronics, IoT ◆ Mainly used in wireless communications modules in computer, communication, and consumer electronics products, including Bluetooth, Wi-Fi, GPS, and Digital Video Broadcasting-Handheld/Terrestrial (DVB-H/T), smart home, car communication, AR/VR device data transmission ◆ Communications applications in laptops, tablets, network communications products, and IoT products and devices ◆ Communications applications for optical transceiver modules, Cloud servers, data centers, and high performance computing servers

Test Technology

Main products	Applications
<ul style="list-style-type: none"> ● Quad Flat Package(QFP) ● Bump Chip Carrier(BCC) 	<ul style="list-style-type: none"> ◆ Mainly used in microprocessors, communications equipment, automatic car

Main products	Applications
<ul style="list-style-type: none"> ● Flip Chip Package Technology ● Low Profile Quad Flat Package(LQFP),Thin Quad Flat Package(TQFP) ● Ball Grid Array(BGA), Thin Profile Fine Pitch Ball Grid Array(TFBGA), Low Profile Ball Grid Array(LBGA) ● Flip Chip Ball Grid Array(FCBGA), High Performance Flip Chip Ball Grid Array (HFC BGA) ● Thermally Enhanced Ball Grid Array (TE BGA) ● Very Thin Profile Fine-Pitch Ball Grid Array (VF BGA) ● Land Grid Array (LGA) ● Exposed Pad Quad Flat Package(Exposed Pad QFP) ● Heat Slug Ball Grid Array(HSBGA) ● Quad Flat No-leads(QFN) ● Advanced Quad Flat No-Lead(aQFN) ● Advanced Single Sided Substrate ● System In Package 	<p>components, personal computers, mobile communications modules, and chipsets</p> <ul style="list-style-type: none"> ◆ Wireless communications networks, digital cameras, information appliances, LCD TVs, and smartphones ◆ Personal computers and notebook computers ◆ TV game consoles, DVD players, and set-top boxes ◆ Personal computers, laptops, wireless communications networks, digital cameras, information appliances, and smartphones ◆ Cell phone chipsets, MP3 processors ◆ Consumer products—video cameras, digital cameras, DVD players, TV game consoles, set-top boxes, PDAs, MIDs, etc. ◆ Smartphones ◆ Wearable devices ◆ Tablets ◆ Health management systems and healthcare applications ◆ Commercial applications and IoT-related products ◆ Auto safety systems ◆ Industrial sensor components
<ul style="list-style-type: none"> ● Small Outline Package(SOP), Small Outline J-Lead Package(SOJ) ● Thin Small Outline Package(TSOP) ● Stacked Chip Scale Package(SCSP) ● Optical Dual Flat No-leads (OQFN) ● Optical Land Grid Array (OLGA) 	<ul style="list-style-type: none"> ◆ Mainly used in memory ICs ◆ Personal computers and peripheral equipment ◆ Power Management IC & Portable Device ◆ HPC Device ◆ Graphics Chipsets

Important Applications of the Group’s Main Production Service (Assembly and Testing Technologies):

Major Products	Major Application
Turnkey solution for IC assembly and testing services	Integrated Circuits, widely applied in PCs, Telecommunications, Internet and Consumer Electronics, including Laptops, Tablets, Smart Phones, Feature Phones, wearable devices, smart appliances, STBs (Set Top Box), LCD TVs, DSCs, Game Consoles, IoT, fingerprint sensors, smart cars, VR/AR, Artificial Intelligence, Drones and Voice Assistant, etc.

(2) Process Flow

Production Flow of the Main Production Service



Packaging Technology

- Lead frame products:

Wafer dicing→ die attach → wire bonding→ molding→ marking→ forming→ inspection→ packing

- Ball grid array products:

Wafer dicing→ die attach → wire bonding→ molding→ marking → solder ball mount → singulation → inspection→ packing

- Flip chip products:

Wafer bumping→ wafer slicing→ flip chip mounting→ underfill dispensing→ marking→ solder ball mount → inspection → packing

- Through silicon via products:

Through silicon via etching→ through silicon via insulation→ through silicon via copper plating→ wafer thinning→ dual-side copper RDL → solder ball mount → stacking → inspection→ packing

- Wireless Connectivity SiP Modules:

Solder paste printing → component-mount → high temperature reflow → molding→ laser marking→ singulation → shielding → inspection→ packing

- Double-Side Molded Front-end SiP Module (DSM FE Module):

Top side solder paste printing→Pick & place→Reflow→Top side molding→Laser marking→Bottom side solder paste printing→Pick & place→Reflow→Bottom side molding→Back side grinding→Saw→Sputter→AOI checking→Packing

- Fan-out WLP :

RDL formation→ Flip chip mount→ Reflow→ Molding→ Grinding→ Carrier release→ Bottom Solder Plating→ Saw→ AOI checking→ Packing

- Fan-out WLP with Embedded Bridge Die and Passive Component Package :

RDL formation→ Bridge die and passive component reconstitution→ Molding→ Grinding → RDL formation → Flip chip mount→ Reflow→ Molding→ Grinding → Carrier release→ Bottom solder plating→ Saw→ AOI checking→ Packing

- 300x300mm Panel Fan out Packaging with Double Side Assembly :

RDL formation→ Top side Flip chip mount→ Reflow→ Molding→ Grinding → Carrier release→ Bottom solder printing→ Bottom side surface mount→ Reflow→ Routing→ AOI checking→ Packing

Testing Techniques

- Lead frame and ball grid array products:

IC testing→ aging test (according to customer needs)→ baking→ inspection→ tap-on-reel packing→ product packing

- High-frequency module products/power management module products:

Testing system selection➔ program development➔ verification and debugging➔ pre-production➔ mass production

● Consumer TWS Headphone SIP Module Products:

Build-up of Testing Methodology ➔ Selection of ATE & Bench Solution ➔ Testing Program Development ➔ Debugging/Correlation ➔ Pilot Run & Safe Launch ➔ Mass Production

● Optical ambient light products / Optical proximity sensor products:

Testing methodology build-up ➔ Selection of ATE & bench solution ➔ Optical test material build-up ➔ Test program development ➔ Debugging & Correlation ➔ Pilot run ➔ Pre-production ➔ Mass Production

● Wi-Fi 6 SIP Module Products:

Build-up of Testing Methodology ➔ Selection of ATE & Bench Solution ➔ Testing Program Development ➔ Debugging/Correlation ➔ Pilot Run & Safe Launch ➔ Mass Production

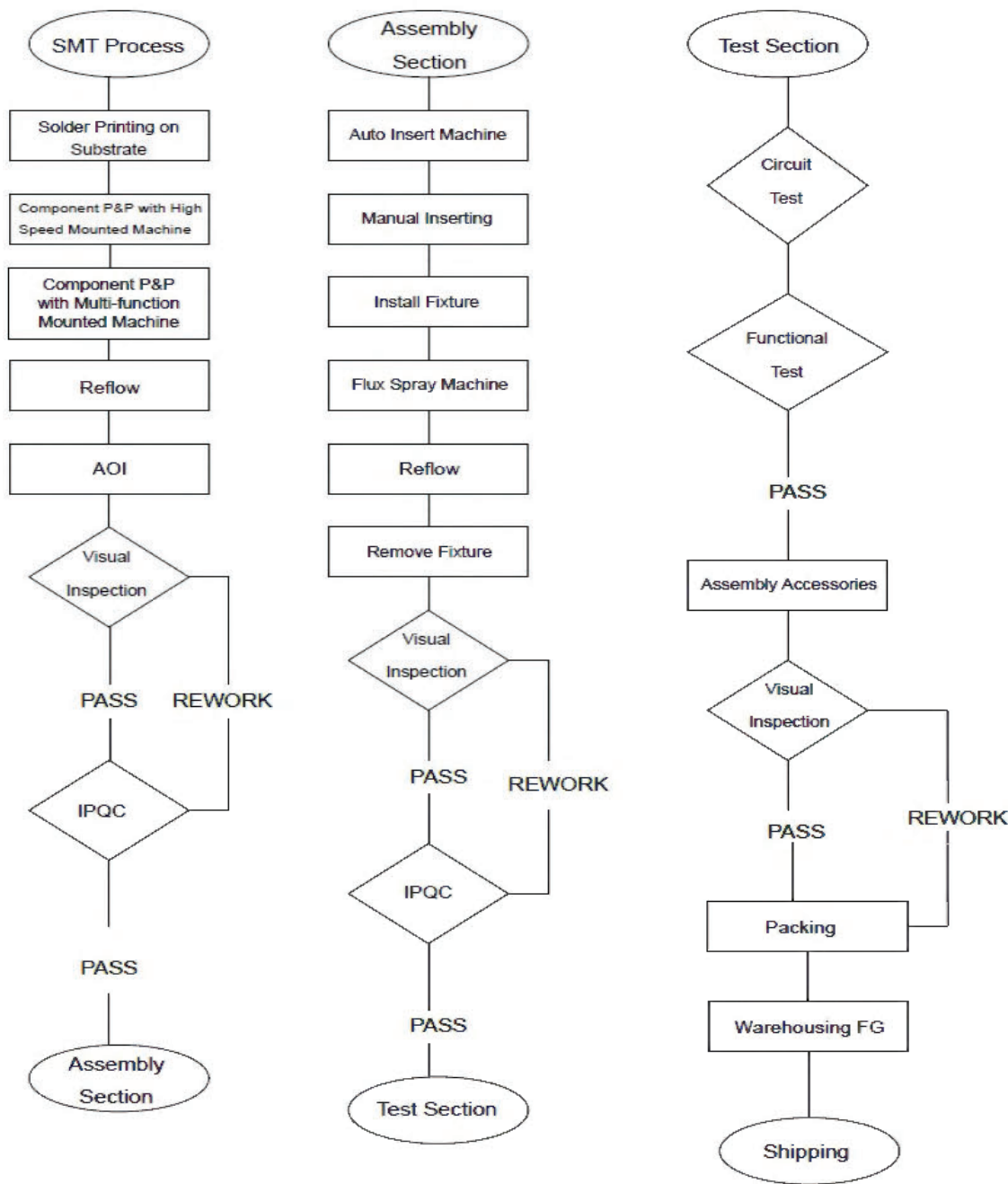
3. Electronics Manufacturing Services

(1) Important Applications of Main Products:

Products	Important Utilizations
SiP	Cell phone, notebook computer, tablet, wearable device
SHD	Logistics, retail-use handheld devices
POS	Electronic system for retail industries, catering industries, hospitality industries, etc. The main function is to compute the sales, inventory and customer purchase behavior.
LCD Control Panel	LCD Monitor
SSD	Personal computer, laptop, server
X-86 Mother Board	Desktop PC, workstation, server
Automotive LED lighting system	Car lighting

(2) Production process

The main production process is based on the application of SMT:



5.2.3 Supply of major Raw materials

The Group is a semiconductor engineering business providing packaging services for customers. The wafers are normally provided by customers, most of which are well known international semiconductor companies with good long-term business relations with the Group.

The principal packaging materials, including lead frames, substrates, gold wire, copper wire, and epoxy molding compound (EMC), come from qualified suppliers who have outstanding performance in quality control. The substrates in particular are mainly supplied by the subsidiaries ASEMTL Shanghai, ASE Electronics Inc. and other substrate manufacturing companies. Hence, the Group has total control of materials acquisition.

Major Raw Materials	Major Suppliers	Market Status	Procurement Strategy
Substrate	ASEMTL SH/ ASEE /Company A /Company B/Company C	Supply and demand equilibrium	Long-term collaborating suppliers
Lead Frame	Company D/Company E/Company F/ Company G	Supply and demand equilibrium	Long-term collaborating suppliers
Gold Wire	Company H/ Company I/ Company J / Company K	Supply and demand equilibrium	Long-term collaborating suppliers
Copper Wire	Company H/ Company J / Company K/ Company O	Supply and demand equilibrium	Long-term collaborating suppliers
Compound	Company L/Company N/Company M/ Company D/ Company P	Supply and demand equilibrium	Long-term collaborating suppliers

Electronics manufacturing services of the Group primarily supply of raw material includes printed circuit board, integrated circuit, hard disk drive and computer case, ceramic PCB, ink, semiconductor device, mechanism parts, quartz crystal unit...etc. Suppliers are comprised of mostly ISO-9000 registered companies and have been in good collaborative relationship with us. At the same time, procurement strategies are adopted according to different raw materials to ensure that the supply of materials has a competitive price advantage. Also, decentralizing sources of supply allows risk diversification, and ensures reasonable costs, accurate delivery service and good quality.

5.2.4 The Purchases (Sales) Amount and Percentage of Suppliers and Customers Accounting for More than 10% of the Total Purchases (Sales) Amount in the Past Two Fiscal Years:

1. Names of customers of the Group accounting for 10% or more of sales

Ranking	2022				2021			
	Name	Amount	Percentage of Total Sales (%)	Relationship with the issuer	Name	Amount	Percentage of Total Sales (%)	Relationship with the issuer
1	Company Q	198,858,465	30.0	None	Company Q	158,624,032	27.9	None
	Others	472,014,178	70.0		Others	411,373,101	72.1	
	Net Sales	670,872,643	100.0		Net Sales	569,997,133	100.0	

Reasons of increases and decreases: The amounts of sales and percentage changes vary with customers’ market share.

2. Suppliers of the Group accounting for 10% or more of purchases

Unit: NT\$ in thousands

Ranking	2022				2021			
	Name	Amount	Percentage of Total Purchases (%)	Relationship with the issuer	Name	Amount	Percentage of Total Purchases (%)	Relationship with the issuer
1	Company AA	49,154,103	12.5	None	Company BB	37,677,653	11.5	None
2	Company BB	46,309,840	11.7	None	Company AA	33,520,936	10.2	None
	Others	298,653,590	75.8		Others	256,931,833	78.3	
	Net Purchases	394,117,533	100.0		Net Purchases	328,130,422	100.0	

5.2.5 Production of the Group in the Most Recent Two Fiscal Years

Units: Capacity and production volume in thousands; NT\$ in thousands

Production Figures Main Product	Year	2022			2021		
		Capacity	production volume	Production Value	Capacity	production volume	Production Value
Assembly services		52,027,047	44,923,223	221,620,535	78,923,123	71,819,623	202,558,435
Testing services*		—	—	34,916,671	—	—	32,574,216
Electronics packaging and manufacturing services		1,650,353	973,508	273,019,364	1,590,343	940,332	218,103,560
Others**		—	—	6,386,061	—	—	6,392,145
Total		53,677,400	45,896,731	535,942,631	80,513,466	72,759,955	459,628,356

* Price calculation is based on test time; therefore, quantities are not disclosed.

** Units are inconsistent; therefore, quantities are not disclosed.

5.2.6 Sales of the Group in the Most Recent Two Fiscal Years

Units: Volume in thousands; NT\$ in thousands

Sales Main Product	Year	2022				2021			
		Domestic Sales		Export Sales		Domestic Sales		Export Sales	
		Volume	Value	Volume	Value	Volume	Value	Volume	Value
Assembly Services		7,800,256	62,623,714	37,122,967	241,323,788	15,613,379	72,536,770	56,206,244	200,007,129
Testing services*		—	5,808,634	—	50,151,548	—	7,510,403	—	42,468,333
Electronics packaging and manufacturing services		64,477	11,660,356	909,031	290,306,462	80,760	11,137,619	859,572	228,350,648
Others**		—	3,562,438	—	5,435,703	—	3,413,275	—	4,572,956
Total		7,864,733	83,655,142	38,031,998	587,217,501	15,694,139	94,598,067	57,065,816	475,399,066

* Price calculation is based on test time; therefore, quantities are not disclosed.

** Units are inconsistent; therefore, quantities are not disclosed.

5.3 Employees

5.3.1 Organization

To maintain competitiveness in the market, the Group has developed a prior strategy of training outstanding engineering talent, perfecting the Group’s responsibility systems, ensuring the fulfillment of organizational functions, and supporting employee career development.

5.3.2 Employee information during the current two fiscal years up to the date of publication of the

annual report:

Year		2021	2022	February 28, 2023
Number of Employees	Technical personnel	28,094	28,685	28,815
	Managerial personnel	6,313	6,335	6,308
	Office clerks	6,825	8,223	8,321
	Operators	54,495	53,955	52,419
	Total	95,727	97,198	95,863
Average Age		33.2	34.7	36.3
Average Years of Service		7.1	7.5	7.9
Education	Doctorate	0.2	0.2	0.2
	Masters	7.7	8.1	8.1
	College or University	47.8	50.4	50.7
	High School	33.5	30.8	29.7
	Below High School	10.8	10.5	11.3

5.4 Expenditures on Environmental Protection

5.4.1 Accounts of loss of the Group (including any compensation paid and any violations of environmental protection laws or regulations found in environmental inspection, specifying the disposition dates, disposition reference numbers, the articles of law violated, and the content of the dispositions) due to environmental pollution during the current fiscal year up to the date of the publication of the annual report, the total penalty amount, future countermeasures, and any potential expenditures.

- 2023: As of the Date of this Annual Report : None
- 2022: the Group was fined NT\$ 6 thousand in total.

The subsidiary, Universal Scientific Industrial Co., Ltd.:

NO.	Item	Case 1
1	Factory	Tsaotuen 2, USI Inc.
2	Text number	Tou Huan Ju Fei Ji No. 1110023303
3	Date of Violation	2022/7/1
4	Disposition dates	2022/10/13
5	Competent Authority	Nantou Environmental Protection Bureau
6	Articles of law violated	Waste Disposal Act, Paragraph 1, Article 31
7	Content of law violated	Operations may begin only after the review and approval of an industrial waste disposal plan submitted to the special municipality, county or city competent authority or the organization commissioned by the central competent authority; this regulation shall also apply to the modification of matters related to the production and disposal of industrial waste.
8	Content of the dispositions	The amount of waste declared (C-0199 、D-0299 、R-0701) exceeded the maximum monthly industrial waste disposal plan by 10%, and the company did not submit a modification plan for approval.

NO.	Item	Case 1
9	Penalty amount	NTD 6,000
10	Future countermeasures	<ol style="list-style-type: none"> 1. Set the control line to transport waste to 85% of the maximum monthly waste amount 2. When introducing new processes, changing production lines, or initiating projects that will result in a significant increase in waste, project owners must inform EHS at least three months beforehand so EHS can evaluate and submit a Waste Disposal Modification Plan to the Bureau.

5.4.2 Accounts of the current pollution status, how the improvement in this area will impact the Company's earnings, competitive position, and capital expenditures, and any estimations of major capital expenditures for environmental protection in the next annual budget.

The subsidiary, Advanced Semiconductor Engineering, Inc. :

Item	2023	2024
Improvement measures to be taken		
1. Improvement plans	<ol style="list-style-type: none"> (1)Continued certification of ISO 14001 Environmental Management System (2)Continued operation in compliance with ISO 14064 Greenhouse Gas Management System criteria to reduce greenhouse gas emissions (3)Continued implementation of ISO 50001 Energy Management System (4)Continued implementation of inventory and verification of product carbon footprint and water footprint (5)ISO46001 Water Resource Efficiency Management System Verification and Education Training (6)Continued promotion of use of mass rapid transit systems to reduce energy consumption and CO₂ emissions (7)Introduction of energy-saving products and improvements to energy-saving engineering projects (8)Cleaning and improvement of wastewater treatment equipment and increases in wastewater reclamation and accompanying benefits (9)Blower vibration noise improvement project (10)Replacement of filtration materials 	<ol style="list-style-type: none"> (1)Continued certification of ISO 14001 Environmental Management System (2)Continued operation in compliance with ISO 14064 Greenhouse Gas Management System criteria to reduce greenhouse gas emissions (3)Continued implementation of ISO 50001 Energy Management System (4)Continued implementation of inventory and verification of product carbon footprint and water footprint (5)ISO46001 Water Resource Efficiency Management System Verification and Education Training (6)Continued promotion of use of mass rapid transit systems to reduce energy consumption and CO₂ emissions (7)Introduction of energy-saving products and improvements to energy-saving engineering projects (8)Cleaning and improvement of wastewater treatment equipment and increases in wastewater reclamation and accompanying benefits (9)Blower vibration noise improvement project (10)Replacement of filtration materials in

Item	2023	2024
	<p>in wastewater treatment sand filters and activated carbon filters</p> <p>(11)Construction of high-efficiency pollution prevention and control facilities</p> <p>(12)Replacement of waste gas control equipment filler and reductions in volatile organic compounds (VOCs)</p> <p>(13)Reduction, recycling, and reuse of waste</p> <p>(14)Sludge weight loss and weight loss improvement plan</p> <p>(15)Optimization of the amount of chemicals used</p> <p>(16)Odor prevention measures in surrounding areas and strengthened noise control measures</p> <p>(17)Emergency response training and drills</p> <p>(18)Organizing events such as Environmental Protection Month and Water</p> <p>(19)Installation of new waste gas scrubbers</p> <p>(20)Grinding Wastewater Recycling Technology Project</p> <p>(21)Productization of nickel/copper-containing waste liquid</p> <p>(22)Research into best available air treatment equipment for air pollution control</p> <p>(23)Installation of new wastewater reclamation system</p> <p>(24)Reusable packing materials</p> <p>(25)SRF application of waste plastics</p> <p>(26)Maintenance of existing condensed water washing equipment</p> <p>(27)The existing rotor and the rotary type regenerative thermal oxidizers</p> <p>(28)Maintaining and managing the underground pipes</p> <p>(29)Water-saving new technology introduction and water-saving expansion project</p> <p>(30)Regularly maintaining the control monitors of the waste water treatment plant</p> <p>(31)Water reduction for tap water in washing tower (use cooling water tower to drain water)</p>	<p>wastewater treatment sand filters and activated carbon filters</p> <p>(11)Construction of high-efficiency pollution prevention and control facilities</p> <p>(12)Replacement of waste gas control equipment filler and reductions in volatile organic compounds (VOCs)</p> <p>(13)Reduction, recycling, and reuse of waste</p> <p>(14)Sludge weight loss and weight loss improvement plan</p> <p>(15)Optimization of the amount of chemicals used</p> <p>(16)Odor prevention measures in surrounding areas and strengthened noise control measures</p> <p>(17)Emergency response training and drills</p> <p>(18)Organizing events such as Environmental Protection Month and Water</p> <p>(19)Evaluation of (carbon capture) process tail gas treatment technology introduction</p> <p>(20)The oven is equipped with an automatic damper to reduce the exhaust air volume</p> <p>(21)Water reduction in tap water for scrubbers</p> <p>(22)Research into best available air treatment equipment for air pollution control</p> <p>(23)Installation of new wastewater reclamation system</p> <p>(24)Reusable packing materials</p> <p>(25)Maintenance of existing condensed water washing equipment</p> <p>(26)The existing rotor and the rotary type regenerative thermal oxidizers</p> <p>(27)Maintaining and managing the underground pipes</p> <p>(28)Regularly maintaining the control monitors of the waste water treatment plant</p> <p>(29)Newly set up plasma equipment to properly handle CF4 waste gas in the process</p> <p>(30)Continuous automatic monitoring</p>

Item	2023	2024
	<p>(32) Newly set up plasma equipment to properly handle CF4 waste gas in the process</p> <p>(33) Construction of relevant pipelines and equipment for improving the odor of personnel working environment</p> <p>(34) On-line monitoring and control of various operation indicators of air pollution prevention and control equipment</p> <p>(35) Construction of E-platform for water chemical tanker filling and acceptance</p> <p>(36) resource recycling network waste cleanup plan drawing</p> <p>(37) Waste rubber strip recycling application</p> <p>(38) The oven is equipped with an automatic damper to reduce the exhaust air volume</p> <p>(39) Airtight ventilation of the machine adopts a closed negative pressure improvement method to reduce air pollution emissions</p> <p>(40) Add equipment or spare parts to air pollution treatment equipment to reduce environmental risks</p> <p>(41) Air pollution windmill motor vibration sensor installation</p> <p>(42) Setting, modification and update of various monitoring and control systems for air pollution prevention and control equipment</p> <p>(43) Air Pollution Reduction and Energy Conservation Project (Extraction Reduction)</p> <p>(44) Evaluation of (carbon capture) process tail gas treatment technology introduction</p> <p>(45) Sludge harmless</p> <p>(46) Recycling and productization of organic waste liquid</p> <p>(47) Installation of new dust collectors</p> <p>(48) Replacing the fillers of the exhaust scrubber system</p> <p>(49) Installing waste water treatment</p>	<p>facility for air pollutants from fixed pollution sources</p> <p>(31) Airtight ventilation of the machine adopts a closed negative pressure improvement method to reduce air pollution emissions</p> <p>(32) Add equipment or spare parts to air pollution treatment equipment to reduce environmental risks</p> <p>(33) Air pollution windmill motor vibration sensor installation</p> <p>(34) Setting, modification and update of various monitoring and control systems for air pollution prevention and control equipment</p> <p>(35) Installation of new dust collectors</p> <p>(36) Replacing the fillers of the exhaust scrubber system</p> <p>(37) Maintaining related treatment facilities</p> <p>(38) Installing waste water treatment systems for processes</p> <p>(39) Installation of new waste gas scrubbers</p>

Item	2023	2024
	systems for processes (50)Maintaining related treatment facilities	
2. Pollution control equipment to be purchased or planned expenditures for the two following years	(1)Promotion of voluntary establishment of improvement projects in each department (2)Improvement and expansion of reclaimed water recovery system. (3)Installation of and improvements to wastewater and waste gas control equipment (4)Implementation of low-frequency noise control engineering projects (5)Replacement of outdated environmental protection equipment (6)Promotion of waste recycling and installation of waste reduction equipment (7)Use of energy-saving lighting equipment and introduction of green energy (8)Installation of energy management and control systems (9)Installation of new waste gas scrubbers (10)Installation of and improvements to wastewater reclamation, filtration, candle filter and distillation equipment (11)Installation of and improvements to sludge-drying equipment (12)The best air pollution control feasible treatment equipment (13)Advanced oxidation treatment equipment (14)Dust collector (15)Carbon capture technology (16)Negative pressure gauge project (17)The existing rotor	(1)Promotion of voluntary establishment of improvement projects in each department (2)Installation of and improvements to wastewater and waste gas control equipment (3)Implementation of low-frequency noise control engineering projects (4)Replacement of outdated environmental protection equipment (5)Promotion of waste recycling and installation of waste reduction equipment (6)Use of energy-saving lighting equipment and introduction of green energy (7)Installation of energy management and control systems (8)Installation of new waste gas scrubbers (9)Installation of and improvements to wastewater reclamation, filtration, candle filter and distillation equipment (10)Installation of and improvements to sludge-drying equipment (11)The best air pollution control feasible treatment equipment (12)Advanced oxidation treatment equipment (13)Dust collector (14)Carbon capture technology (15)The existing rotor
Anticipated improvements	(1)Reductions in energy consumption and CO ₂ emissions (2)Odor prevention measures in surrounding areas (3)Extended service life for equipment (4)Reductions in wastewater, waste, and air pollution; increased waste	(1)Reductions in energy consumption and CO ₂ emissions (2)Odor prevention measures in surrounding areas (3)Extended service life for equipment (4)Reductions in wastewater, waste, and air pollution; increased waste recycling

Item	2023	2024
	recycling (5)Reductions in noise pollution in surrounding areas (6)Reduced energy consumption (7)Improve the water efficiency of the factory (8)Increased water recycling and reduced water consumption (9)Pollution prevention and monitoring (10) Wastewater recycling of the whole plant> 80%	(5)Reductions in noise pollution in surrounding areas (6)Reduced energy consumption (7)Improve the water efficiency of the factory (8)Increased water recycling and reduced water consumption (9)Pollution prevention and monitoring (10) Wastewater recycling of the whole plant> 80%
Expenditure	NT\$1,422,357 thousand	NT\$2,087,552 thousand
3. Impacts after improvements		
Impact on net profit	The actual effects of corporate social responsibility and sustainable development on net profit cannot be estimated.	The actual effects of corporate social responsibility and sustainable development on net profit cannot be estimated.
Impact on corporate competitiveness	Corporate social responsibility and sustainable development. The environmental protection policy will improve the corporate image of the Group and comply with the investors' expectation for the Company on the goal of sustainable development.	Corporate social responsibility and sustainable development. The environmental protection policy will improve the corporate image of the Group and comply with the investors' expectation for the Company on the goal of sustainable development.
Countermeasures not taken	Not applicable	Not applicable

The subsidiary, Siliconware Precision Industries Co., Ltd. :

Item	2023 & 2024
Improvement measures to be taken	
1. Improvement plans	(1)Air pollution control <ul style="list-style-type: none"> a. Setting proprietary preventive equipment by types of exhaust gases b. Implement maintenance plan to maintain equipment stability and ensure that emissions conform to legal requirements. c. Implement equipment malfunction drills to reduce impact of discharged flue gas on the environment. d. Regular test result indicates intensity of each pollution is lower than the limit of law regulations. (2)Water pollution prevention and control, and water recycling and reuse <ul style="list-style-type: none"> a. Improving overall processing efficacy, waste water is diverted and collected based on its pollution characteristic. Plant processing facility then adequately processes the effluence. b. Setting stricter warning value than requirement of regulations, and arranging self-test regularly to have early warning when the water

Item	2023 & 2024
	<p>quality is abnormal.</p> <ul style="list-style-type: none"> c. Regular test result indicates intensity of each pollution is lower than the limit of law regulations. d. Except setting water quality abnormality and leak emergency response procedure, SPIL organizes the drills regularly to reduce the environmental impact due to abnormality of wastewater processing. e. For recyclable discharge water (such as discharge water of pure water system, air conditioning condensate, waste water from grinding and sawing), constructed waste water recycling systems to increase the use of water resources. <p>(3)Waste management</p> <ul style="list-style-type: none"> a. Waste management principles: prefer recycling and reuse, then burning. These methods are used to decrease volume and recycle heating. Only when waste cannot be processed with the aforementioned methods are they buried. b. Current recycled and reused items: paper, waste glass, waste plastic, scrap metal, waste resin, waste solvent, reject, lead frame packaging material, electroplating effluent, and stripper etc. c. Conducting vendor audit plan and rating management, and scheduling audit for regulations regularly and irregularly. <p>(4)Energy conservation and carbon reduction</p> <ul style="list-style-type: none"> a. Improving energy efficiency, reducing energy consumption and reducing GHG. b. Conducted ISO 50001 Energy Management System and passed the certification in 2013 to promote energy conservation management more effectively. c. Various energy-saving measures are implemented every year. <p>(5)Safety and health management</p> <ul style="list-style-type: none"> a. Based on laws and regulations of safety and health, conducting international safety and health management system to process safety and health management. b. Pass ISO 45001 occupational health and safety management system, Taiwan Occupational Safety and Health Management System Certification (CNS 45001) and Operation Directions for the Performance Recognition. It indicates that safety and health management has achieved international standard to ensure employees have a healthy, comfortable and safe working environment.
2. Expect environmental protection expenditures for two years	<p>Expect expenditure is NT\$ 919,031 thousand in total:</p> <p>(1)Due to production line expansion, it adds water recycling equipment, sewage treatment facility and exhaust gas treatment facility in 2023, and the expenditure expects to increase NT\$492,831 thousand.</p> <p>(2)Due to production line expansion, it adds sewage treatment facility and exhaust gas treatment facility in 2024, and the expenditure expects to increase NT\$ 426,200 thousand.</p>
3. Impacts after improvements	<p>(1)Air pollution control: VOCs emissions intensity is 0.196 kg/M NTD in 2022.</p> <p>(2)Water pollution prevention and control, and water recycling and reuse:</p>

Item	2023 & 2024
	<p>Total amount of recycled water reached more than 11,617,392 tons in 2022.</p> <p>(3)Waste management: The rate of general waste recycling and reuse in 2022 is more than 99%.</p> <p>(4)Energy conservation and carbon reduction: Nearly 71,624 kilowatts of electricity have been saved in 2022 and it is equivalent to 36,457 metric tons of CO₂ emissions have been reduced.</p>

The subsidiary, Universal Scientific Industrial Co., Ltd.:

Item	2023	2024
Proposed adoption of improvement measures		
1. Improvement plans	<p>(1) Continued certification of ISO 14001 Environmental Management System</p> <p>(2) Continued implementation of ISO 50001 Energy Management System</p> <p>(3) Continued operation in compliance with ISO 14064 Greenhouse Gas Management System criteria to reduce greenhouse gas emissions</p> <p>(4) Continued implementation of inventory and verification of ISO 14067 product carbon footprint</p> <p>(5) Continue to promote energy-saving improvement</p> <p>(6) Maintain and improve wastewater control equipment, and Improve process water recovery</p> <p>(7) Maintain exhaust gas prevention equipment and Reduce VOC emissions</p> <p>(8) Reduction, recycling, and reuse of waste</p> <p>(9) Got of environmental approvals and permits</p> <p>(10) Strengthened noise control measures</p> <p>(11) Promote sustainable development</p> <p>(12) Environmental emergency response training and drills</p>	<p>(1) Continued certification of ISO 14001 Environmental Management System</p> <p>(2) Continued implementation of ISO 50001 Energy Management System</p> <p>(3) Continued operation in compliance with ISO 14064 Greenhouse Gas Management System criteria to reduce greenhouse gas emissions</p> <p>(4) Continued implementation of inventory and verification of ISO 14067 product carbon footprint</p> <p>(5) Continue to promote energy-saving improvement</p> <p>(6) Maintain and improve wastewater control equipment, and Improve process water recovery</p> <p>(7) Maintain exhaust gas prevention equipment and Reduce VOC emissions</p> <p>(8))Reduction, recycling, and reuse of waste</p> <p>(9) Got of environmental approvals and permits</p> <p>(10) Strengthened noise control measures</p> <p>(11) Promote sustainable development</p> <p>(12) Environmental emergency response training and drills</p> <p>(13) Establish ISO46001 Water Resource Efficiency Management System and Education Training</p>
2. Pollution control equipment to be purchased or planned expenditures for the two following years	<p>(1) Promotion of improvement programs voluntarily for individual department</p> <p>(2) Improvement, maintenance and replacement of environmental protection equipment</p> <p>(3) Promotion and reduction of waste recycling</p>	<p>(1) Promotion of improvement programs voluntarily for individual department</p> <p>(2) Improvement, maintenance and replacement of environmental protection equipment</p> <p>(3) Promotion and reduction of waste recycling</p> <p>(4) To use renewable energy or purchase</p>

Item	2023	2024
Proposed adoption of improvement measures		
	(4) To use renewable energy or purchase REC(renewable energy certification) (5) Improvement, maintenance and replacement of process wastewater recycling equipment (6) Planning a total of 26 energy saving and energy creation projects,including HZ Site solar power generation construction (7) Plan 6 water saving projects (8) Improvement of process wastewater treatment equipment and enhanced wastewater recycling in NK1 Site (9) Construction of Air Pollution Ducts in the TT2 Site (10) Construction of air pollution control equipment in NK1 Site (11) Improvement of the waste storage area in NK2 Site	REC(renewable energy certification) (5) Improvement, maintenance and replacement of process wastewater recycling equipment (6) Establish a cloud greenhouse gas inventory system
Anticipated improvements	(1) Reductions in energy consumption and CO ₂ emissions (2) Extended service life for equipment (3) Reductions in wastewater, waste, and air pollution; increased waste recycling (4) Increased water recycling and reduced water consumption (5) Pollution prevention and monitoring	(1) Reductions in energy consumption and CO ₂ emissions (2) Extended service life for equipment (3) Reductions in wastewater, waste, and air pollution; increased waste recycling (4) Increased water recycling and reduced water consumption (5) Pollution prevention and monitoring
Expenditure	NT\$ 317,600 thousand	NT\$ 96,636 thousand
3. Impacts after improvements		
Impact on net profit	The actual effects of corporate social responsibility and sustainable development on net profit cannot be estimated.	The actual effects of corporate social responsibility and sustainable development on net profit cannot be estimated.
Impact on corporate competitiveness	Corporate social responsibility and sustainable development. The environmental protection policy will improve the corporate image of the Group and comply with the investors' expectation for the Company on the goal of sustainable development.	Corporate social responsibility and sustainable development. The environmental protection policy will improve the corporate image of the Group and comply with the investors' expectation for the Company on the goal of sustainable development.
Countermeasures not taken	Not applicable	Not applicable

5.5 Labor-Management Relations

5.5.1 Employee Benefits

The Group recognizes that the employer and employees are a unified whole so it strengthens its welfare, cultural and entertainment facilities, including libraries, social activities, annual outings, cultural and entertainment competitions, so that employees of the Group all have the opportunities to relax their body and mind. Measures to enhance employee benefits and labor relations are as below:

- Free group medical insurance for employees and their dependents
- Full-scale workplace health and safety improvements to maintain a clean and comfortable working environment
- Periodic or non-periodic labor relation communication meetings and periodic orientation meetings for new employees.
- Creation of health and safety committees in plants
- Forming the Employee Welfare Committee which handles all employee benefits and rolls out optional welfare systems.
- Diversified employee buffets, and convenient stores and commissary that offer discounts and coffee bar.
- Marriage gift money, childbirth subsidy, bereavement allowance, hospitalization allowance, and learning funds.
- Employee emergency relief fund.
- A sound retirement system
- Health check-ups for employees
- Bonuses in shares and cash
- Bonuses for the three major festivals
- Company trips and product purchases
- NT\$6~15 million travel insurance for each employee traveling on business
- Free meals on national holidays
- Employee fitness centers
- Employee clinic and health center. Regular health examination and promotion activities that is beneficial to health, to help employees understand their own health conditions and enhance health awareness.
- Employee stock option certificates
- Nursing and accommodating women employees with more comfortable and better-equipped breastfeeding room.
- Miscellaneous clubs and family activities such as artistic seminars, concerts, watching movies, sports competitions, family days, and so on to give our employees a work-life balance and fun.
- Massage rooms for employees.
- Employee Care Center (including one-on-one consultation rooms, group consultation areas, and case study areas).
- Soft lecturing events.
- Express-Service System that immediately solves employees' opinions about public facilities and livelihood issues.
- Employees shuttle buses for commute, electric shuttle buses to the MRT station back and forth, electric shuttle buses across manufacturing plants.
- Green energy special parking spaces, shared electric scooters, battery exchange and charging stations for electric scooters.
- A multi-functional and comfortable dormitory for employees who require accommodation.
- Provide bank mortgage offers and seminars to enable colleagues to obtain preferential mortgage loans and take care of their families.
- Organize a series of activities to achieve happiness (e.g., soft club activities, travel recommendations, parent-child creations, dining cars, further learning, etc.)
- Introduce employee discounts on designated shops and issuance of various coupons, gift certificates, meal coupons, admission tickets for theatrical performances, etc.

- Providing multiple on-site services such as bank, insurance, tour, tax application, consumer goods sale, etc.
- Special arrangements with several kindergartens for discounts and customized daycare services.
- Provide automobile/motorcycle parking lot, build a license plate recognition and parking space guiding system to improve parking service, solve staff parking problems, and provide caring parking space for pregnant and disabled colleagues.
- Produce medical masks, provide them to employees for pandemic prevention free of charge, and create peace of mind and a comfortable living workplace environment.
- ASE Kaohsiung has established the Sanhao Kindergarten, offering excellent daycare services so that employees can work without worries as their children enjoy high-quality childcare environment.

5.5.2 Employee Development

- We have annual training and development plans to arrange special on-the-job trainings for employees to enhance their expertise.
- Employees who have undergone in-service training to obtain further academic qualifications can take the academic qualification examination for a substantial salary adjustment.
- Provide employees with school options by means of educational cooperation, operate Industry-Academia Cooperation Project 2.0 and Job Experiencing Project for the Youth, and create a parallel scheme for advanced education and employment.
- We provide employees with lifelong learning resources by running "in-service industrial technology graduate programs." This ensures that we offer diversified engineering talent development.
- In order to cultivate semiconductor talents and reward outstanding students, the Company will provide "Elite Cultivation Scholarship" as an award to help the outstanding students in making great efforts to education, so as to reduce their working hours and concentrate on study to advance academic progress.
- In order to cultivate professionals in the assembly and testing industry and speed up to develop the force of semiconductor talent in Taiwan, we cooperate with National Sun Yat-sen University to establish the "College of Semiconductor & Advanced Technology Research, NSYSU". The college offers million NTD scholarships that is along with industrial internship, and provides employment after internship, for cultivating professional capabilities of talents solidly.
- The Company will provide "Senior Internship Program" to promote cooperative internship teaching and practical training, and train technical professionals.
- We cooperate with University of Kaohsiung and Kaohsiung University of Science and Technology to establish the "Industry and Academic Center" to provide "General Education Courses of Semiconductor" and "Industry Credit Program", which are joint with internship and employment, to cultivate the talents of the semiconductor industry.

5.5.3 Employee Training and the Implementation

- The Company will actively provide career management and training for current employees to cultivate their future development and enhance the Company's professional and technical prowess.
- New employees are provided with orientation training, professional training, and assessment. Implement training and mentoring programs for new employees and developing a special skills training to help employees maintain and develop their qualifications so that they can do their work better. We have established standardized training procedures.
- We design and implement management skill training and career development for employees with managerial roles. We train employees with managerial talents that are required within the organization.

- Professional skills training programs for engineers have been developed and implemented.
- Provide employees with professional skills training and second specialty training.
- Programs have been established to train internal professional lecturers and trainers.
- Diverse Education and Training System is set based on Company's goal, organization function and individual position requirements, and provide different courses as core program, selective program, annual strategic program and language training
- A diverse e-learning environment, breaking the time/space limitation, so that employees can learn whenever they need to, encouraging self-motivated learning and enhancing the competitive advantage of each employee.
- Establishment of employee's personal learning roadmap by following respective subsidiaries strategy with competencies. Employees are able to join the class according to its professional skills or grade.
- Various learning models and refined training schemes provide a variety of Off-Job Training, On-Job Training and Self Development. With our Learning and Development Platform, all employees are able to participate and organize to create the greatest benefits and value.
- We design and execute training on industrial safety and environmental protection.
- We implemented hand-raising culture among leaders and hosted soft skill training for managers and assistant managers, to enhance supervisors' sensitivities and skills of caring for colleagues. Total 2,753 trainees participated in the training.
- Employees are given opportunities to attend external training and seminars.
- ASEH has established its Regulations Governing Funding for Employees Taking External Training and Acquiring Licenses and Certificates to provide subsidies for employees assigned by their departments to participate in external training or voluntarily acquiring licensing or certification. Employees can apply for subsidies with relevant certificates after completing the training or obtaining a certificate. The objective is to encourage employees to further their learning and improve their professional skills and knowledge by undergoing training during off-work time. The policy intends to make up the inadequacies of internal training by utilizing external training resources. In addition to build the mechanisms of reviewing, approval, and post-training feedback, a system that combined electronic external training and business trip application has been established to facilitate the management and promotion of external training.
- ASE, Inc., the Group's subsidiary officially joined Responsible Business Alliance (RBA; formally named EICC) in 2015. It adheres to RBA's principles and philosophy of sustainable management and encourages ASE and its suppliers to jointly create a sustainable supply chain. In 2022, it continued to run training related to supply chains, fulfilling the RBA principles. Currently, more than 20,000 employees of the Kaohsiung plants of ASE Inc. have received RBA training. A yearly retraining mechanism has been set up and the latest regulatory information has been updated to employees.
SPIL, another subsidiary of the Group also follows the RBA codes of conduct, arranging RBA general knowledge training for new-coming and existing employees; more than 20,000 of its employees have received RBA training.
USI Inc., another subsidiary of the Group also follows the RBA codes of conduct and currently, more than 2,000 of its employees have received RBA training.
- The licenses and certifications required by the competent authority for ASEH and ASE, Inc., the Group's subsidiary personnel whose duties are associated with financial information transparency are as follows: One internal auditor has acquired CPA certification. Six have been awarded Certified Internal Auditor certification. Three has been awarded Information Systems Auditor certification by the Information Systems Audit and Control Association.

- The licenses and certifications required by the competent authority for SPIL personnel whose duties are associated with financial information transparency are as follows: Three have been awarded CPA certification. One has been awarded US CPA. One has been awarded CICPA. Three have been awarded certified public bookkeeper. One has been awarded Certified Internal Auditor. Four have been awarded Stock Affair Specialist. One has been awarded Enterprise Internal Control Basic Ability. One has been awarded Certified Securities Investment Analyst.
- In 2022, the Group spent NT\$ 33,280,987 on employee training.
- In 2022, the Group conducted over 2,712 training classes (including online courses) for 389 thousand trainees. The training in total are more than 475 thousand hours.
- The training courses conducted in 2022 included the following:
 - ◆ New employee training: new employee orientation training, basic training, and on-the-job training
 - ◆ Engineer training: problem analysis and engineering measurement skills
 - ◆ Managerial personnel training: executive trainee cultivation, mid- and high-level management skills, language proficiency, etc.
 - ◆ General training: courses conducted pursuant to government regulations and company policies
 - ◆ Competency training: Training in professional skills needed in different departments of the company

5.5.4 Retirement System

- The Group established its employee retirement regulations in accordance with the Labor Standards Act. The earlier years of service of employees choosing to follow the new version of the pension regulations and employees opting to follow the old version are calculated according to the original employee pension payment regulations and appropriate amounts of the retirement pension reserve are appropriated and deposited into the designated account at the Bank of Taiwan. Retirement pension calculations are conducted by the Employee Pension Reserve Supervision Committee in accordance with the Labor Standards Act.
- The Group established new pension regulations based on the Labor Pension Act. Ever since, an amount equivalent to 6% of the pay of each employee has been appropriated and deposited into his or her personal account in the Labor Insurance Bureau. In addition, each employee can also choose to pay more into their pension fund within the range of 6%, and the entire amount that employees choose to pay voluntarily can be deducted when personal income tax is filed each year. Workers can apply for their pensions when they reach 60 years of age.
- In China subsidiary of the Group, according to the social insurance system of China, full specified amount insurance is appropriated into personal social security account for ensuring the rights and interests of staffs about retirement, outpatient service, serious illness treatment, maternity insurance, unemployment insurance and housing accumulation fund.
- For employees working for U.S. subsidiary of the Group, retirement regulation shall be based on U.S.A. 401K regulation. Employee can also voluntarily deposit fund into their retirement fund account from their salary based on legally limited amount decided during the annual board of directors meeting. SPIL shall also deposit the allocated amount based on ratio into the employees personal retirement fund account.
- Retirement requirements: The Group sets its labor retirement requirements in compliance with the regulations of the Labor Standards Act and offers various types of preferential retirement plans by taking into accounts of the differences of respective subsidiary of the Group.
- Preparations and making beautifully made retirement souvenirs to appreciate retiring employees for their years of service.
- ASE Kaohsiung provides retired employees with free health examinations at the

employee clinic once a year to continuously take care of the health of retired employees.

5.5.5 Labor-Management Agreement

- The Company complies with relevant regulations and protects employees' rights and interests, thus it is equipped with written, telephone and electronic staff communication channels in the Company, and there are specific staffs in charge. Each factory sets up a factory manager mailbox and convenes regular seminars with employees to facilitate mutual communication between the Company and employees. The employees can communicate with the company through the above channels to ensure both the labor and management sides have a good and harmonious interaction, and ensure that the employees' rights and interests are treated fairly and reasonably and there are no major labor disputes.
- Holding Labor-Management meetings regularly, listening to employee feedback and continuing to improve the benefit measures.

5.5.6 Implementation of Employee Rights

- The Company implements its employee management policies in accordance with the Labor Standards Act and related labor regulations. Internal management regulations are updated to comply with changes made to government regulations to ensure that the rights and interests of employees are properly protected.
- ASE Kaohsiung has prepared a series of "Human Resources School" audio books for promotion activities on four major topics, including labor obligations, rights and benefits, welfare, and unlawful violations. In order to reduce the gap in terms of legal information and to promote harmonious labor relations between employers and employees, we would like to have employees to learn about labor rights and benefits in ways of relaxation and fun.
- According to the Act of Gender Equality in Employment, the company provides a work environment in which both genders are treated equally and sexual harassment is strictly forbidden.
- A regular employee communication mechanism has been set up to ensure that a good relationship between the employer and employees.
- Establish comprehensive employee health care measures to protect the health of colleagues in the workplace.
- Constructing the wholesome care mechanism in the workplace, ASE Inc., a subsidiary of the Group, has set up the ASE Staff Clinic, which is convenient for employees to receive professional medical consulting services in the factory.
- ASE staff clinic cooperates with Kaohsiung Veterans General Hospital to provide general internal medicine clinic, surgery clinic, physical and mental decompression clinic, occupational disaster clinic and smoking cessation clinic, onsite vocational specialist clinic service, consultation for health check report, vaccination, and other services. From October 2022, we have introduced evening outpatient clinics, medical checkups and emergency care to enhance the convenience of medical treatment and provide employees with more flexible health checkups hours. It also provides services such as cervical smear examination, adult health check, oral cancer screening, colorectal cancer screening, ultrasound examination (abdomen, utero ovarian, thyroid, breast, and heart), etc., that the service scopes extends to family members of staff, employees of affiliated companies and contractors.
- Every year, we implement annual health examination items which exceed the requirements under the regulations, and have the specialist's weekly clinical services

at the factory (human factor evaluation, health report consultation, and return to work evaluation, etc.) to protect the health of colleagues in the workplace in all aspects with multiple health care programs.

- Regularly Organize Diversified Health Promotion and Health Education Advocacy Activities, such as weight reduction classes and health lectures, so as to enhance the self-health awareness and conducts of colleagues.
- Propaganda and Prevention of Infectious Diseases and set up enterprise rapid screening stations and COVID-19 vaccination service.
- Plan a Global Plant Pandemic Prevention Organization and Actively Build an AI Anti-pandemic Technology Management System.
- Produce medical masks and provide them to employees of ASE Technology Holding Co., Ltd. in Taiwan for pandemic prevention free of charge, and create peace of mind and comfortable living workplace environment
- Multiple breastfeeding rooms are available across its manufacturing plants. For the convenience of the employees in need, they are fully equipped, maintained and regularly cleaned.
- Massage Station is available in the plants where there are visually impaired massage therapists providing services for the health of the employees. Meanwhile, it's a way to provide stable employment opportunity to people with visual impairment.
- We arrange stress management group consultation and continue to train caregivers and build a safety net for interpersonal relationship.
- We organize various competitions on a regular basis, such as technical competitions and club sports tournaments, so as enhance cohesion within the organization through team competitions.
- We keep hosting big environmental protection activities such as beach cleaning and tree planting every year. We also encourage employees to participate in actively to devote to environmental and ecological maintenance to protect the earth and lands.
- We hold various soft lectures and stress-relieving handcraft activities.
- Compensation adjustment of the Group in 2022: The Group continues to adjust the wages of the employees in a stable way every year.
- In view of the large amount of employees, we have expanded training and education in recent years to provide timely care to our employees and understand their feelings. In particular, the Company added the "residential management administrator" courses at the women's dorms in 2021 to provide consultation service and guidance to migrant workers who work in Taiwan alone.
- In consideration of employee safety and convenience, ASE Kaohsiung cooperated with the Export Processing Zone Administration to improve the traffic in the area of industrial parks, such as road paving, street lighting and road markings, etc. to ensure employees' traffic safety in the industrial parks.
- We hold traffic safety lectures to raise employees' awareness of traffic safety and try to reduce the number of accidents, request the relevant authorities to adjust the number of seconds of the signal outside the plants and establish safety control measures such as cameras for illegal passing to ensure employees' safety.
- We cooperated with local public interest groups to arrange gift dishes in the staff cafeteria and held outdoor market stalls, which were quit popular with employees.

5.5.7 Measures for Workplace Safety and Personal Safety of Employees (measures taken to prevent occupational accidents)

- Certified the ISO 22301:2019 Business Continuity Management System (BCMS) for

Bumping/WB/FC/Test

- Completed epidemic prevention BCP/hacking information interruption and manual operation drill
- Integrate and optimize enterprise operation risk assessment system
- Accomplishment of fire and chemical disaster comprehensive drills and OJT
- Making a comprehensive BCP instructed rules for essential risks
- Review and improvement on maintenance work flow
- Continuous devotion on improvement of automation and to strengthen safety of machine
 - Improvement of safety devices that are ignored easily on mid- and high-risk machine
 - Upgrade and sophistication of the safety devices on the mid-risk machine, and make them won't stop immediately when touched
 - Management and improvement for controlling the inward and outward movement of materials on mid- and low- risk machines
- Safety reinforcement on lithium batteries with fire risk
- Cross-check by the director of the production equipment safety plant in the factory area
- Enhancement and improvement of damage prevention in existing plants
- Cross-check of plant damage prevention and joint fire prevention managers
- Improvement of protection from fire spread in factory areas
- Contest on machine and automation equipment security
- Safety Lectures - Fire and Earthquake Evacuation
- Improvement of the contractor's on-site safety management capability
- To Strengthen the safety control measurements of contractors' high-risk operations
- Source control management of newly introduced high-risk chemical
- Replacement of high-risk chemicals in existing production processes
- On-Job Training(OJT) for chemical users
 - OJT on introduction policies of high-risk chemical for introducing departments
 - Physical OJT on chemical hazards for wet process equipment engineers
 - Extensive visits and checks, and implementation to improve the low-risk human factors
- Accomplishment of the improvement of high-risk sites for human factors engineering in the plant area
- Establishment of risk map for machine safety in the factory area
- Development and promotion of white paper on machine safety in packaging and testing industry
- Planning and establishment of real-time monitoring platform for plant hazards
 - Real-time monitoring of environmental concentration of hazardous chemicals
 - Early warning of fire in public hazardous material storage areas
 - Real-time monitoring of ionizing radiation working environment dose
- Comprehensive introduction of E-based operational inspections in administrative plant areas
- Construction of personal collection system of respiratory protective equipment
- Physiological evaluation of respiratory protective equipment users and protective equipment fit test launched
- Implementation of industrial safety activities
- Conducting ability training for directors of night shifts and sampling test

- Safety Culture Diagnostic Evaluation Survey
- Joint security visit by managerial directors
- ISO45001 、TOSHMS and RBA manage system continuity certification.
- Conduct the hazard identification and risk assessment. Reinforce the improvement of the safety and health of each department.
- Take FR &SR index in the performance calculation.
- Emergency response practice and evaluation of the safety and environmental protection.
- Implemented a cloud Safety Data Sheet (SDS) Database System.
- Required change evaluation to prevent injury and to ensure facilities and equipment comply with safety regulations.
- Enforced regular safety and health inspections.
- Enforced quarterly product line equipment safety and error-prevention mechanism inspections.
- Obtained Work Safety Standardization certification.
- Pass the ISO14001 and RBA certification.

5.5.8 Employee code of conduct and ethical principles

- Employees shall earnestly abide by laws and regulations, labor contracts, and relevant management norms of the Company, uphold the principles of honesty and integrity in performing their duties, shall fulfill duties with due regard to confidentiality protection, abide by confidentiality and non-competition obligations, give priority to the Company's goodwill and interests, and shall not engage in any improper acts that hinder the reputation, management and operation of the Company.
- When having different opinions from department heads, both should focus on facts. Instead, they are encouraged to pick an appropriate time and location to communicate with their department heads with sincerity, and to avoid strongly expressing their differing opinions in the presence of visitors or other outside parties.
- Employees are required to attend meetings on time or designate an agent in advance when unable to attend in person, ensure that the agent knows which documents to prepare, and also notify the convener of the meeting.
- If a meeting with suppliers spans lunch or dinner time, employees may order lunch for the suppliers and apply for reimbursement afterwards. Eating out and socializing with suppliers are prohibited.
- It is strictly forbidden to take company products, parts, and goods out of the processing zone. Release certificates are required for objects leaving the plant. Employees found in violation of the regulation will be subject to related regulations.
- Employees are expected to uphold the company's reputation. Without permission, no one may express his or her personal opinion to outside parties with regard to any company matter.
- As part of the corporate culture, all employees are expected to be honest and responsible and to adopt the highest ethical standard in all of the company's business activities.
- Employment ethics and moral regulations.
- Rules to avoid conflict of Interest.
- Gifts and presentation regulations.
- Responsibility and Obligation report.
- Anti-discrimination/Anti-retaliation Policy.
- ASE Information Security Specifications.
- The company promotes the "sunshine bill" and its propose is for preventing a few people from accepting bribes, obtaining rebates, abusing of power, and from other illegal behavior which will affect reputation and interests of the Company and the

employees and break up the trust of each other.

5.5.9 Losses suffered by the Company in the most recent fiscal year and up to the annual report publication date due to labor disputes (including any violations of the Labor Standards Act found in labor inspection, specifying the disposition dates, disposition reference numbers, the articles of law violated, the substance of the legal violations, and the content of the dispositions), and an estimate of possible expenses that could be incurred currently and in the future and countermeasures being or to be taken:

The subsidiary, Advanced Semiconductor Engineering, Inc. and its subsidiaries :

No.	Jing Jia Si Lao Zi No. 1110101427	Zhu Huan Zi No. 1110012795	Jing Jia Si Lao Zi No. 1110103651
Violation date	2022/02	2022/03	2022/06
Issue date	2022/03/21	2022/04/19	2022/07/19
The competent authority	Export Processing Zone Administration	Hsinchu Science Park Bureau	Export Processing Zone Administration
The laws or regulations violated	Labor Standards Act Article 32 Paragraph 2	Labor Standards Act Article 24	Labor Standards Act Article 32 Paragraph 2
The reason for the violation	Overtime hours exceed the statutory regulations	Fail to pay the overtime wages as the statutory regulations required	Overtime hours exceed the statutory regulations
Fines/Fees or non-monetary sanctions	Fine NT\$50,000	Fine NT\$50,000	Fine NT\$100,000
Appropriate countermeasures	Announce the statutory regulations of overtime.	Verify the calculation of overtime payment to be compliant with the statutory regulations.	Strengthen supervisors' education and training of the relevant statutory regulations.

The subsidiary, Siliconware Precision Industries Co., Ltd. :

No.	Chung Huan Zi 1110009208	Fu Shou labor Zi 1110179350	Chung Huan Zi 1110026408
Violation date	2022/02	2022/03	2022/01~2022/03
Issue date	2022/04/19	2022/07/12	2022/10/28
The competent authority	Central Taiwan Science Park, Ministry of Science and Technology	Labor Affairs Bureau of Taichung City Government	Central Taiwan Science Park, Ministry of Science and Technology
The laws or regulations violated	Labor Standards Act Article 32 Paragraph 2	Labor Standards Act Article 32 Paragraph 2	Labor Standards Act Articles 24 and 32 Paragraph 2
The reason for the violation	Overtime beyond statutory regulations	Overtime beyond statutory regulations	1. Not pay enough overtime wages 2. Overtime beyond statutory regulations
Fines/Fees or non-monetary sanctions	Fine NT\$50,000	Fine NT\$50,000	Fine NT\$150,000
Appropriate countermeasures	Announce balance of workload	Announce balance of workload	1. Re- announce the regulations of overtime 2. Announce balance of workload

The subsidiary, Universal Scientific Industrial Co., Ltd. :

No.	Natou Government Official Document (Fu She Lao Zi Zi No. 1110118732)	Natou Government Official Document (Fu She Lao Zi Zi No. 1110118733)	Natou Government Official Document (Fu She Lao Zi Zi No. 1110186197)
Violation date	2022/04	2022/04	2022/06

Issue date	2022/05/14	2022/05/14	2022/08/03
The competent authority	Nantou County Government	Nantou County Government	Nantou County Government
The laws or regulations violated	Labor Standards Act Article 32 Paragraph 2	Labor Standards Act Article 32 Paragraph 2	Labor Standards Act Article 24 Paragraph 1
The reason for the violation	work hours per month exceed	work hours per month exceed	work hours per month exceed
Fines/Fees or non-monetary sanctions	Fine NT\$50,000	Fine NT\$60,000	Fine NT\$60,000
Appropriate countermeasures	1. Re-declare the regulations of overtime/labor law to managerial directors. 2. Re-declare the system function, and the managerial directors can export data of department overtime report for control purpose.	1. Re-declare the regulations of overtime/labor law to managerial directors. 2. Re-declare the system function, and the managerial directors can export data of department overtime report for control purpose.	1. Re-declare the regulations of overtime/labor law to managerial directors. 2. Re-declare the system function, and the managerial directors can export data of department overtime report for control purpose.

5.6 Information Security Management

5.6.1 Describe the information security risk management framework, the information security policy, the specific management plan and the resources invested in the information security management, etc.

Information Security Risk Management Framework	The Information Security Management Committee, responsible for overall information security across all subsidiaries, was established by the CSC to develop strategic plans, establish benchmarks for information security maturity assessments and coordinate all internal and external technical resources and information. Richard H.P. Chang, Vice Chairman of ASEH has been appointed the chair of the committee. The committee's Chief Information Security Officer assumes responsibility for the establishment of the information security management framework that includes regular reviews with all ASEH subsidiaries and implementing incident response plans. The committee provides a status report to the Board of Directors in the last quarter of each fiscal year. The Corporate CSR Division serves as the executive secretary and is responsible for promoting and implementing information security work. Each subsidiary appoints the information security team as a committee member and is responsible for implementing the resolutions of the information security management committee.
Information Security Policy	From the perspective of corporate governance, ASEH formulates the "ASEH's Information Security Policy" as the highest management basis that is designed to safeguard the confidentiality and maintain the integrity and availability of all information assets in accordance with applicable laws and regulations that will result in increasing customer confidence, raising the company's competitiveness and preventing operational disruptions.
Specific Management Plan	ASEH identifies internal and external information security risks and formulates countermeasures, and implements the NIST CSF maturity assessment in all sites every year and continues to sophisticate the cyber security planning and improvement solutions for all sites to enhance overall information security maturity. At the same time, education training are actively conducted to enhance employee awareness, and we have also conducted social engineering email drills to strengthen employee awareness on social engineering attack via emails and prevent major data breaches. ASEH adopts internationally recognized information security standards to continuously evaluate and improve cyber security workflows and management measures. The main sites have obtained the ISMS (information security management systems) ISO 27001 certification of the major information systems those are for essential continuing operation infrastructure. ASE Kaohsiung and SPIL have also successively obtained the BCMS (Business Continuity Management System) ISO22301 certification to strengthen crisis management and disaster response. ASEH will broaden the scope of certification gradually to build a comprehensive management system of information security.
Resources Invested	The company holds ASEH information security management committee meetings quarterly to report and discuss the progress of information security work, and invite external experts to share

	information security trends and important issues.
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The subsidiary, Advanced Semiconductor Engineering, Inc.：

Information Security Risk Management Framework	The company joins the ASEH information security management committee, and serves as the group together with the information security team of SPIL, USI, China, and other regions, and regularly participates in the quarterly meetings, follows the management objectives and policies formulated by the information security management committee, and is responsible for cooperating and implementing information security-related tasks.
Information Security Policy	The company follows the "ASEH's Information Security Policy " as the highest management basis to safeguard the confidentiality and maintain the integrity and availability of all information assets in accordance with applicable laws and regulations that will result in increasing customer confidence, raising the company's competitiveness and preventing operational disruptions.
Specific Management Plan	The company implemented the NIST CSF maturity assessment in all sites every year and continues to sophisticate the cyber security planning and improvement solutions for all sites to enhance overall information security maturity. At the same time, education training are actively conducted to enhance employee awareness, and we have also conducted social engineering email drills to strengthen employee awareness on social engineering attack via emails and prevent major data breaches. The company adopts internationally recognized information security standards to continuously evaluate and improve cyber security workflows and management measures. ASE Kaohsiung, ASE Chungli have obtained the ISMS (information security management systems) ISO 27001 certification of the major information systems those are for essential continuing operation infrastructure. ASE Kaohsiung has also successively obtained the BCMS (Business Continuity Management System) ISO22301 certification to strengthen crisis management and disaster response. We will broaden the scope of certification gradually to build a comprehensive management system of information security.
Resources Invested	The company participates in the ASEH information security management committee meeting every quarter to discuss and exchange information security work progress and planning.

The subsidiary, Siliconware Precision Industries Co., Ltd.：

Information security management structure	<p>(1) SPIL's IT division has setup an information security team which includes implementing information security measures, handling of information security emergencies and auditing of information security measures. The head supervisor of the IT division is also the representative for managing information security management.</p> <p>(2)Implementation of ISO27001 (Information Security Management Measures) to strengthen the ability to handle information security incidents and to protect the company and its customers information assets.</p> <p>(3)Periodic evaluation of information security risks by the management representative who reviews the risks and ensures the risk avoidance measures are appropriate.</p> <p>(4)Annual audit of information security by the information security</p>
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	<p>team who implements and tracks changes which ensures that the information security management measures are properly controlled.</p> <p>(5) Regularly hold information security management meetings to discuss the status of implementation of information security measures.</p> <p>(6) The Company has passed ISO27001 (Information Security Management Measures) third party impartial audit examination.</p>
Information Security Policy	<p>(1) Published information security management goals and policy and regularly review and revise.</p> <p>(2) Regularly check and update the information security management goals.</p>
Specific IS Management Plans and Resources Invested	<p>(1) Annual training and dissemination of information security measures and each new employee must sign a information security confidentiality agreement.</p> <p>(2) All vendors must sign a Non-Disclosure Agreement in order to ensure that those who use the data services or related data have the responsibility and liability to protect the Company's information assets that they received or used, and it is for the purpose to prevent unauthorized access, revision, destruction or violated disclosure.</p> <p>(3) Building up backed-up, high availability and disaster recovery procedures for key systems to ensure the usability.</p> <p>(4) Anti-virus software and regular update of such software installed on all personal computers and unauthorized software is forbidden to be used.</p> <p>(5) Established a standard operation procedure for information security incidents in which the team of information security emergency will handle the information security incidents, and will ensure that the incidents are immediately dealt with to avoid expansion of damages.</p> <p>(6) Facilitate by business continuity management measures and regularly drills to ensure system usability.</p> <p>(7) Annual internal audit to ensure the effectiveness of the information security measures and internal information security management controls.</p> <p>(8) Continue to pass the annual ISO27001 (Information Security Management Measures) neutral third party audits and maintain the Company's information security management measures validity.</p> <p>(9) Self-assessment and improving the information security maturity of OT(Operation Technology) environment to enhance the security protection in operation of critical production lines.</p>

The subsidiary, Universal Scientific Industrial Co., Ltd. :

Effective information security management is fundamental unit to all operations. To ensure company has consensus of information security goals, USI set up a committee to boost information security awareness. The committee members are composed of CIO, CFO, GISO, Vice Presidents or Division heads level above. Under the committee, there are information security representatives to assist the Information Security Committee in implementing information security affairs. USI have gotten ISO 27001:2013 Certifications in 2020 and the information security management is further implemented in the USI Group.

● Information Security Goals

USI's information security objectives are to ensure the preservation of Confidentiality, Integrity, Availability and Compliance of the core systems engaged in business operations. Additionally, quantitative goals should be defined according to organization level and job function to ensure the achievements of the ISMS* implementations and information security objectives.

1. Protect USI's important information assets, including USI and customer products, manufacturing processing information and recipe, R&D information, services, etc., and maintain their confidentiality, integrity, and availability.
2. Strengthen USI employee's awareness of the company's and customer's information asset protection responsibilities.
3. Ensure that the execution of all business comply with the requirements of relevant laws or regulations.
4. Construct a safe and convenient information network environment to protect employees from internal and external information security threats.
5. Establish an information security sustainability plan to ensure the business contingency.
6. In-depth assess existing information security level and enhance the maturity of entire information security management.

● Cybersecurity Advocacy and Training

USI has made Enterprise Network Information Security Management Approach and Threat Intelligence System to increase cybersecurity protection. Through regular announcement, employees are required to follow network information security regulations and to use legal software. IT Department randomly checks illegal use of software, any illegal cases will be punished according to regulations. USI arranges an online training course to strengthen employees' information security thinking. All employees should take Information Security courses and pass tests. InfoSec also irregularly practices Social Engineering (Phish Insight) drills to enhance employees' information security awareness of phishing prevention.

To be a gatekeeper of information security in company, the InfoSec members do not only take professional training courses, but also need to get certificate to ensure the effectiveness of information security organization, which can systematically solve variously incidents.

- 5.6.2 Losses, potential impact, and countermeasures as a result of material incidents that occurred in cyber security from the most recent year up to the printing of annual report for publication should be provided with explanations where losses cannot be reasonably estimated:

No major information security incident occurred in the company. We have formulated information security incident levels, notification and emergency response procedures for each subsidiary to follow and control the scope of the information security incident, and then share the information security information with each subsidiary immediately. In order to reduce the damage of enterprise operation and achieve joint defense of information security, we conduct an information security incident drill every year.

5.7 Material Contracts

Contract Classification	Contract Company	Contract Duration	Main Contents	Term Limits
Land Lease	Processing and Export Processing Zone Administration Division, MOEA	2013.02.01~2061.08.01	Land Lease	During the effective lease period, the plant cannot be used for purposes that are not related to the business operations. In addition, the lease payment should be made as per the agreement.
Patent License Agreement	Infineon Technologies AG	2007.11.06~2023.11.05	Patent Licensing	Until the agreement expires, terms and conditions are prohibited from disclosing to any third party during the effective lease period. (Confidentiality clause)
Patent License Agreement	Infineon Technologies AG	2013.04.11~the expiry date of the licensed patent	Patent Licensing	Terms and conditions are prohibited from disclosing to any third party. (Confidentiality clause)
Patent License Agreement	Siliconware Precision Industries Co., Ltd. and its affiliates	2009.05.10~the expiry date of the licensed patent	Patent Licensing	Terms and conditions are prohibited from disclosing to any third party. (Confidentiality clause)
Technology and Patent Agreement	TDK Corporation	Starting from 2015.12.03 until patent rights and specialized knowledge related to the TKD SESUB technologies are eliminated.	Technology and Patent Agreement	Terms and conditions are prohibited from disclosing to any third party. (Confidentiality clause)
Technology Transfer and Licensing Agreement	DECA TECHNOLOGIES INC.	2016.01.13~2026.01.13	Technology and Patent Agreement	Terms and conditions are prohibited from disclosing to any third party. (Confidentiality clause)
Engineering Construction	Acter Co., Ltd.	2022.02~2023.11	Air-Conditioning and Partitioning of Plant (11 projects)	None
Engineering Construction	Chung Yuang Electrical Consulting Co., Ltd.	2022.12~2025.06	M&E Engineering Construction Projects (6 projects)	None
Engineering Construction	LEE MING CONSTRUCTION CO., LTD	2021.12~2025.06	Civil construction Project (6 projects)	None
Engineering Construction	SHENG YI FA Co., Ltd.	2022.05~2024.12	Civil construction Project (4 projects)	None
Engineering Construction	KANG CHENG TECHNOLOGY ENGINEERING CO., LTD	2022.04~2023.09	Exhaust Engineering(1 project)	None
Engineering Construction	TAI-JIN ENGINEERING TECHNOLOGY CO., LTD	2022.03~2023.11	Water Treatment Engineering (2 projects)	None

Contract Classification	Contract Company	Contract Duration	Main Contents	Term Limits
Engineering Construction	UNITED PURIFICATION TECHNOLOGY CO., LTD	2022.03~2023.09	Water Treatment Engineering (1 project)	None
Engineering Construction	HANTECH ENGINEERING CO., LTD	2022.03~2023.09	Water Treatment Engineering (1 project)	None
Engineering Construction	KE-YUENG(SUZHOU)CO.,LTD	2022.05~2022.09	M&E Engineering Construction Project(1 project)	None
Engineering Construction	Acter TECHNOLOGY INTEGRATION GROUP CO.,LTD	2022.06.~2022.09	Air-Conditioning and Partitioning of Plant (1 project)	None
Engineering Construction	JIANGSU NUPA ENERGY TECHNOLOGY CO.	2022.12~2024.01	New substation construction (1 project)	None
Engineering Construction	SUZHOU LIOU ENVIRONMENTAL ENGINEERING CO.	2023.01~2023.06	Water Treatment Engineering (1 project)	None
Engineering Construction	MIC-TECH Electronics Engineering Corp	2023.02~2024.08	Gas and Chemical Engineering (1 project)	None
Equipment Lease	JA MITSUI LEASING CAPITAL CORPORATION (Taipei Branch)	2021.01~2022.09	Testing Equipment Lease (2 projects)	None
Equipment Lease	Global Asset Management	2021.07~2023.11	Testing Equipment Lease (8 projects)	None
Equipment Lease	EQUVO PTE. Ltd.	2020.03~2022.03	Testing Equipment Lease (1 project)	None
Lease	Nan Shan Life Insurance Company, Ltd.	2022.11~2031.06	Factory Lease	None
Patent License	Siliconware Technology (SuZhou) Co., Ltd.	2017.01~ Termination by either one party	Acquisition of Patent License	None
Loan Contract	Siliconware Technology (Suzhou) Co., Ltd.	2022.08~2023.08	Loan Funding	None
Loan Contract	ASE Technology Holding Co., Ltd.	2022.12~2023.12	Loan Funding	None
Loan Contract	ASE Integrated Circuit Manufacturing (China) Co.	2022.07~2023.07	Loan Funding	None
Loan Contract	ASE Investment (Kunshan) Ltd	2022.09~2023.09	Loan Funding	None
Bank Loan	Citi International Bank etc. 9 banks	2022.04~2024.04	Derivative Transaction	None
Bank Loan	Citi Bank, etc. 2 banks	2022.12~2023.12	Derivative Transaction	None
Bank Loan	Citi Bank, etc. 5 banks	2022.06~2023.12	Short-Term Loan	None
Bank Loan	Citi Bank, etc. 9 banks	2022.01~2023.11	Short-Term Loan	None
Bank Loan	Mega International Bank, etc. 10 banks	2019.07~2029.07	Medium & Long-Term Loan	Sustain certain financial ratio

Contract Classification	Contract Company	Contract Duration	Main Contents	Term Limits
Bank Loan	Mega International Bank, etc. 7 banks	2020.05~2026.10	Medium & Long-Term Loan	Sustain certain financial ratio
Patent Agreement	QUALCOMM Incorporated	2012.05.18~expiration of all licensed patents	Patent licensing	Terms and conditions are prohibited from disclosing to ant third party. (Confidentiality clause)
Land Lease	DINH VU INDUSTRIAL ZONE JOINT STOCK COMPANY	2020.08.03~2058.06.23	Infrastructure usage and lease of land	Limited to the permitted purpose

VI. Financial Highlights

6.1 Condensed Balance Sheet and Statements of Comprehensive Income for the Most Recent Five Fiscal Years

6.1.1 Condensed Balance Sheet and Statements of Comprehensive Income — IFRSs

(1) Condensed Consolidated Balance Sheet

Unit: NT\$ in thousands

Item \ Year		Financial Summary of the most recent five fiscal years*				
		2022	2021	2020	2019	2018
Current Assets		300,367,224	292,357,728	224,086,842	202,001,118	201,558,875
Financial Assets at Fair Value through other Comprehensive Income-Non-current		1,542,271	2,019,812	1,741,134	1,770,775	1,597,323
Investments Accounted for Using Equity Method		14,813,682	17,320,791	12,976,666	12,171,589	9,277,389
Property, Plant & Equipment		268,234,618	239,867,550	234,365,397	232,093,327	214,592,588
Intangible Assets		72,835,302	75,980,315	79,765,019	78,567,023	80,216,341
Other Assets		49,275,276	45,388,089	30,731,774	30,050,451	26,128,687
Total Assets		707,068,373	672,934,285	583,666,832	556,654,283	533,371,203
Current Liabilities	Before Distribution	222,260,898	210,927,730	171,896,666	152,264,636	156,298,736
	After Distribution	**	241,429,711	190,286,522	160,932,967	167,105,190
Non-Current Liabilities		164,882,412	187,373,830	177,507,613	190,042,968	156,401,923
Total Liabilities	Before Distribution	387,143,310	398,301,560	349,404,279	342,307,604	312,700,659
	After Distribution	**	428,803,541	367,794,135	350,975,935	323,507,113
Shareholders' Equity Attributable to Shareholders of the Parent		301,285,248	260,076,714	218,635,019	200,968,723	203,023,354
Capital Stock		43,679,841	44,086,502	43,515,920	43,305,287	43,217,144
Capital Surplus	Before Distribution	142,686,356	143,691,717	139,766,099	138,908,912	143,275,213
	After Distribution	**	143,691,717	139,766,099	138,908,912	143,275,213
Retained Earnings	Before Distribution	120,832,554	91,318,899	46,881,134	31,561,328	25,392,886
	After Distribution	**	60,816,918	28,491,278	22,892,997	14,586,432
Other Equity		(3,954,396)	(11,532,042)	(9,569,027)	(10,847,697)	(6,902,782)
Treasury Stocks		(1,959,107)	(7,488,362)	(1,959,107)	(1,959,107)	(1,959,107)
Non-controlling Interests		18,639,815	14,556,011	15,627,534	13,377,956	17,647,190
Total Equity	Before Distribution	319,925,063	274,632,725	234,262,553	214,346,679	220,670,544
	After Distribution	**	244,130,744	215,872,697	205,678,348	209,864,090

* a. The Financial Statements of the most recent fiscal year have been audited and approved by CPA
b. Asset revaluation has not been conducted for the most recent financial year.
** As of the date of the annual report, the board meeting of the Company for the distribution of earnings in 2023 has not been held, the amount after distribution will be excluded temporarily.

(2) Condensed Parent Company Only Balance Sheet

Unit: NT\$ in thousands

Item \ Year		Financial Summary of the most recent five fiscal years*				
		2022	2021	2020	2019	2018
Current Assets		481,779	368,057	235,946	233,937	99,192
Investments Accounted for Using Equity Method		352,276,349	338,834,820	298,439,139	294,010,046	296,976,191
Intangible Assets		23,024	20,577	4,748	—	—
Other Assets		7,160	7,929	—	—	—
Total Assets		352,788,312	339,231,383	298,679,833	294,243,983	297,075,383
Current Liabilities	Before Distribution	7,840,836	19,234,131	25,887,250	36,753,547	44,152,029
	After Distribution	**	49,736,112	44,277,106	45,421,878	54,958,483
Non-Current Liabilities		43,662,228	59,920,538	54,157,564	56,521,713	49,900,000
Total Liabilities	Before Distribution	51,503,064	79,154,669	80,044,814	93,275,260	94,052,029
	After Distribution	**	109,656,650	98,434,670	101,943,591	104,858,483
Capital Stock		43,679,841	44,086,502	43,515,920	43,305,287	43,217,144
Capital Surplus		142,686,356	143,691,717	139,766,099	138,908,912	143,275,213
Retained Earnings	Before Distribution	120,832,554	91,318,899	46,881,134	31,561,328	25,392,886
	After Distribution	**	60,816,918	28,491,278	22,892,997	14,586,432
Other Equity		(3,954,396)	(11,532,042)	(9,569,027)	(10,847,697)	(6,902,782)
Treasury Stocks		(1,959,107)	(7,488,362)	(1,959,107)	(1,959,107)	(1,959,107)
Total Equity	Before Distribution	301,285,248	260,076,714	218,635,019	200,968,723	203,023,354
	After Distribution	**	229,574,733	200,245,163	192,300,392	192,216,900

* a. The Financial Statements of the most recent fiscal year have been audited and approved by CPA
b. Asset revaluation has not been conducted for the most recent financial year.
** As of the date of the annual report, the board meeting of the Company for the distribution of earnings in 2023 has not been held, the amount after distribution will be excluded temporarily.

(3) Condensed Consolidated Statement of Comprehensive Income

Unit: NT\$ in thousands

Item \ Year	Financial Summary of the most recent five fiscal years*				
	2022	2021	2020	2019	2018
Operating Revenue	670,872,643	569,997,133	476,978,710	413,182,184	371,092,421
Gross Profit	134,930,012	110,368,777	77,984,268	64,310,793	61,163,050
Profit from Operations	80,175,583	62,124,349	34,876,082	23,526,404	26,647,749
Non-operating Income and Expenses	1,450,130	18,211,058	857,597	(164,354)	5,399,689
Profit before Income Tax	81,625,713	80,335,407	35,733,679	23,362,050	32,047,438
Net Profit from Continuing Operations	65,227,138	66,013,581	29,276,780	18,053,124	26,463,839
Net Profit for the Year	65,227,138	66,013,581	29,276,780	18,053,124	26,463,839
Other Comprehensive (Loss) Income for the Year, Net of Income Tax	8,130,124	646,142	851,503	(4,253,425)	(852,632)
Total Comprehensive Income for the Year	73,357,262	66,659,723	30,128,283	13,799,699	25,611,207
Net Profit Attributable to Owners of the Company	62,090,494	63,907,680	27,592,979	16,849,809	25,262,356
Net Profit Attributable to Non-controlling Interests	3,136,644	2,105,901	1,683,801	1,203,315	1,201,483
Total Comprehensive Income Attributable to Owners of the Company	69,793,469	64,627,793	28,419,315	13,028,589	24,662,096
Total Comprehensive Income Attributable to Non-controlling Interests	3,563,793	2,031,930	1,708,968	771,110	949,111
Earnings Per Share(Diluted)	13.94	14.40	6.31	3.86	5.84

* a. The Financial Statements of the most recent fiscal year have been audited and approved by CPA
b. Asset revaluation has not been conducted for the most recent financial year.

(4) Condensed Parent Company Only Statement of Comprehensive Income

Unit: NT\$ in thousands

Item \ Year	Financial Summary of the most recent five fiscal years*				
	2022	2021	2020	2019	2018
Operating Revenue	63,383,227	65,091,179	28,564,437	18,540,038	19,026,512
Gross Profit	63,383,227	65,091,179	28,564,437	18,540,038	19,026,512
Profit from Operations	62,245,084	64,328,807	27,984,239	18,051,211	18,821,044
Non-operating Income and Expenses	(490,401)	(606,591)	(694,800)	(956,447)	6,441,312
Profit before Income Tax	61,754,683	63,722,216	27,289,439	17,094,764	25,262,356
Net Profit from Continuing Operations	62,090,494	63,907,680	27,592,979	16,849,809	25,262,356
Net Profit for the Year	62,090,494	63,907,680	27,592,979	16,849,809	25,262,356
Other Comprehensive (Loss) Income for the Year, Net of Income Tax	7,702,975	720,113	826,336	(3,821,220)	(600,260)
Total Comprehensive Income for the Year	69,793,469	64,627,793	28,419,315	13,028,589	24,662,096
Earnings Per Share(Diluted)	13.94	14.40	6.31	3.86	5.84

* a. The Financial Statements of the most recent fiscal year have been audited and approved by CPA.
b. Asset revaluation has not been conducted for the most recent financial year.

CPA’s opinion of the most recent five fiscal years:

Year	CPA	CPA	Audit Opinion
2022	Shih-Tsung Wu	Lee-Yuan Kuo	Unmodified opinion with other matter paragraph
2021	Shih-Tsung Wu	Lee-Yuan Kuo	Unmodified opinion with other matter paragraph
2020	Shih-Tsung Wu	Lee-Yuan Kuo	Unmodified opinion with other matter paragraph
2019	Shih-Tsung Wu	Jia-Ling Chiang	Unmodified opinion with emphasis of matter paragraph and other matter paragraph
2018	Jia-Ling Chiang	Cheng-Hung Kuo	Unmodified opinion with emphasis of matter paragraph and other matter paragraph

6.2 Financial Analysis for the Most Recent Five Fiscal Years

6.2.1 Consolidated and Parent Only Financial analyses for the most recent five fiscal year — IFRSs

(1) Consolidated Financial Analysis

Item \ Year		Consolidated Financial Analysis of the most recent five fiscal years*				
		2022	2021	2020	2019	2018
Financial Structure (%)	Debt Asset Ratio	54.75	59.19	59.86	61.49	58.63
	Long-term Fund to Property, Plant and Equipment Ratio	180.74	192.61	175.70	174.24	175.72
Liquidity Analysis (%)	Current Ratio	135.14	138.61	130.36	132.66	128.96
	Quick Ratio	91.89	102.31	92.67	100.83	97.46
	Times Interest Earned	21.46	29.70	11.40	6.58	10.06
Operating Performance Analysis	Average Collection Turnover (times)	5.83	5.50	5.59	5.22	5.51
	Days Sales Outstanding	63	66.36	65.29	69.92	66.24
	Average Inventory Turnover (times)**	6.89	7.87	9.66	9.87	10.15
	Average Payment Turnover (times)	6.56	5.83	6.17	6.18	6.29
	Average Inventory Turnover Days	53	46.37	37.78	36.98	35.96
	Property, Plant and Equipment Turnover (times)	2.64	2.40	2.05	1.85	2.12
	Total Assets Turnover (times)	0.97	0.91	0.84	0.76	0.83
Profitability Analysis	Return on Total Assets (%)	9.92	10.86	5.62	3.93	6.53
	Return on Equity (%)	21.94	25.94	13.05	8.30	12.46
	Pre-tax Income to Paid-in Capital Ratio (%)	186.87	182.22	82.12	53.95	74.15
	Net Margin (%)	9.72	11.58	6.14	4.37	7.13
	Diluted Earnings Per Share (NT\$)	13.94	14.40	6.31	3.86	5.84
Cash Flow (%)	Cash Flow Ratio	49.93	38.75	43.67	47.49	32.68
	Cash Flow Adequacy Ratio	87.03	90.01	102.53	109.06	102.63
	Cash Flow Reinvestment Ratio	8.92	7.57	8.38	8.24	5.80
Leverage	Operating Leverage	1.70	1.89	2.49	3.17	2.66
	Financial Leverage	1.05	1.05	1.11	1.22	1.15
Explain the reasons for the changes in various financial ratios in the most recent two years: 1. Times Interest Earned : The decrease in ratio for this year was mainly due to the increase in interest expenses. 2. Average Payment Turnover(times) : The increase in ratio for this year was mainly due to the effective management of short-term debt.						

* Please refer to P.160~161 Note1~Note 5
** The calculation of average inventory turnover doesn't include the operating costs of the inventory of the Real Estate Development – Land Held for Construction and Its Related Operating Costs.

(2) Parent Company Only Financial Analysis

Item \ Year		Consolidated Financial Analysis of the most recent five fiscal years (Note 1)				
		2022	2021	2020	2019	2018
Financial Structure (%)	Debt Asset Ratio	14.60	23.33	26.79	31.70	31.65
	Long-term Fund to Property, Plant and Equipment Ratio	—	—	—	—	—
Liquidity Analysis (%)	Current Ratio	6.14	1.91	0.91	0.64	0.22
	Quick Ratio	5.33	1.74	0.82	0.60	0.19
	Times Interest Earned	92.41	92.61	30.95	15.34	23.34
Operating Performance Analysis	Average Collection Turnover (times)	—	—	—	—	—
	Days Sales Outstanding	—	—	—	—	—
	Average Inventory Turnover (times)	—	—	—	—	—
	Average Payment Turnover (times)	—	—	—	—	—
	Average Inventory Turnover Days	—	—	—	—	—
	Property, Plant and Equipment Turnover (times)	—	—	—	—	—
	Total Assets Turnover (times)	0.18	0.20	0.10	0.06	0.07
Profitability Analysis	Return on Total Assets (%)	18.10	20.21	9.55	6.02	10.72
	Return on Equity (%)	22.12	26.70	13.15	8.34	12.82
	Pre-tax Income to Paid-in Capital Ratio (%)	141.38	144.54	62.71	39.48	58.45
	Net Margin (%)	97.96	98.18	96.60	90.88	132.77
	Diluted Earnings Per Share (NT\$)	13.94	14.40	6.31	3.86	5.84
Cash Flow (%)	Cash Flow Ratio	730.52	117.68	80.09	55.25	85.14
	Cash Flow Adequacy Ratio	200.28	208.11	259.77	268.02	348.20
	Cash Flow Reinvestment Ratio	7.76	1.33	4.42	3.69	10.59
Leverage	Operating Leverage	1.02	1.01	1.02	1.03	1.01
	Financial Leverage	1.01	1.01	1.03	1.07	1.06

Note 1: Formulas for calculating the financial analysis items are listed as follows:

Computation Formulas:

1. Financial Structure

- (1) Debt Asset Ratio = Total liabilities / Total assets.
- (2) Long-term Fund to Property, Plant and Equipment Ratio= (total equity + non-current liabilities) / net property, plant and equipment.

2. Liquidity Analysis

- (1) Current ratio = Current assets / Current liabilities.
- (2) Quick ratio = (Current assets - Inventory - Prepaid expense) / Current liabilities.
- (3) Times Interest Earned = Earnings before interest and taxes / Interest expenses.

3. Operating Performance Analysis

- (1) Average Collection Turnover = Net sales / Average receivable balance (including accounts receivable and bills receivable arising from business operations).
- (2) Days Sales Outstanding = 365 / Receivable turnover ratio.
- (3) Average Inventory Turnover = Cost of goods sold / Average inventory.
- (4) Average Payment Turnover = Cost of goods sold / Average payable balance (including accounts payable and bills payable arising from business operations).

- (5) Average Inventory Turnover Days = $365 / \text{Inventory turnover ratio}$.
- (6) Property, Plant and Equipment Turnover = $\text{Net sales} / \text{Average net property, plant and equipment}$.
- (7) Total Assets Turnover = $\text{Net sales} / \text{Average total assets}$.

4. Profitability Analysis

- (1) Return on Total Assets = $[\text{Net income after tax} + \text{Interest expenses} \times (1 - \text{tax rate})] / \text{Average total assets}$.
- (2) Return on Equity = $\text{Net income after tax} / \text{Average total equity}$.
- (3) Net Margin = $\text{Net income after tax} / \text{Net sales}$.
- (4) Earnings Per Share = $(\text{Net income attributable to equity holders of the Company} - \text{Preferred dividend}) / \text{Weighted average number of shares outstanding}$.

5. Cash Flow

- (1) Cash Flow Ratio = $\text{Net cash flows from operating activities} / \text{Current liabilities}$.
- (2) Cash Flow Adequacy Ratio = $\text{Five-year sum of cash from operations} / \text{Five-year sum of capital expenditures, inventory additions, and cash dividends}$.
- (3) Cash Flow Reinvestment Ratio = $(\text{Cash flows from operating activities} - \text{Cash dividends}) / (\text{Gross property, plant and equipment} + \text{Long-term investments} + \text{Other noncurrent assets} + \text{Working capital})$.

6. Leverage:

- (1) Operating Leverage = $(\text{Net sales} - \text{Variable cost and expense}) / \text{Operating income}$.
- (2) Financial Leverage = $\text{Operating income} / (\text{Operating income} - \text{Interest expenses})$ °

Note 2: The following factors are to be included for consideration for the calculation of earnings per share:

- 1. It is based on the weighted average common stock shares instead of the outstanding stock shares at year-end.
- 2. For capitalization with cash or treasury stock trade, the stock circulation must be included for consideration to calculate weighted average stock shares.
- 3. For capitalization with retained earnings and capital surplus, the earnings per share calculated semi-annually and annually must be adjusted retroactively and proportionally to the capitalization but without considering the issuance period of the capitalization.
- 4. If preferred stock shares are nonconvertible and cumulative, the dividend of the year (whether it is distributed or not) shall be deducted from net income or added to the net loss. If preferred stock shares are not cumulative, preferred stock dividend shall be deducted from net income after tax if there is any but it needs not be added to net loss after tax if there is any.

Note 3: The following factors are to be included for consideration for the analysis of cash flow:

- 1. Net cash flow from operating activities refers to the net cash provided by operating activities on the Statement of Cash Flows.
- 2. Capital expenditure refers to the annual cash used in investing activities.
- 3. Increase of inventory is counted only when ending inventory exceeds beginning inventory. If the ending inventory is decreased, it is counted as zero value.
- 4. Cash dividend includes the amount for common stock and preferred stock.
- 5. Gross Property, plant and equipment meant for the total Property, plant and equipment before deducting the accumulated depreciation.

Note 4: Issuers shall have the operating cost and operating expenses been classified into the category of fixed and variable. If the classification of operating cost and operating expense involves estimation or discretionary judgment, it must be made reasonably and consistently.

Note 5: For company shares are without par value or the par value are not equivalent to NT\$10, the aforementioned calculation of paid-in capital ratio is calculated on the equity attributable to shareholders of the parent company on the balance sheet.

6.3 Audit Committee's Review Report for the Most Recent Fiscal Year

Audit Committee's Audit Report

The Board of Directors has prepared and submitted the Company's 2022 Business Report, Financial Statements, and Earning Distribution Proposal, of which Deloitte & Touche have audited the Financial Statements, and a report has been issued. The Audit Committee has reviewed each of the aforementioned documents, and have not found any inaccuracies. Therefore, the Audit Committee hereby submits this report in compliance with Article 14-4 of the Securities and Exchange Act and Article 219 of the Company Act, this report is submitted for shareholder's examination.

ASE Technology Holding Co., Ltd.

Audit Committee convener:

Sheng-Fu You

March 30, 2023

6.4 Financial Statement of the Most Recent Fiscal Year: Please refer to “Annual Report (II) Financial Statements”.

6.5 Parent Company Only Financial Statements for the Most Recent Fiscal Year Certified by CPA: Please refer to “Annual Report (II) Financial Statements”.

The Company’s consolidated financial statements are prepared in accordance with the *Regulations Governing the Preparation of Financial Reports by Securities Issuers* as well as the International Financial Reporting Standards (IFRS), International Accounting Standards (IAS), International Financial Reporting Interpretations Committee (IFRIC) Interpretations, and Standing Interpretations Committee (SIC) Interpretations (Collectively, “Taiwan IFRS”), endorsed and issued into effect by the Financial Supervisory Commission (hereinafter abbreviated as FSC), and filed with the Taiwan FSC Securities and Futures Bureau. Similarly, the Company’s consolidated financial statements are prepared in accordance with IFRS, IAS, IFRIC, and SIC (“IFRSs”), issued by the International Accounting Standards Board (ISAB), and filed with the U.S. Securities and Exchange Commission.

The Company prepares consolidated financial statements in accordance with both Taiwan IFRS and IFRSs. The significant difference between Taiwan IFRS and IFRSs adopted by the Company resulted from the timing difference on the recognition of 5% additional income tax on unappropriated earnings and the difference in the accounting treatment of subscribing for the additional new shares of associates at a percentage different from its existing ownership percentage.

For further details, please refer to our consolidated financial statements for the year ended December 31, 2022 filed with the U.S. Securities and Exchange Commission.

<https://www.sec.gov/ix?doc=/Archives/edgar/data/1122411/000119312523095811/d418771d20f.htm>

Unit: NT\$ in thousands		
Differences Adjusted Items	Taiwan IFRS	IFRSs
(1) Consolidated net profit attributable to the owners of the company	62,090,494	61,501,545
(2) Consolidated net profit attributable to non-controlling interests	3,136,644	3,116,549
(3) Total comprehensive income attributable to the owners of the company	69,793,469	69,706,868
(4) Total comprehensive income attributable to non-controlling interests	3,563,793	3,543,698
(5) Basic earnings per share (in NT\$)	14.53	14.39
(6) Diluted earnings per share (in NT\$)	13.94	13.81
(7) Total assets	707,068,373	707,589,842
(8) Total liabilities	387,143,310	394,313,457
(9) Equity attributable to the owners of the Company	301,285,248	294,668,261
(10) Non-controlling interests	18,639,815	18,608,124

6.6 The Impact of Cash Flow Difficulties of the Company and Its Affiliates: None

VII. Financial Status, Operating Results, and Risk Management

7.1 Financial Status: Major causes of changes in assets, liabilities, and equity of the past two fiscal years and their impact, and future countermeasures against material impacts

7.1.1The increase in retained earnings was mainly due to the increase in net profit for the year.

7.2 Financial Performance: Major causes of changes in operating revenue, profit from operations and profit before income tax of the past two fiscal years, the estimation of sales and its basis, and the possible effects and the countermeasures regarding the Company’s financial outlook

7.2.1 Gross profit and operating profit : The increase in gross profit and operating profit was due to the strong performance that led to growth in operating revenue.

7.2.2 Non-operating revenue and expenses : The decrease in non-operating income was mainly due to the disposal of investment in subsidiaries in the previous year, but there was no such situation in this year.

7.3 Cash Flow: Analysis of the cash flow in the most recent fiscal year, liquidity improvement plan, and cash flow analysis for the following year

7.3.1 Analysis of cash flow changes for the most recent fiscal year

7.3.1.1 Cash Flow Ratio: The increase in the net cash flow from operation in 2022 resulted in an increase in the Cash Flow Ratio.

7.3.1.2. Cash Flow Adequacy ratio: Mainly due to the relative decrease in the net cash flow from operation than CAPEX , inventories and cash dividend in 2022, resulted in an decrease in the Cash Flow Adequacy Ratio.

7.3.1.3 Cash Flow Reinvestment ratio: In 2022 fiscal year, due to the net cash flow from operation is increase, the Cash Flow Reinvestment Ratio increased.

7.3.2 Remedial measures for illiquidity: The Company has not had any status of illiquidity in the most recent fiscal year.

7.3.3 Cash flow analysis for the following year

Unit: NT\$ in thousands

Cash balance at the beginning of the year ①	Estimated annual net cash provided by operating activities ②	Estimated annual cash outflow ③	Estimated cash surplus (deficit) ① + ② – ③	Remedial measures for estimated cash deficit	
				Investment plan	Financing plan
\$58,040,394	\$124,137,397	\$130,379,584	\$51,798,207	—	—
1. Analysis of changes in cash flow (1) Operating activities: Mainly from the increase of profit from operations and net cash inflows from changes in operating assets and liabilities for the 2023 fiscal year. (2) Investing activities: It is expected that the cash will be used mainly on plant expansion and purchase of machinery and equipment in the fiscal year of 2023. (3) Financing activities: It is expected that the cash will be used mainly loans, repayments of short- and long-term liabilities, and payments of earnings distribution such as cash dividend in the fiscal year of 2023. 2. Remedial measures for estimated cash deficit and liquidity analysis: not applicable					

7.4 Material Capital Expenditures in the Most Recent Fiscal Year and Their Impact on Financial and Business Operations:

7.4.1 Material Capital Expenditures and Capital Resources:

Project	Actual or Planned Capital Resources	Actual or Planned Date of Completion	Total Capital	Unit: NT\$ in thousands Actual or Expected the usage of Capital
				2023
Plant expansion	Working Capital and Bank Loan	2023.12	25,161,048	25,161,048
Purchases of machinery and equipment	Working Capital and Bank Loan	2023.12	38,590,774	38,590,774

So far, the estimation of capital expenditures and benefits for next 2 to 5 years could not be measured reasonably.

7.4.2 Expected Future Benefits:

1. Expected increasing of Sales volume, Sales Value and Gross Profit

Units: Volume in thousands; NT\$ in thousands

Year	Item	Production Quantity	Sales Volume	Sales Value	Gross Profit
2023	Assembly Services	1,604,016	1,603,860	10,671,598	2,930,018
2023	Testing services	**	**	3,829,924	1,501,549

* The estimated future benefits of Y2023 are only based on the material capital expenditures in Y2023

**Price calculation is based on test time; therefore, quantities are not disclosed.

2. Description of other benefits: : None

7.5 Investment Policy in the Most Recent Fiscal Year, Main Causes for Profits or Losses under the policy, Improvement Plan, and Investment Plans for the Following Year:

The Company’s investment policy mainly focuses on the core competitiveness and aims at the long-term strategic goal and each investment is made with prudent assessment. The current profits generated from investments can be attributed to the achievement in the large economies of scale in operations of investees and the effectiveness of the Company’s corporate governance.

7.6 Risk Management:

7.6.1 Impacts of any fluctuation of interest rates and exchange rates and inflation on Company’s profit (loss) during the current fiscal year up to the date of publication of the annual report, and the future countermeasures:

The Company was established through shares exchange. The principal asset is long-term investment and its profits and losses comes from the recognized profits and losses of the invested companies. Since the invested companies have appropriate countermeasures for fluctuation of interest rates and exchange rates and inflation and has kept the flexible adjustments and capital movement. Therefore, the aforementioned fluctuation and inflation shall not create significant impacts on the Company.

1. Fluctuation of Interest Rates

The Group maintains appropriate flexible scheduling adjustments and obtains preferable interest rates comparing to the market when it obtains the loan at all times in response to cash positions required for operating activities. Obtain better deposit rates to increase interest income. In 2022, the Federal Reserve lifted interest rates by 4.5% consecutively, and the CBC also raised interest rates. It is expected that interest rates will still be lifted slightly in 2023, and the chances of a rate cut are low while high inflation has not yet been eliminated. At present, the market interest rate has reached highest level in recent years. And in the future, we will continue to pay close attention to interest rate trends, aim for

favorable interest rate conditions when operating capital financing, assess the market interest rate level, use low-interest financing instruments and obtain a better loan rate from the bank, adjust the fixed or floating interest rate loan portion in a timely manner to maintain low financing costs and adequately-funded financing quotas to reduce the influence from interest rate fluctuation and to avoid interest rate risks that may arise from operations.

2. Fluctuation of Exchange Rates

The hedging strategy of the Group is based on the principle of natural hedging. The Group utilizes the foreign-denominated debt to counterbalance its position of foreign currency assets and invests in low-risk investment with high security and high hedge ratio to lower the risks of fluctuation of exchange rates, thus the exchange rate fluctuation unlikely affects the profit or loss. In the future, the Group will continue to pay attention to the trends of international economic events and the changes of market exchange rates, use foreign exchange derivative contracts, including forward foreign exchange in a timely manner, and continue to reduce the risk of exchange rate fluctuations as the main management direction. We will also carefully review the company's fund allocations in a timely manner, in response to the impact of exchange rate changes, and achieve effective management objectives.

3. Inflation status:

According to the statistics of the Directorate-General of Budget, Accounting and Statistics (DGBAS) of Executive Yuan, the Consumer price index annual growth rate of 2022 is 2.95%, which indicates that the inflation did not have significant effect to the operating result of 2022.

Although under harsh environment of inflation, we are facing impact of increasing material prices around the globe. 2022 Q4 global inflation has reached a high stagnation, and the global inflation situation will affect the general economic situation in 2023. The Group has not experienced any significant impact on profit or loss as a result of inflation as of now. In the future, in addition to paying close attention to the changes in the market prices, the Group will keep a good relationship with its suppliers and clients, in order to adequately adjust the product pricing and stocks of the product material, thus the Group shall effectively minimize the impact of inflation. At the same time, the Group will continuously pay attention to changes in the international economic events and assess the impact on operations, and take necessary actions in a timely manner.

7.6.2 Policies on high-risk, highly leveraged investments, lending funds to other parties, endorsements, guarantees, and financial derivative transactions, main reasons for the profits or losses generated thereby, and future response measures to be undertaken:

The Group has adopted conservative strategies and has not taken part in any high-risk and highly leveraged investment. The Group has formulated internal management guidelines and operating procedures on the basis of robust financing and operation according to the relevant laws and regulations of Securities and Futures Bureau, Financial Supervisory Commission (FSC), which include “Procedures for Lending Funds to Other Parties”, “Procedures for Making Endorsements and Guarantees”, and “Procedures for Acquisition or Disposal of Assets”. The Company will continue to strictly follow these procedures and protocols and all transactions are conducted in accordance with the relevant regulations. The subsidiaries that the Company invested in have applied conservative operating strategies and have not taken part in any high-risk or highly leveraged investment.

7.6.3 Future R&D plans and projected investment schedules and R&D expenses:

1. Investment :

The company’s main business projects are long-term investments; there are currently no R&D needs.

2. Assembly and Testing :

(1) Future R&D projects (including those that are ongoing)

Assembly Technology

Advanced Technology	
3D SiP	a. Si Photonic SiP Technology
	b. Thin Core FC PoP Technology
	c. Heterogeneous Chip Integration SiP
	d. 2.nD Fine Line/Space Substrate Stacking
	e. Fan out Molding Solution
	f. Advance Fan-Out Multi-Layer Stack Via Solution
	g. Fan out Package Grinding Technology
	h. D2W Hybrid Bonding Cu to Cu, Oxide to Oxide
	i. Double Side Molded Module Plus/DSM+ Structure
	j. 3D Stacking SiP Module
	k. Sub-Micron RDL Technology
	l. FO 3D POP Hybrid Bond
	m. 2~4 Die Stacking on Substrate
	n. LSR SiP Integration Technology
	o. Flexible SiP Assembly Technology
	p. 3D Molding Technology for mmWave Product by High Dk EMC Material & High Dk EMC Structure
	q. SnAu Solder IC to IC Assembly
	r. FO-MCM FCBGA with HBM(High Bandwidth Memory)
	s. FO-EB-T FCBGA with HBM
	t. FO-EB-T FCBGA with Active Logic Die
	u. FO-EB FCBGA with Chiplet Module
	v. 3DIC on FCCSP
	w. FOSD-oS
	x. 3D Double Side SiP
	y. Molded Embedded Floating Frame Package Structure
	z. Miniaturization Package Structure with VLF EMI Shieling Integration
	aa. High Aspect Ratio Package on Package of 5G mmWave Antenna in PKG Structure and Technology Development
OEP	a. Optical Sensor Packaging Solution
	b. Optical-Electronic Interconnection
	c. Si-Photonics LD Module
	d. Mini-LED Packaging

	e.	Si-Photonics Fiber Active and Passive Alignment Packaging
	f.	Active and Passive Alignment Packaging for Si-Photonics Lens
	g.	Optical Inspection Technology for Lamination Dry Film
	h.	Optical Inspection Technology for Single Layer Wire Bond
	i.	3D Sensing Image Capture Technology for Multi Layers Wire Bond
Large Panel Fan out Package	a.	Panel Fan Out Chip First Packaging 600x600mm
	b.	Panel Fan Out Chip Last Packaging 300x300mm
	c.	Panel Fan Out With Power Integration
	d.	Panel Fan Out With Substrate Integration Technology
	e.	Panel Substrate With Embedded Component Integration Technology
	f.	290X290mm Panel FO SiP Integrate on 300mm Panel
	g.	300x300mm Panel Fan out Chip Last Packaging with Double Side Assembly
	h.	RF Device Integrated by 300x300mm or 600x600mm Thick Cu FOSiP
	i.	Panel Fan out Chip Last Packaging 600x600mm
WLCSP	a.	300mm Wafer 2D Fan-Out WLP
	b.	3D Fan-Out WLP
	c.	Fine Line Cu-Plated RDL Technology
	d.	Low Temperature Cure Polymer, Cu-Plated RDL Technology
	e.	Sawn Wafer Probing
	f.	High IO/Die Shrinkage WLCSP
	g.	IR Through BSL
	h.	L/S Technology Development
	i.	Development of Thin-Film Crystal Back Bonding Technology
	j.	Reduce Cutting Process Risk Technology Development
	k.	5-layer Polymer, Cu-Plated RDL Technology
	l.	Wafer Level IC Mass Transfer Bonding Technology
	m.	2-Hi and 4-Hi HBM MUF Technology Development
	n.	2-Hi and 4-Hi HBM CUF Development
	o.	PMIC Integrated with Inductor
	p.	Specific Ceramic Material Direct Bond on IC for Co-Package
	q.	3D Integrated Passive Device by Ceramic Material & Through Ceramic Via or Tall Cu Pillar
	r.	Bridge Die with Tall Cu Pillar and TSV to Connect IC and Passive Component
	s.	300mm Wafer 2D Fan-Out WLP with Embedded Bridge Die and Passive Component
Flip Chip	a.	20 nm ELK Wafer Lead-Free FC
	b.	300mm TSV Wafer 50 um CMP Technology
	c.	SD Laser Technology on Thin ELK Wafer
	d.	Molded Core Embedded Package
	e.	Exposed Mold UnderFill
	f.	Very Fine Pitch Cu Pillar Flip Chip Product
	g.	Development and Application of Copper Bump in Embedded (Flip Chip

	Packaging Technology Below 16nm)
	h. FC QFN Development
	i. Chip-to-Chip or Chip-to-Substrate or Chip-to-FO Connection by Cu Nano Wire and Nano Silver Paste
	j. IPD on FCCSP
	k. PKG Construal Technology Development for Ultra Large size FCBGA by Dual Substrate Integration
	l. Wafer from TCB(Thermo-Compression-Bonding) Technology
	m. Wafer form Fluxless TCB(Thermo-Compression-Bonding) Technology
	n. FO Chip Module on sub. TCB(Thermo-Compression-Bonding) Technology
RF Module	a. Irregular FC Cu-Pillar Multi-Band Multi-Mode SiP Module Solution
	b. Embedded Passive Substrate Wireless Module
	c. mmWave Module
	d. Fan-Out System in Package
	e. mmWave Antenna in Package/AiP
	f. mmWave Antenna on Package/AoP
Wire Bond Package	a. 14 nm Cu / ELK Wafer Wire Bond Solution
	b. New Wire Bonding Material Technology Development
	c. Single Layer Carrier Package Development
	d. FC QFN for ATV Development
	e. High Thermal_HS Evaluation
	f. Cap on Die
	g. Gas Sensor
	h. Fan Out RDL Wire Bonding
	i. Wire Bond technology on 6/4nm ELK Wafer)
Wireless Communication SiP Module	a. Multiple Mode Communication SiP Module Solution
	b. Highly Miniaturized and Integrated SiP Communication Function Module Solution
	c. LTE Cat.M Modem SiP Module
	d. Wi-Fi SESUB Module
	e. Hybrid SBT Antenna)
AI-Based Visual Inspection	a. Advanced Deep Neural Network Modeling Technology
	b. Advanced Image-Based Novelty Recognition Modeling Technology
Bumping	
Plating	a. Low Ag of Sn/Ag Lead-Free Micro Bump Plating Technology
	b. Single PI and Single RDL For WLCSP
	c. Micro Cu Pillar Bumping
	d. RDL+LF Bump
	e. RDL+Cu Pillar
	f. FOCoS_Cu Pillar
	g. RDL with L/S:1/1μm

Test Technology

New Test Technology	
Wafer Probe	a. Wafer Level Package Testing Technology
	b. High Parallel Site Test Solution
	c. GaN Wafer Probe Testing Technology
	d. ALS+ Prox.Sensor Test Solution
	e. CIS for ADAS
	f. Silicon Photonics CoW Probe Testing Technology
	g. ICeGaN Application Wafer Probe Test Technology
	h. Ultrasonic Sensor Water Probe Testing Technology
Final Test	a. Low Cost Non-ATE Test Methodology For Low I/O Count Device Test, IoT/Wearable Devices
	b. High UPH Power Management IC Tester Development
	c. 300A Programmable Power Supply Module
	d. 4K Channels Open/Short Tester Development
	e. Direct Mount Test Head Design
	f. GaN MOSFET High Power Test Module
	g. LCR Measurement Module
	h. Multisite, Multi-ports mmWave FEM Test Solution
	i. Parallel Test Solution for High Performanc Computing Chips
	j. Particle Sensor Module Test Solutions
	k. Embedded WiFi 7 SiP Test Solution
	l. Multisite Bluetooth SiP Automatic Test Solution
	m. SiP FoCoS Device OS Testing Technology
	n. SiP Sub-6G Antenna OTA Testing Technology
	o. SiP Sub-6G Multi-Band Testing Technology
	p. SiP Sub-6G RF OS Testing Technology
	q. SiP Sub-6G RF Front-End Module Testing Technology
	r. SiP Computing ARM/MCU Module Testing Technology
	s. SiP Hybrid RF(Front-End+Antenna) Module Testing Technology
	t. SiP Hybrid IoT(ARM+Front-End) Module Testing Technology
	u. SiP Hybrid AoP/AiP Module Testing Technology
	v. ALS+Prox. Sensor Test Solution
	w. GaN Product Application Testing Technology
	x. TPMS Test Technology
	y. Biometric Sensor
	z. Facial Recognition Sensor Test Technology
	aa. 3D Sensing Test Technology
	bb. FPCB Module Test Technology
	cc. LiDAR Sensing Testing Solution
	dd. Biometric Sensor Testing Solution
	ee. 3D Sensing Testing Solution
	ff. GaN Application Package Testing Technology
	gg. InGaAs PD Test Solution

	hh. Long-Wavelength IR Light Source Technology
	ii. Optical Eye Safety Test Technology
	jj. SiP TWS Module Testing Technology
	kk. SiP 2G-GPS Module Testing Technology
	ll. TOF Component Test Technology
	mm. ADAS Sensing Testing Solution
	nn. CIS Sensor Testing Solution
	oo. AR/VR Glasses Test Technology
	pp. OLED Touchscreen Controller Test Technology
	qq. Field Programmable Gate Array Test Technology
	rr. SiP MEMS Microphone Testing Technology
	ss. SiP Radar Gesture Detection Testing Technology
	tt. SiP mmWave Antenna Testing Technology
	uu. Ambient Light Sensor Test Technology
	vv. Biometric Sensor Testing Solution
	ww. Advanced ALS Testing for Smart Glasses
	xx. VCSEL Module for AR/VR Test Technology
	yy. ICeGaN Application Package Testing Technology
	zz. DC-DC Converter Power Module Testing Technology
	aaa. Develop the Optical Communication and Millimeter Wave Test Technology for Application of 5G and Automotive Products
	bbb. Develop the High-Power Heat Dissipation(> 600W) Solution/System for Burn-In System
Test Data Analysis	a. Automatic Identification of Defect Patterns in Wafer Maps
	b. Real-Time Analysis of Electrical Testing Big Database
	c. Test Yield Predictive Analysis on Automatic Algorithm System
Application Software Development	a. Big Data Analysis/Mining System Build
	b. Process Information Automation Management & Deep Learning System
	c. Data Cloud Dashboard Development
	d. Visualization Debug Tools Platform
	e. ETL Platform
	f. Automatic Machine Fail Mode Analysis

Other Technology

New Test Technology	
Wafer Saw	Wafer Form Heterogeneous Material Dicing Technology

(2) Expected R&D reinvestment expenditures

The estimated R&D expenditures for trial assembly production and other assembly operations are NT\$2,756,130 thousand and NT\$5,099,491thousand, respectively. The estimated R&D expenditures for testing production and other testing operations are NT\$1,425,281 thousand and NT\$402,744 thousand, respectively.

(3) Main factors to make a significant success in R&D in the future

- Development of advanced packaging technology and integration with existing

- packaging technology
- Implementing optimal solutions to lower the cost of existing assembly and testing technology
- Standardization of processes (including manufacturing processes) and integration into industry chains
- Prompt verification and mass production of new important equipment
- Planning and development of assembly, testing, substrate, module, and system integration capabilities
- Planning and development of substrate, component, and module design capabilities
- Putting complete product R&D processes and project management systems in place
- Ensuring compatibility of newly-developed products with existing production equipment to reduce R&D costs
- Adoption of customer-oriented organizational setup and internal operating mechanisms
- Understanding of market supply and demand; development of advanced packaging, substrates, module assemblies, and testing technologies based on market trends to ensure our dominant position in the field; and implementing optimal solutions for providing customers with new products in a timely manner
- Upgrading mechanisms for developing talented R&D personnel
- Implementing and improving knowledge management systems
- Improving and managing intellectual property rights strategies
- Design, research and development, and manufacture of eco-design products that are in compliance with environmental protection regulations
- Control of R&D results, risks, schedules, and personnel
- Formation of strategic alliances with customers to reduce R&D costs and risks
- IC-Packages-system Co-Design
- Planning and development of testing and development capabilities
- Planning and development of core R&D development capabilities
- Development of advanced substrates to ensure our dominant position in the field according to the market analysis result

3. Electronics Manufacturing Services

(1)Future R&D Plan (including plans in proceeding) and Major Reasons to Compete Successfully for Future R&D :

Products and Solutions	Future R&D Plans and Major Reasons of the Success of Future R&D Plans
Wireless Communication	a. WiFi-6E 802.11ax 2x2 with Dual-Core BT5.2+ZigBee UWB 802.15.4z 4-Antenna(1T3R)+ZigBee 5G mm Wave Transceiver Module +AoP/AIP SIP Module Establish accurate simulation database and product correlation verification, to optimize and solve problems. Reduce development cycle times and costs.
	b. Automotive telematics module We actively cooperate with Tier 1 customers and participate in the development of 4G / 5G automotive communication modules, provide manufacturing technologies and services to accelerate customers’ application of module products for the future Internet of Vehicle market
	c. WiFi 7 Enterprise AP(access point) <ul style="list-style-type: none"> i. Supporting two 10G network ports ii. Simultaneously support tri-bands (2.4/5/6GHz) iii. With IOT module design and GPS iv. Support internal and external antenna design
	d. MCU based Home security product

Products and Solutions	Future R&D Plans and Major Reasons of the Success of Future R&D Plans
	e. UWB Module Development Customized Module for Near Field Positioning & Related Application
	f. Wi-Fi 7 Module Development Supporting 6G/7G Module Development
Storage & Computer	a. Edge server / Rack server for Datacenter Integrate the server, Wi-Fi/LTE 5G and Ethernet Switch technology, and realize the IoT and City automation application with software of virtualization technology. The products meet the telecom requirements of NEBS(Network Equipment Building System).
	b. Intel next generation Thunderbolt Dock Intel has developed new Thunderbolt technology that provides a data transfer rate of 80Gbps per second in both directions. Use this technology to meet the extremely large bandwidth display needs and applications of more high-speed data.
	c. Workstation for High-Performance Computing with high power efficiency To fulfill the needs for high computing power requested by the raise of artificial intelligence, and to lower the operating cost by increasing the power efficiency of the computing system, UGSI is building a workstation platform, which is not only with high performance but also cost-effective, based on the technologies of the 5th Generation PCI Express (PCIe Gen5) & DDR5 memory to meet the market demands.
	d. Generic PCIe Gen.5 Manufacturing Testing Platform As PCIe Gen5 interface becomes more popular in major products, USI is upgrading self-developed manufacturing test platform to this interface. It will offer our customers with flexible and cost-effective solution.
	e. NAS supporting USB3.2 Gen2
Industrial Products	a. R&D for 5G NR Smart Devices 5G NR offers more additional value than traditional cellular use cases currently using 4G in some applications. 5G's faster throughput and lower latency will enable future applications with new devices. USI is investing in a 5G platform and devices and to help our customers to take the leading place in 5G mobile computing market. The Qualcomm 5G IoT platform QCM6490 is ready as plan. The platform is with long lifecycle and suitable for below 3 product lines. i. Ultra-rugged handheld: Ultra-rugged and sealed from water and dust ingress. ii. Slim handheld: Slim, pocketable, yet durable. iii. Rugged Tablet: Shock and vibration tested for vehicle use
	b. Sport & Fitness Consumer Products USI design team has successfully launch GPS bike computer for our new customer and wins the trust and acknowledgement. With the experience of entering the GPS bike computer industry successfully, USI has already completed the production capability for wireless sport & fitness consumer products with well-trained hardware and software. Based on achievement that we made previously, USI had won and mass-produced the next generation of GPS bike computer project for our customer successfully in 2022. The target of this year is to not only speed up the development progress to ensure the production schedule being on time, but also expect to accumulate more related design experience. We anticipate winning more ODM projects with above achievements.
	c. New RF Design Platform Build Up Plan We focused on Qualcomm QCM6490 and QCM4290 platform for 5G and 4G

Products and Solutions	Future R&D Plans and Major Reasons of the Success of Future R&D Plans
	product development in 2022 to ensure we are able to catch up the market demands and to possess probable lifecycle to be successful in product development projects and related works. The solution was adopted by our customer for their rugged handheld and wearable devices in 2022.
	<p>d. Commerce Tablet</p> <p>Considering longevity support and low power consumption requirement, we adopt the Intel IOT ApolloLake CPU as a design platform for the product development.</p> <p>In response for customer's requirement to the product, such as payment device support, ≥ 4hrs operation time, battery swapping without shutdown when battery run out and -20°C low temperature operation, Our team is familiar with those requirements and implement related solution to our tablet product to meet customer requirements.</p> <p>The R&D team possesses completed hardware, software and capability of system integration design and experience. The designed product can support various customer's scenarios. The R&D team also provides flexible co-working model to our customers in order to meet various customized requirements.</p>
Consumer Electronics	<p>a. Wearable System Multi-Dies Integrated Packaging Solution</p> <p>To integrate dies with different functions in a single chip and develop production test programs to reduce the size of the part. Hence the system space can be optimized and more functions can be put in a limited space</p>
	<p>b. Wireless Charger Solution for Hearing Aid Devices</p> <p>To provide a high integrated but low power wireless charging solution, basing on Toroid Coil structure to transmit high-integrated magnetic flux to the tiny receiving coil, which embedded in hearing aid devices for contactless battery charging.</p>
	<p>c. Wireless video transmission with real-time pen tracking technology integration</p> <p>Through hardware chipset to perform video encode/decode with firmware algorithm to track pen-point location in real-time.</p>
Car Electronics	<p>a. ECU hardware/software design and development of ASB (Autonomy Safety Module) which applied on autonomous cars</p> <p>Based on the hardware/software design of ASB, we establish hardware architecture which required for autonomous car sensor fusion. And that design allows us to extend and having good knowledge of the customer's new generation hardware architecture, then we develop End-of-line testing program accordingly.</p>
	<p>b. LED Headlamp PCBA design and High accuracy LED position Mounting capability:</p> <p>LED headlamp penetration rate reaches 72% in 2022, of which penetration in new energy vehicles (NEV) exceeding 92%. Developing a matrix LED driver and improving the high accuracy LED position mounting capability are necessary to develop LED headlights. With this capability, there will be more opportunities to win orders.</p>
	<p>c. Process technology development of power module for electric vehicles</p> <p>Automotive power modules are divided into double-sided cooling and single-sided cooling designs. The corresponding development process technology is as follows. In the future, no matter what kind of design that the technologies can fulfill customers requirement.</p> <ol style="list-style-type: none"> Double-sided exposed over molding Cu clipper soldering Vacuum soldering for DBC attach on pin fin baseplate Ag sintering for die attach Ultrasonic metal welding AQG324 qualification for power module

Products and Solutions	Future R&D Plans and Major Reasons of the Success of Future R&D Plans
	d. Automotive eCockpit system module Integrates most of the eCockpit system is features and uses miniaturization technology to reduce development time and improve Quality and Maintainability for car maker
Miniaturization & Automation	<p>a. Miniaturization Technology Development: Develop new equipment and new material, plus simulation result to conduct new process technology implementation.</p> <ul style="list-style-type: none"> i. High efficiency selective sputter technology ii. Wafer in Module out technology iii. 3D solder print technology iv. Introduction of SESUB embedded die substrate in SiP v. Introduction of ABF substrate in SiP vi. Introduction of DB/WB technology in SiP vii. Realization of system integration for SiP & Antenna function viii. New water clean technology after laser cut ix. Inkjet printing for selective shielding x. Non-conductive film coating technology xi. High density SMT component layout technology(30um clearance) xii. Extra thinner stencil for Flux printing of whole strip for high density SMT (substrate with SOP treatment) xiii. Study pre-tape process to do sputtering for module EMI (currently using double-side tape) <p>b. Smart Manufacturing Development:</p> <ul style="list-style-type: none"> i. Make use of Cloud Computing technology, data from sensors and historical data to realize digital twin concept. Moreover, utilize artificial intelligence technologies for optimization and problem solving. ii. Develop Common Platform and Data Automation Modules to fan out to all sites. Expedite to rise up the level of Smart manufacturing factory in Industry.

(2) Expected R&D reinvestment expenditures :

The research and development expenses which are expected to be invested in 2023 is about NT\$5.7 billion.

7.6.4 The changes of domestic and overseas important policies and laws and its impact on the Company's financial operations, and the countermeasures

- 1.For the IFRSs that have been issued by International Accounting Standards Board but not yet endorsed and issued into effect by the Financial Supervisory Commission (FSC), the Company is continuously assessing the possible impact on consolidated financial reports and will complete assessment based on the FSC timeline.
- 2.On May 20, 2023, the Legislative Yuan has passed the third examination of the amendment of partial articles of National Security Act and Act Governing Relations between the People of the Taiwan Area and the Mainland Area. The date of the coming into force of these two acts shall be published and prescribed by the competent authorities. On December 30, 2022, the National Science and Technology Council of the Executive Yuan has announced the draft of Regulations on Determination of National Core Key Technologies and Regulations on Identification of Government Subsidized, Commissioned or Funded National Core Technologies Projects to strengthen the protection of national core key technologies and the control of related projects. This Company has expressed opinions through industrial associations and will continue to follow up and respond to the new laws.
- 3.Customers of this Company's subsidiaries (New H3C Semiconductor Technologies Co., Ltd. and Shanghai Cambricon Information Technology Co., Ltd.) have been successively

added into the Entity List by Bureau of Industry and Security of the U.S. Commerce Department (“BIS”), BIS has further amended Export Administration Regulations on October 7th, 2022, to add new export control measures with respect to semiconductor products or technology that are used for supercomputer in China, or meet the technical parameter of advanced computing. The subsidiaries have conducted necessary control over the product export and internal propaganda to avoid any violation.

7.6.5 Potential Impacts of Disruptive Technology and Industry Change (including Cyber Security) and industry change on Corporate Finance and Business and Their Countermeasures:

- 1.The uncertainty and discontinuity of the global economy are major obstacles challenging the semiconductor industry. ASE Technology Holding Co., Ltd. works with its vendors to develop adaptive measures to meet customer needs and reduce costs and risks; continues to observe market conditions and maintains close communication with its customers to identify changing customer needs; and strengthens the collection and analysis of market information to decrease the impact of changes in product demand on its technologies.
- 2.Competitiveness and time to market are key factors determining the success of new technology R&D. ASE Technology Holding Co., Ltd. has adopted the following measures: fully understanding market trends and dynamic supply and demand information; development of key technology and patents based on market trends and customer product road map of representative customers to ensure its dominant position; and ensuring that new products are compatible with existing production equipment to reduce R&D costs and provide optimal time-to-market solutions
- 3.Development funds and new key equipment play a crucial role in new technology innovation and R&D. ASE Technology Holding Co., Ltd. exercises the following measures: ensuring that new technologies are in line with ASE Technology Holding Co., Ltd.’s prospect for the future; actively forming strategic alliances with customers to facilitate resource sharing and lower R&D risk; regular visits to industry-leading customers; and hosting technical seminars to plan product road maps and specifications with representative customers to ensure that R&D technologies meet customer needs.
- 4.The semiconductor industry has a rapid technology changeover cycle. The Group will collect and analyze market information, and interact closely with customers to understand customer demand and changes. This will enable the Group to complete technology development and commercialize it in time to reduce the impact of technology change on operations.
The semiconductor industry is an industry that fluctuates according to the economic cycle. Any downturn in the economy may cause a negative effect on the industry. The management team of the Group will closely monitor industry changes at all times, and take appropriate preventive measures at the appropriate time to lower the impact of industry changes on company’s operation.
- 5.Facing IT threats and sophisticated hacker attack, the subsidiary SPIL uses the risk evaluation of ISO27001 to identify the IT risks and take relevant preventive measures to reduce the impact on the company’s operation.
- 6.Global information security incidents are frequent, and ransomware is still the most important cyber security threat in 2022. Faced with this threat, we will assess thoroughly the security level of the existing environment and improve the overall information security maturity. In addition to requiring employees to comply with relevant network information security regulations through regular announcements, we further require employees to complete information security awareness education and training courses. Implement email social engineering walkthroughs. The information security team will also pay close attention to various information security incidents at any time, and take relevant preventive measures in a timely manner to reduce the impact of information security risks on the Company's operations.

7.6.6 Potential Impacts of Changes in Corporate Image on Corporate Crisis Management and Their Countermeasures:

For the implementation about the CSR and Corporate Image, please refer to P. 49~55 of this annual report.

7.6.7 Anticipated Benefits and Potential Risks of Mergers and Acquisitions and Their Countermeasures: None.

7.6.8 Anticipated Benefits and Potential Risks of Capacity Expansion and Their Countermeasures:

As the semiconductor industry is encountering the most severe competition and challenges that have ever seen, it is necessary to be prepared for the changing situation. The construction of new factories and the development of production site will continue in order to cope with the future economic recovery and stabilize the market share. The existing production capacity is sufficient for the needs of orders under growth. In order to increase the real rate of return and reduce investment risks, we will fully and effectively utilize the production capacity. For the investment in new equipment, the Company will closely observe the market trends and strengthen its customer relationship to stabilize any changes of the production orders and to ensure the capacity utilization is effective. We will also consider new investments when there is necessity to catch up the market demands.

In addition, as the future of the EMS market looks bright and the customer demands increase, the subsidiaries of the Company will plan for investment in new production capacity and equipment under the principle of having fully utilized the existing production capacity. At the same time, the Company will continue to monitor the actual demands of the market, flexibly adjust its investment so that the real rate of return can be increased and investment risks lowered.

7.6.9 Potential Risks of Concentrated Procurement and Sales, and Countermeasures:

There is no excessive concentration of procurement or sales of products amid the subsidiaries of the Group.

7.6.10 Potential Impacts and Risks of the Sales or Transfers of Significant Numbers of Shares by the Company's Directors, Supervisors, or Major Shareholders Holding More Than 10% of Outstanding Shares and Their Countermeasures: None.

7.6.11 Potential Impacts and Risks of Changes of Management Right and The Countermeasures: None.

7.6.12 Litigations and Non-Litigated Incidents:

1. For the public prosecution filed by the Taiwan Kaohsiung District Prosecutors Office ("KDPO") on August 6th, 2017 accusing Tien Wu, the director and COO of this Company, violated the Securities and Exchange Act, the Taiwan Kaohsiung District Court found Dr. Tien Wu NOT guilty on February 5, 2020. On March 20, 2020, the Taiwan Kaohsiung District Prosecutors Office filed an appeal against the February 5, 2020 judgment, and the appeal was rejected by the Taiwan High Court Kaohsiung Branch Court on June 9, 2021. On July 2, 2021, the Kaohsiung Branch, Taiwan High Prosecutors Office filed another appeal against the June 9 judgment. The Supreme Court of the R.O.C. reversed the June 9 judgment and remanded this case to the Taiwan High Court Kaohsiung Branch Court on January 6, 2022. This matter is now being tried by Taiwan High Court Kaohsiung Branch Court.
2. On October 26th, 2018, the Securities and Futures Investors Protection Center ("SFIPC") filed a lawsuit to the Company and Tien Wu, the director and COO of this Company to dismiss Tien Wu from his duties as a director of this Company pursuant to the Securities Investor and Futures Trader Protection Act. The Taiwan Ciaotou District Court has pronounced its judgment on August 25th, 2020, and SFIPC's claims are all denied. SFIPC filed an appeal against the August 25, 2020 judgment, and the appeal was rejected

by the Taiwan High Court Kaohsiung Branch Court on September 29th, 2021. On October 20, 2021, SFIPC has filed another appeal against the September 29 judgment. The Supreme Court of the R.O.C. reversed the September 29 judgment and remanded this case to the Taiwan High Court Kaohsiung Branch Court on May 31, 2022; this case is being tried by Taiwan High Court Kaohsiung Branch Court.

3. On July 2nd, 2021, pursuant to the Securities Investor and Futures Trader Protection Act, SFIPC on behalf of investors filed a class action to request Tien Wu, the director and COO of this Company, and other three defendants of abovementioned criminal proceeding to be liable for the damages of the investors. The Intellectual Property and Commercial Court of the R.O.C has pronounced its judgment on August 25, 2022. SFIPC as well as all the defendants have filed another appeal against the August 25 judgment. This matter is now being tried by The Supreme Court of the R.O.C.

7.6.13 Other Material Risks and Countermeasures :

Risk Management Organizational Framework

To ensure prompt identification, evaluation and mitigation of internal and external operational risks, and to effectively prevent the risks and lower the losses, ASEH's Board of Directors has appointed two independent directors and one committee member to serve on the Risk Management Committee established by the Board which also approved the Risk Management Committee Charter. As the highest-level decision-making unit in risk management for the Company, the Board of Directors reviews key risk decisions based on the Company's strategies and the business landscape. The Risk Management Committee is responsible for overseeing the Company's overall risk management; implementing policies approved by the Board; coordinating and facilitating interdepartmental risk plans; supervising and managing overall risk controls and remedial mechanisms of the Company and its subsidiaries; and reviewing and consolidating various risk control reports. The committee files reports to the Board of Directors on a yearly basis, provides the Board timely updates on implementation status and, provides recommendations for improvements. Under the circumstances of continuous risk occurrence, to ensure the company has the capability of adopting effective measures of emerging risk management, continuing the company's operation without interruption and fulfilling the sustainable development goals, Dr. Dtuang Wang, Group Chief Administration Officer and member of the Risk Management Committee, was appointed by the company as the Chief Risk Officer of ASE Holding in 2021 in order to manage the overall risk events effectively and integrate the Risk Management Committee with each subsidiary's risk management ability.

Each of the Company's subsidiaries are also required to establish a risk management unit that is responsible for the subsidiary's overall risk management and is accountable to the Company's Risk Management Committee. The Company has established preventive, early warning, contingency, crisis management and business continuity plans to mitigate, redirect and avoid risks. Our robust risk management plans enable us to effectively manage and control various risk scenarios.

The Company's risk management process is as follows: First, risks are identified at the enterprise and operation levels and recorded accordingly in the Risk Register. Next, key risks are evaluated according to their respective risk levels and control effectiveness, and built into a risk map. In addition, Correlation Analysis is used to determine the degree of correlation between primary risk factors and enable the further development of mitigation plans where necessary. Key risks are reported to the senior management along with the response plan, and progress is regularly monitored.

Risk Management Policies and Procedures

To comply with the "Risk Management Best Practice Principles for TWSE Listed Companies" adopted by Taiwan Stock Exchange Corporation ("TWSE"), the amended Risk Management Policies and Procedures was approved by the Board of Directors as the

ultimate guiding principles and regulatory compliance for the Company's risk management on December 15, 2022. The Company shall build a risk aware organization, and incorporate risk considerations into its business strategies and organizational culture. The company shall also assess risks annually and draft plans for key risks that cover management goals, organizational structure, ownership and risk management procedures. Such plans shall be duly implemented to identify, measure, monitor and control the Company's various risks effectively, as well as to ensure that risks arising from business activities are kept within an acceptable range.

Risk Identification and Management

The Company adopts both top-down and bottom-up risk management to strengthen the connection between senior management and various departments, and ensure the reasonable management of group-level risks. Key risks identified by the senior management are submitted to the respective units responsible for review and evaluation, thereby transforming corporate risk management into actions that effectively enhance overall organizational decision-making.

The Company conducts a comprehensive evaluation on the probability and impact of various risks faced during the ordinary course of business, and takes appropriate measures to continuously improve and reduce corporate risks. The Company's business operation risks can be roughly categorized into operational risks, strategic risks, market risks, compliance risks, working risks, information security risks, environmental risks, climate change risks, financial risks and other risks associated with business operation. In order to ensure that all risks are kept within an acceptable range, the Company aggregates and establishes management indicators for each risk category, which shall be regularly monitored by the respective business units.

The Company identifies and evaluates risks and events that may impact business objectives, and determines appropriate response measures. The Company also incorporates the identification and management of emerging risks into its corporate risk management plan.

Emerging Risks

In 2022, the Company's top management recognized the key risks, including information security, geopolitics, energy management and alternative energy, key talent recruitment and retention, Advanced Packaging Technologies research and development, succession planning, and so on. The Company classified information security, energy management and alternative energy, geopolitics as the emerging risk after observation and evaluation. The Company considers the emerging risks to be long-term and increasing impacts for our operation; hence, the Company has requested all subsidiaries to do comprehensive discussion and evaluation and to adopt proper risks management measures for reducing and transferring risks.

In the aspect of information security risk management, the Company has structured the information security risk management which covers the establishment of information security policy, the establishment of information security management group under the corporate governance team of the Corporate Sustainability Committee, the periodic review on status of information security management and strategies and the regular report to the Board.

Company has strengthened defense deployment in the early stage of identification, protection and detection of information security management, including budgets in preparing information security and improving product efficiency, and arranged education and training to sharpen technical capabilities; in the middle and later stages of response and recovery phase, the contingency mechanism is strengthened and disaster recovery drills are implemented on a regular basis to ensure that the Company is enabled to exert its resilience at critical moments and maintain the operation of the information system without interruption. Additionally, the coverage rate of ISO27001 in various factories worldwide will be further improved, and the information security standard education and training of

IEC62443 industrial automation and control systems will be introduced to improve the protection capability. The Company's CSC Information Security management committee invited the information security teams of all subsidiaries to form an information security platform where each team set up information security incident level and risk notification mechanism, it also strengthened the information security protection of each subsidiary through the integration of the information security platform and appointed information security manufacturers to visit each subsidiary to conduct operational technology information security health inspections to implement the information security risks control. In response to information security risks that have brought severe tests and challenges to enterprises, the Company, in 2022, took information security insurance as a protection method, which covered the Company and all subsidiaries, expecting to respond to and control the impact of hacking in the event of an information security incident and minimize possible information security losses to itself, its customers and suppliers.

In the aspect of energy management and alternative energy risks, the Company and all subsidiaries had established the renewable energy platform, some of which installed solar photovoltaic to adapt to global net zero goals and energy conservation. Besides, the Company actively purchased both renewable energy in Taiwan and renewable energy certificates overseas. In Taiwan, the enquiry about procurement of round 3 offshore wind had been processing. It's aiming at enhancing the proportion of energy conservation further for conforming to Taiwan major electricity consumer clause, requirement from customers and sustainable goals, advancing toward the net zero future.

For geopolitical risks, in addition to the expanse of China-United States trade, Russia invaded Ukraine in February of 2022, there was no significant impact on the Company after assessment. However, the short-term operating costs had been increased due to the oil price fluctuations, but the risks were still controllable. Moreover, China conducted military exercises around the Taiwan Strait in August of 2022. While the military exercises were conducting, some deliveries were affected due to changes in some flights, but there was no risk was caused after the coordination with customers.

For key talent, as confronting the situation of domestic and foreign companies recruiting talents massively, the Company has established a comprehensive talent database and a robust talent management system to effectively attract, identify, develop and retain key talent. The Company carefully evaluates and manages risks such as employee job rotations and turnover rates. The Company continuously retains key talent through measures that is superior to the regulation.

As the Covid-19 pandemic was calm in 2022, but it continuously evolved, the Company's medical-grade mask manufacturing facility continued to work and provided these masks free of charge to the Company's and its subsidiaries' employees. In addition, at the increase of COVID-19 pandemic, the Company also provided rapid test to ensure the health of employees, customers and manufacturers and also to ensure that production will not be interrupted due to the epidemic.

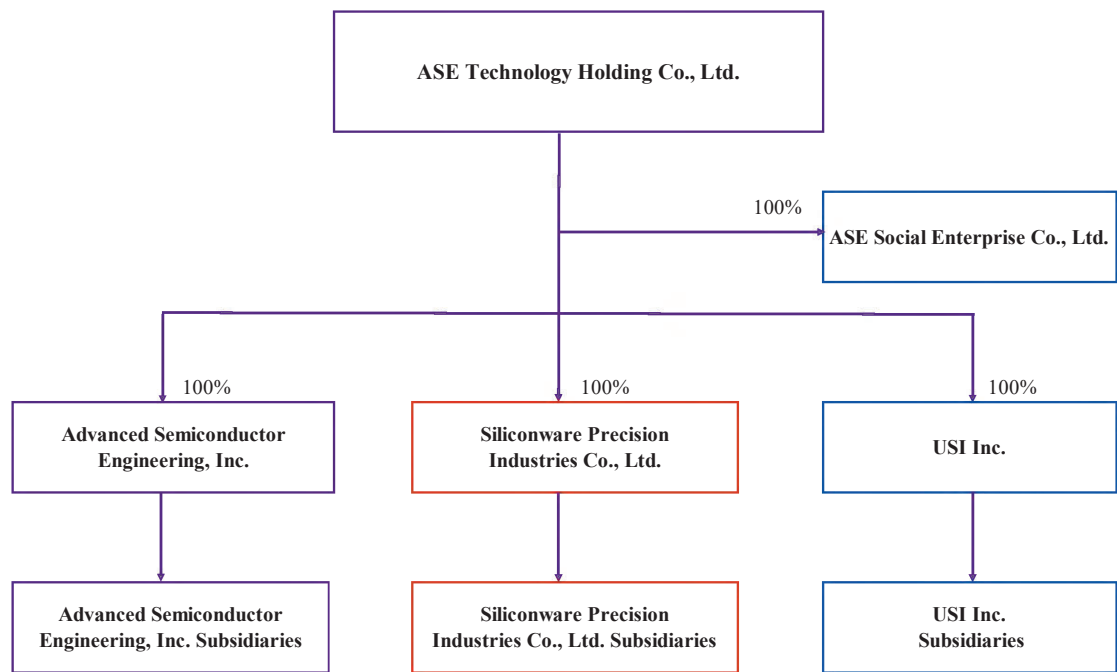
7.7 Additional Information: None

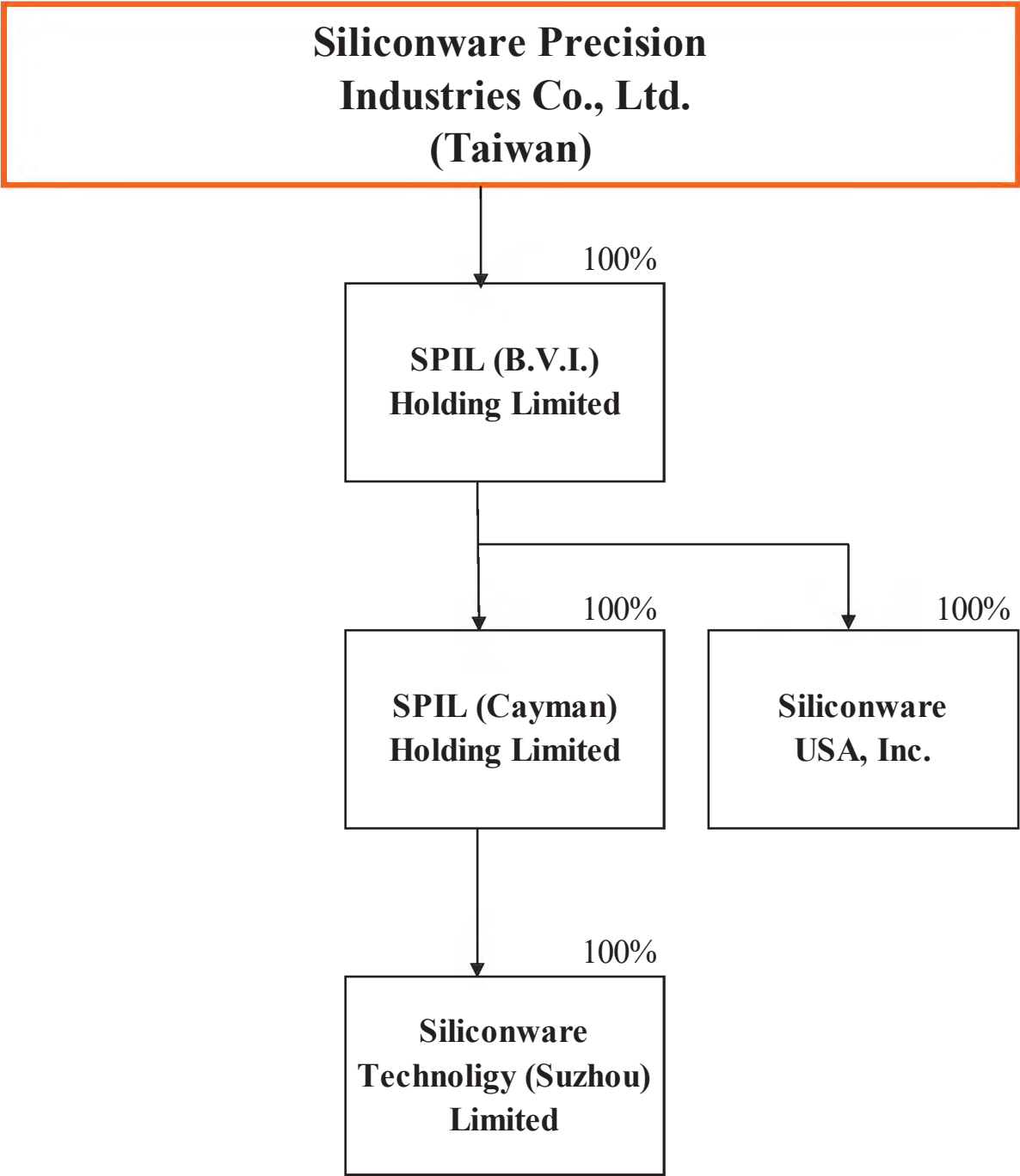
VIII. Special Disclosures

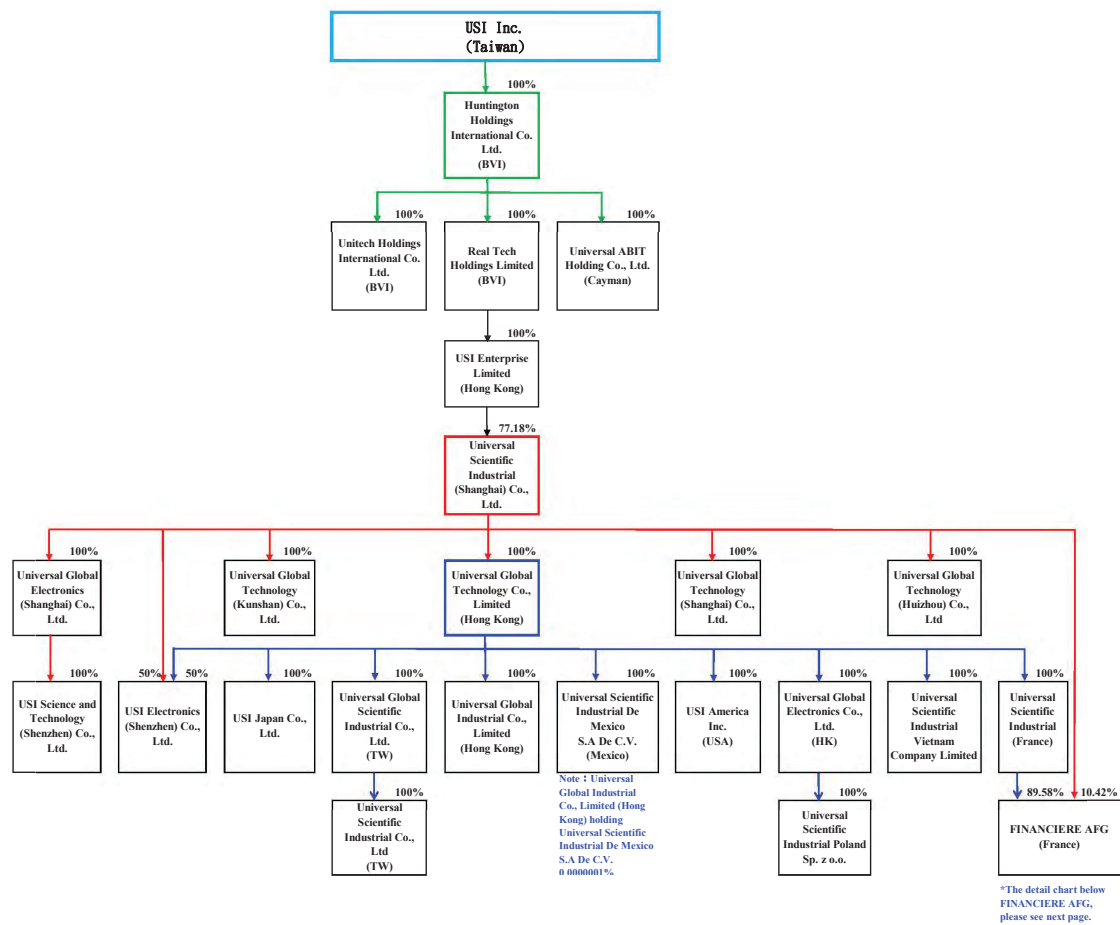
8.1 Chart of affiliated businesses

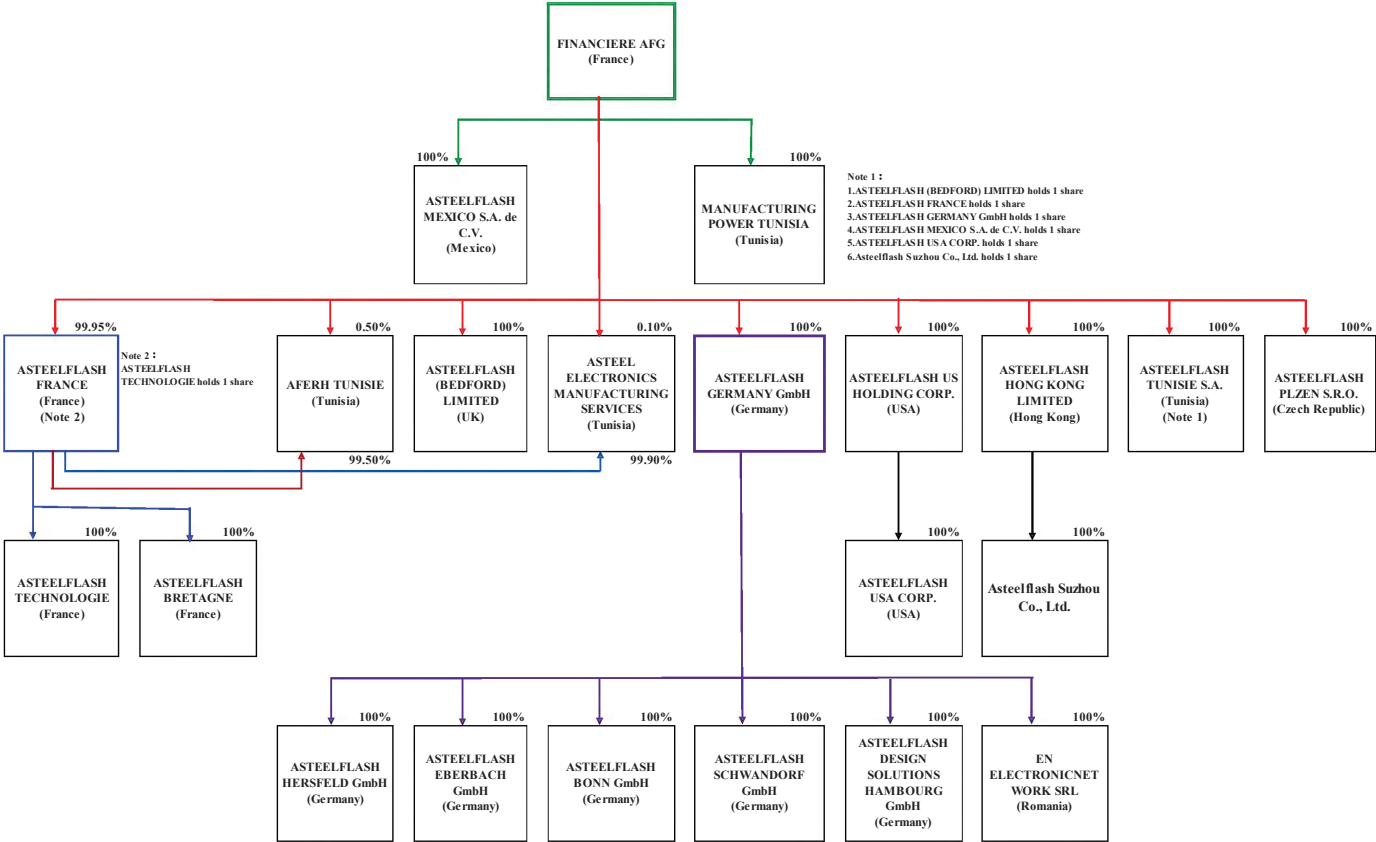
8.1.1 Affiliated Organizational Chart

(2022.12.31)









8.1.2 List of Affiliated Companies

Units: NTD in thousands

Company	Date of Incorporation	Address	Share Capital (in thousands)	Business Activities
ASE Technology Holding Co., Ltd.	Apr. 2018	No. 26, Jinshan Road, Nanzhi Export Processing Zone, Kaohsiung City	NT\$43,679,841	Professional investment
Advanced Semiconductor Engineering, Inc.	Mar. 1984	No. 26, Jinshan Road, Nanzhi Export Processing Zone, Kaohsiung City	NT\$59,941,438	Manufacturing, assembly, processing, testing, and sales of integrated circuits
Siliconware Precision Industries Co., Ltd.	May 1984	No. 123, Sec. 3, Da Fong Rd., Tantz, Taichung 427, Taiwan, R.O.C.	NT\$37,857,489	Manufacturing, assembly, processing, testing, and sales of integrated circuits
USI Inc.	Apr. 2015	No. 141, Alley 351, Taiping Road Sec. 1, Caotun Township, Nantou County	NT\$29,267,356	Professional investment activities
ASE Social Enterprise Co., Ltd.	Jun. 2022	No. 26, Jinshan Road, Nanzhi Export Processing Zone, Kaohsiung City	NT\$50,000	Engaged in social services
J&R Holding Limited	Dec. 1995	Victoria Place, 5th Floor 31 Victoria Street Hamilton HM, Bermuda	US\$235,128	Professional investment
A.S.E. Holding Limited	Feb. 1990	Victoria Place, 5th Floor 31 Victoria Street Hamilton HM, Bermuda	US\$228,966	Professional investment
Innosource Limited	Jun. 2001	Wickhams Cay II, Road Town, Tortola, VG1110, British Virgin Islands	US\$86,100	Professional investment
Omniquest Industrial Limited	Sep. 2000	Wickhams Cay II, Road Town, Tortola, VG1110, British Virgin Islands	US\$358,804	Professional investment
ASE Marketing & Service Japan Co., Ltd.	Nov. 2003	Sumitomo Fudosan Shinyokohama Bldg., 10F, 2-5-5, Shinyokohama, Kohoku-ku, Yokohama, Kanagawa, Japan 222-0033	JPY60,000	Marketing and customer service
Advanced Microelectronic Products Inc.	Jun. 1987	18, R&D Rd. 2, Science-based Industrial Park	NT\$1,095,364	Wafer Integrated Circuit Foundry
ASE Test Inc.	Dec. 1987	No. 10, West 5th Street, Nanzhi Export Processing Zone, Kaohsiung City	NT\$11,314,525	Semiconductor testing services
Lu-Chu Development Corporation	Dec. 2004	19F., No. 333, Keelung Road Sec. 1, Xinyi District, Taipei City	NT\$2,163,282	Real estate development
TLJ Intertech Inc.	Dec. 2000	5F., No. 475, Guangfu South Road, Xinyi District, Taipei City	NT\$35,318	Information software services
Alto Enterprises Limited	Mar. 2010	Wickhams Cay II, Road Town, Tortola, VG1110, British Virgin Islands	US\$188,000	Professional investment activities
Super Zone Holdings Limited	Jun. 2008	1408 World-Wide House,19 Des Voeux Road Central, Hong Kong	US\$100,000	Professional investment activities
ASE Investment (KunShan) Limited	May 2012	Room 2, No. 497, Huangpu Road, Qiandeng Town, Kunshan City, Jiangsu Province	CNY762,584	Professional investment activities
Advanced Semiconductor Engineering (China) Ltd.	Jul. 2010	Room T3-10-202, No. 5001, Huadong Road, Pudong New Area, Shanghai City	CNY665,973	Semiconductor assembly and testing, after sales service, consulting service and plant leasing
ASE Investment (Labuan) Inc.	Jun. 1999	Lot 2 & 3, Level 3, Wisma Lazenda, Jalan Kemajuan, 87000 Labuan, F.T. Labuan, Malaysia	US\$241,947	Professional investment
ASE Test Limited	Dec. 1995	1 Marina Boulevard #28-00 One Marina Boulevard, Singapore (018989)	US\$451,874	Professional investment
ASE (Korea) Inc.	Mar. 1967	76, Saneopdanji-gil, Paju-si, Gyeonggi-do, Korea	US\$97,976	Semiconductor assembly and testing services
J&R Industrial Inc.	Apr. 1999	No. 107, Neihuan North Road, Nanzhi Export Processing Zone, Kaohsiung City	NT\$42,074	Leasing and investment
ASE Japan Co., Ltd.	May 2004	1863,Iryuda,Takahata-machi, Higashiokitama-gun,Yamagata, 992-0324,Japan	JPY100,000	Semiconductor assembly and testing services

Company	Date of Incorporation	Address	Share Capital (in thousands)	Business Activities
ASE (U.S.) Inc.	Dec. 1983	1255 E. Arques Ave. Sunnyvale, CA 94085, USA	US\$20	Marketing and customer service
Global Advanced Packaging Technology Limited	Oct. 2000	PO Box 309, Ugland House, Grand Cayman, KY1-1104 Cayman Islands	US\$376,041	Professional investment
ASE (Shanghai) Inc.	Dec. 2001	No. 2300, Jinke Road, Zhangjiang Hi-Tech Park, Shanghai	CNY1,174,568	LED manufacturing, diode display manufacturing, and printed circuit board production and sales
ASE Corporation	Mar. 2006	PO Box 309, Ugland House, Grand Cayman, KY1-1104 Cayman Islands	US\$356,284	Professional investment
ASE Mauritius Inc.	Apr. 2006	Ebene Esplanade, 24 Cybercity, Ebene, Mauritius	US\$217,800	Professional investment
ASE Labuan Inc.	Mar. 2006	Lot 2 & 3, Level 3, Wisma Lazenda, Jalan Kemajuan, 87000 Labuan, F.T. Labuan, Malaysia	US\$126,184	Professional investment
Shanghai Ding Hui Real Estate Development Co., Ltd.	Aug. 2005	Room 602A-04, Building 2., No. 351, Guoshoujing Road, Pudong New Area, Shanghai City	CNY3,600,000	Real estate project development, property management
Shanghai Ding Qi Property Management Co., Ltd.	Jan. 2015	Room B9-03-2, Part 01, 9th Floor, No. 33, Caobao Road, Xuhui District, Shanghai City	CNY1,000	Real estate brokerage, property management
Advanced Semiconductor Engineering (HK) Limited	Apr. 2008	RMS 2702-3 ,27/F Bank of EAST ASIA Harbor view Centre, 56 Gloucester RD, Wan Chai ,HK	US\$1,000	Trading activities
Shanghai Ding Wei Real Estate Development Co., Ltd.	Oct. 2009	No. 33, Caobao Road, Xuhui District, Shanghai City	CNY1,798,000	Property management, parking lot operation and leasing of real estate properties
Shanghai Ding Yu Real Estate Development Co., Ltd.	Mar. 2010	No. 1933, Hutai Road, Baoshan District, Shanghai City	CNY1,100,000	Property management, parking lot operation and leasing of real estate properties
Shanghai Ding Fan Business Management Co., Ltd.	Jul. 2016	Room B9-03-1, Part 01, 9th Floor, No. 33, Caobao Road, Xuhui District, Shanghai City	CNY2,000	Commercial complex management services and department store trading
KunShan Ding Hong Real Estate Development Co., Ltd.	Feb. 2012	Room 2, No. 25, Shengxiang South Road, Qiandeng Town, Kunshan City, Jiangsu Province	CNY670,000	Real estate development and management, property management
Shanghai Ding Xu Property Management Co., Ltd.	Jun. 2017	Room 750, Building 1, No. 1658, Zhang Dong Road, No. 169 Shengxia Road, Pilot Free Trade Zone, Shanghai	CNY5,000	Property management and real estate brokerage and other businesses
Shanghai Dingyao Estate Development Co., Ltd.	Jul. 2016	C-400, 4th Floor, No. 1933, Hutai Road, Baoshan District, Shanghai City	CNY10,000	Property management
ASE Electronics Inc.	Mar. 2006	No. 73, Kaifa Road, Nanzhi Export Processing Zone, Kaohsiung City	NT\$3,989,819	Electronic materials wholesale, electronic materials retail, international trade
ASE Test Holdings, Ltd.	Apr. 1999	PO Box 309, Ugland House, Grand Cayman, KY1-1104 Cayman Islands	US\$0.005	Professional investment
ASE Holdings (Singapore) Pte Ltd	Dec. 1994	1 Harbourfront Avenue, #14-07 Keppel Bay Tower, Singapore 098632	SG\$71,429	Professional investment
ASE Singapore Pte. Ltd.	Feb. 1998	2 Woodlands Loop Singapore 738074	US\$30,056	Semiconductor assembly and testing services
ISE Labs, Inc.	Nov. 1983	46800 Bayside Parkway Fremont, CA94538, U.S.A	US\$26	Semiconductor testing services
ISE Services, Inc.	Apr. 2014	1209 Orange Street, Wilmington, County of New Castle, Delaware 19801	US\$0.001	Wafer procurement and customer product management services and commenced operations
ASE Electronics (M) Sdn. Bhd.	Feb. 1991	Plot 20, Phase IV, Bayan Lepas Free Industrial Zone, 11900 Bayan Lepas, Penang	US\$62,260	Semiconductor assembly and testing services
ASE Assembly & Test (Shanghai) Limited	Dec. 2000	6F, Building 10, No. 1658, Zhang Dong Road, No. 169 Shengxia Road, Pilot Free Trade Zone, Shanghai	CNY771,667	Semiconductor assembly and testing services
ISE labs, China. Ltd.	Oct. 2018	Room 309, Building 1, No. 1658, Zhang Dong Road, No. 169 Shengxia	CNY100,000	Semiconductor testing services

Company	Date of Incorporation	Address	Share Capital (in thousands)	Business Activities
		Road, Pilot Free Trade Zone, Shanghai		
Wuxi Tongzhi Microelectronics Co., Ltd.	Mar. 2010	Plant 29-B, Parcel No. 52, No. 21, Mingjiang Road, New District, Wuxi City, Jiangsu Province	CNY73,461	Semiconductor assembly and testing services
SPIL(B.V.I.) Holding Limited	Dec. 2000	Flemming House, Wickhams Cay, P.O. Box 662, Road Town, Tortola, British Virgin Islands	US\$199,400	Professional investment
Siliconware USA, Inc.	Mar. 1996	1735 Technology Drive, #300, San Jose, CA 95110, USA.	US\$1,250	Marketing services in North America
SPIL(Cayman) Holding Ltd.	Jan. 2002	89 Nexus Way, Camana Bay, Grand Cayman, KY1-1205 Cayman Islands	US\$201,200	Professional investment
Siliconware Technology (Suzhou) Limited	Dec. 2001	288 Fengli Street, Suzhou Industrial Park, Suzhou, Jiangsu, China	US\$248,816	Assembly and testing services
Huntington Holdings International Co. Ltd.	Oct. 1996	P.O. Box 4342, Road Town, Tortola, B.V. I.	US\$255,857	Holding company
Unitech Holdings International Co. Ltd.	Oct. 1996	P.O. Box 4342, Road Town, Tortola, B.V. I.	US\$3,000	Holding company
Real Tech Holdings Limited	Mar. 2000	Portcullis Chambers, 4th Floor, Ellen Skelton Building, 3076 Sir Francis Drake Highway, Road Town, Tortola, British Virgin Islands VG1110	US\$149,151	Holding company
Universal ABIT Holding Co., Ltd.	Feb. 2006	The Grand Pavilion Commercial Centre, Oleander Way, 802 West Bay Road, P. O. Box 32052, Grand Cayman, KY1-1208, Cayman Islands	US\$28,125	Holding company
USI Enterprise Limited	Nov. 2007	Unit A, 7/F., Yuen Long Hi Tech Centre, 11 Wang Yip Street West, Yuen Long, New Territories	US\$210,900	Investment consulting and warehousing management services
Universal Scientific Industrial (Shanghai) Co., Ltd.	Jan. 2003	No. 1558, Zhang Dong Road, Zhangjiang Hi-Tech Park, Pudong New Area, Shanghai City	CNY2,206,864	Electronic product design and manufacturing services, production and processing of new electronic components, high-performance motherboards and wireless network communication components
Universal Global Technology Co., Limited	Mar. 2008	Unit A, 7/F., Yuen Long Hi Tech Centre, 11 Wang Yip Street West, Yuen Long, New Territories	USD410,000	Holding company
Universal Global Technology (Kunshan) Co., Ltd.	Aug. 2011	Building 4, No. 497, Huangpu Road, Qiangeng Town, Kunshan City, Jiangsu Province	CNY550,000	Electronic product design and manufacturing services
Universal Global Technology (Shanghai) Co., Ltd.	Sep. 2013	No 501, Longgui Road, Jinqiao Export Processing Zone, Pudong New Area, Shanghai City	CNY1,330,000	Research, development, and manufacturing of electronic products; processing and maintenance of new electronic components, high-performance motherboards, wireless network communication components, mobile communication products and modules, and spare parts; sales of electronic products, communication products, and spare parts; third-party logistics services; import and export of goods and technology
Universal Global Electronics (Shanghai) Co., Ltd.	May. 2014	1st Floor, Building 1, No. 1558 Zhang Dong Road, China (Shanghai) Pilot Free Trade Zone	CNY50,000	Sales of electronic components, computer hardware and software, communication equipment, and accessories; third-party logistics services; industrial investment; import and export of goods and technology; transit trade; business-to-business trade within the trade zone, and trade agency
Universal Global Industrial Co., Limited	Oct. 2009	Rooms 2702-3, 27th Floor, Bank of East Asia Harbour View Centre, 56 Gloucester Road, Wan Chai, Hong Kong	US\$11,000	Trade and investment holding company

Company	Date of Incorporation	Address	Share Capital (in thousands)	Business Activities
Universal Global Scientific Industrial Co., Ltd.	Dec. 2009	No. 141, Alley 351, Taiping Road Sec. 1, Caotun Township, Nantou County	NT\$1,980,000	Manufacturing of components of telecomm and cars and provision of related R&D services
USI America Inc.	Oct. 2000	1255 East Arques Avenue Sunnyvale, CA 94085	US\$9,500	Manufacturing and processing of motherboards and wireless network communication and provision of related technical service
Universal Scientific Industrial De Mexico S.A. De C.V.	Sep. 1997	Anillo Periferico Manuel Gomez Morin 656 Jardines Santa Isabel CP44300, Guadalajara, Jalisco, Mexico	US\$63,963	Motherboard and computer system assembly
USI Japan Co., Ltd.	Mar. 2000	Sumitomo Fudosan Shin-yokohama Bldg. 10F 2-5-5. Shin-yokohama, Kouhoku-ku, Yokohama, Japan	JPY95,000	Manufacturing and sales of computer peripherals, integrated chip and other related accessoriests
USI Electronics (Shenzhen) Co., Ltd.	Jul. 2000	Huanxi Electronics Park, No. 9028, Beihuan Boulevard, Xili Street Hi-Tech Park North Area, Nanshan District, Shenzhen City, Guangdong Province	CNY585,624	Design, manufacture, and sales of products of computer motherboards, other related computer peripherals, and communication industrial control
Universal Global Electronics Co., Ltd.	Dec. 2017	Rooms 2702-3, 27th Floor, Bank of East Asia Harbour View Centre, 56 Gloucester Road, Wan Chai, Hong Kong	US\$51,000	Accepting and outsourcing orders as well as sales of electronic components and service of technical advisory
Universal Scientific Industrial Co., Ltd	Feb. 1974	No. 141, Alley 351, Taiping Road Sec. 1, Caotun Township, Nantou County	NT\$1,399,727	Manufacturing, processing and sales of computers, computer peripherals and related accessories
Universal Scientific Industrial (France)	Aug. 2019	95 rue La Boétie 75008 Paris	EUR321,375	Holding company
Universal Global Technology (Huizhou) Co., Ltd	Apr. 2019	8th Floor, Innovation Building, No. 1, Keji Road, Petrochemical Avenue, Daya Bay, Huizhou	CNY800,000	R & D and production of new electronic components, communications, computers and other electronic products, engaged in electronic products maintenance testing and import and export supporting services
Universal Scientific Industrial Poland Sp. z o.o.	Jul. 2007	Biskupice Podgórne, ul. Innowacyjna 455-040 Kobierzyce Poland	PNL80,852	Provide electronic product design and manufacturing services, production and processing of new electronic components, etc.
Universal Scientific Industrial Vietnam Company Limited	Jun. 2020	Land plot CN4.1H, Dinh Vu Industrial Zone, Dinh Vu – Cat Hai Economic Zone, Dong Hai 2 Ward, Hai An District, Haiphong City, Vietnam	US\$100,000	Engaged in IC assembly for wearable devices
USI Science and Technology (Shenzhen) Co., Ltd.	Sep. 2020	101 USI Electronics Park, North Of High-Tech Zone,Beihuan Boulevard,Songpingshan Community, Xili, Nanshan District, ShenZhen	CNY15,000	Design of electronic components, service of technical advisory; wholesale of electronic components and communication peripherals as well as business in import and export of goods and management of properties.
FINANCIERE AFG	Mar. 2014	6 rue Van Gogh 93360 NEUILLY PLAISANCE	EUR183,650	Holding company
ASTEELFLASH (BEDFORD) LIMITED	May 1987	Units 1 & 2, St Martins Business Centre ST Martins Road Bedford, Bedfordshire MK42 0LF	GBP53	Design, and production of electronic products
ASTEELFLASH FRANCE	Feb. 1999	6 rue Van Gogh 93360 NEUILLY PLAISANCE	EUR11,858	Design, and production of electronic products
ASTEELFLASH TUNISIE S.A.	Dec. 2010	104 avenue de l'UMA 2045 La Soukra	EUR8,272	Design, and production of electronic products
ASTEELFLASH HONG KONG LIMITED	Dec. 2004	9/F TUNG NING BLDG 249-253 DES VOEUX RD CENTRAL HK	HK\$145,220	Holding company
ASTEELFLASH MEXICO S.A. de C.V.	Dec. 2011	Av. Produccion 5-B Parque Industrial FINSA - Tijuana B.C.N	MXN100	Design, and production of electronic products
ASTEELFLASH GERMANY GmbH	Apr. 2013	Konrad-Zuse-Straße 19-21 36251 Bad Hersfeld	EUR1,000	Design, and production of electronic products
MANUFACTURING POWER TUNISIA	Feb. 2006	104 avenue de l'UMA 2045 La Soukra	EUR4	Design, and production of electronic products

Company	Date of Incorporation	Address	Share Capital (in thousands)	Business Activities
ASTEELFLASH US HOLDING CORP.	Sep. 2011	1679 S. Dupont Highway, Suite 100, City of Dover, County of Kent, Delaware 19901	US\$16,509	Holding company
ASTEELFLASH TECHNOLOGIE	Jan. 2005	Rue de Gatel ZI Nord BP26 61250 VALFRAMBERT	EUR3,150	Design, manufacture and processing of plastic injection and industrial components
ASTEELFLASH BRETAGNE	Jun. 2002	Zone Industrielle de Lannugat 29100 Douarnenez	EUR38	Design, and production of electronic products
ASTEEL ELECTRONICS MANUFACTURING SERVICES	Dec. 2007	Elisant domicile à Rue des fonderies Megrine Riadh Ben Arous	TND20	Design, and production of electronic products
AFERH TUNISIE	Oct. 2008	Nahj Al-Mashabak, P.O. headquarters, Riyadh, 2014, Ben Arous	TND20	Organization and human resources management, training and consulting
ASTEELFLASH SUZHOU CO., LTD.	Feb. 2002	No. 2 Gutang road, Wedz, Wujiang city, SUZHOU, JIANGSU	US\$18,000	Design, and production of electronic products
ASTEELFLASH HERSFELD GmbH	Sep. 1995	Konrad-Zuse-Straße 19-21 36251 Bad Hersfeld	EUR5,034	Design, and production of electronic products
ASTEELFLASH EBERBACH GmbH	Jan. 2002	Neuer Weg-Nord 49 69412 Eberbach	EUR1,225	Design, and production of electronic products
ASTEELFLASH BONN GmbH	Mar. 2005	Allerstrasse 31 53332 Bornheim - Hersel	EUR500	Design, and production of electronic products
ASTEELFLASH SCHWANDORF GmbH	Dec. 2016	Allerstraße 31, 53332 Bornheim. Germany	EUR25	Design, and production of electronic products
ASTEELFLASH DESIGN SOLUTIONS HAMBOURG GmbH	Sep. 1997	Meiendorfer Straße 205 22145 Hamburg	EUR128	Design, and production of electronic products
ASTEELFLASH PLZEN S.R.O.	Apr. 2011	Building BP 8, industrial complex of City park Plzen, cadastral area Skvrmany	EUR5,017	Design, and production of electronic products
EN ELECTRONICNETWORK SRL	Sep. 2012	Municipiul Oradea, Strada REPUBLICII, Nr. 10/A, Etaj 1, Ap. 8, Judet Bihor	RON0.2	Design, and production of electronic products
ASTEELFLASH USA CORP.	Nov. 2011	4211 Starboard Drive CA 94538	US\$21,465	Design, and production of electronic products
Integrated Solutions Enterprise Europe	Jul. 2005	Rue de la Fauvette 1 1180 Uccle	EUR12	Trading activities
ASE Technology Partners, Limited	Jul. 2021	PO Box 309, Ugland House, Grand Cayman, KY1-1104 Cayman Islands	US\$430	Professional investment
ASE Technology Acquisition Corporation	Jul. 2021	PO Box 309, Ugland House, Grand Cayman, KY1-1104 Cayman Islands	US\$0.575	Professional investment

8.1.3 Shareholders in Common of the Company and Its Affiliates with Deemed Control and Subordination: None

8.1.4 Business Scope of the Company and its Affiliates:

1. The Company's affiliates are involved in electronics manufacturing, electronics services, investment, leasing, and construction.
2. The Group has long been focused on providing wide an complete assembly and testing services for semiconductor clients, including front-end engineering test, wafer probing and back-end test for packaging material and performance testing. In addition, customers can obtain complete electronics manufacturing service solutions through the Group's subsidiary Universal Scientific Industrial Co., Ltd.
3. In general, the operations of the Company's affiliates are interrelated. Division of labor is achieved through the mutual support of technology and production capacity, marketing and services, therefore the Company is able to perform at the maximum competitiveness and greatest efficiency, and stand still and strongly at the leading position in the industry.

8.1.5 List of Directors, Supervisors, and Presidents of the Company’s affiliates

Company	Title	Name or Representative	Shareholding	
			Shares	%
ASE Technology Holding Co., Ltd	Director	A.S.E. Enterprises Limited	684,327,886	15.66%
	Chairman	Jason C.S. Chang	—	—
	Vice Chairman and General Manager	Richard H. P. Chang	—	—
	Director (representative)	Chi-Wen Tsai	—	—
	Director (representative)	Tien Wu	—	—
	Director (representative)	Joseph Tung	—	—
	Director (representative)	Raymond Lo	—	—
	Director (representative)	TS Chen	—	—
	Director (representative)	Jeffrey Chen	—	—
	Director (representative)	Yen-Chun Chang	—	—
	Director	Rutherford Chang	1,577,647	0.04%
	Independent Director	Sheng-Fu You	—	—
	Independent Director	Mei-Yueh Ho	—	—
	Independent Director	Philip Wen-Chyi Ong	—	—
Advanced Semiconductor Engineering, Inc.	Director and Supervisor	ASE Technology Holding Co., Ltd.	5,994,143,764	100%
	Chairman	Jason C.S. Chang	—	—
	Vice Chairman	Andrew Tang	—	—
	Director (representative)	Rutherford Chang	—	—
	Director (representative)	Raymond Lo	—	—
	Director (representative)	TS Chen	—	—
	Director (representative)	Jeffrey Chen	—	—
	Director (representative)	Jerry Chang	—	—
	Director (representative)	Dtuang Wang	—	—
	Director (representative)	Alan Li	—	—
	Supervisor (representative)	Danielle Chang	—	—
	Supervisor (representative)	Chia-Pay Chu	—	—
	Supervisor (representative)	Chun-Che Lee	—	—
Siliconware Precision Industries Co., Ltd.	Director and Supervisor	ASE Technology Holding Co., Ltd	3,785,748,878	100%
	Chairman	Chi-Wen Tsai	—	—
	Vice Chairman	Yen-Chun Chang	—	—
	Director (representative)	Kun-Yi Chien	—	—
	Director (representative)	Chi Pin Chang	—	—
	Director (representative)	River Gu	—	—
	Director (representative)	David Tseng	—	—
	Director (representative)	Michael Chang	—	—
	Director (representative)	Ming-Shan Chang	—	—
	Director (representative)	John Yu	—	—
	Supervisor (representative)	Ching-Yu Hsu	—	—
	Supervisor (representative)	Patrick Lin	—	—
USI Inc.	Director and Supervisor	ASE Technology Holding Co., Ltd	2,926,735,620	100%
	Chairman	Jeffrey Chen	—	—
	Director (representative)	Tien Wu	—	—
	Director (representative)	Chen-Yen Wei	—	—
	Director (representative)	Rutherford Chang	—	—
	Director (representative)	Jerry Chang	—	—
	Director (representative)	David Pan	—	—
	Director (representative)	Alan Li	—	—
	Director (representative)	Chen-Lung Wei	—	—
	Director (representative)	Meng-Kuo Shih	—	—
	Supervisor (representative)	Andrew Tang	—	—
	Supervisor (representative)	Hsu-Chun Yu	—	—

Company	Title	Name or Representative	Shareholding	
			Shares	%
	Supervisor (representative)	Wen-Hsiang Chien	—	—
	Supervisor (representative)	Jye-Shing Lin	—	—
ASE Social Enterprise Co., Ltd.	Director and Supervisor	ASE Technology Holding Co., Ltd.	5,000,000	100%
	Chairman	Tien Wu	—	—
	Director (representative)	Joseph Tung	—	—
	Director (representative)	Dtuang Wang	—	—
	Supervisor (representative)	Alan Li	—	—
J&R Holding Limited	Director	Jason C. S. Chang	—	—
	Director	Richard H. P. Chang	—	—
	Director	Joseph Tung	—	—
A.S.E. Holding Limited	Director	Jason C. S. Chang	—	—
	Director	Richard H. P. Chang	—	—
	Director	Joseph Tung	—	—
Innosource Limited	Director	Jason C. S. Chang	—	—
	Director	Richard H. P. Chang	—	—
	Director	Joseph Tung	—	—
Omniquest Industrial Limited	Director	Richard H. P. Chang	—	—
	Director	Joseph Tung	—	—
	Director	Jeffrey Chen	—	—
ASE Marketing & Service Japan Co., Ltd.	Chairman	Tien Wu	—	—
	Director	David Pan	—	—
	Director	Chih-Hsiao Chung	—	—
	Supervisor	Joseph Tung	—	—
Advanced Microelectronic Products Inc.	Director	Advanced Semiconductor Engineering, Inc.	8,327,113	7.6%
	Director	Rongda Investment Co., Ltd.	6,240,841	5.7%
	Chairman	Ching Chong Chen	—	—
	Director (representative) and General Manager	Hong-yuan Chen	—	—
	Director (representative)	Alan Li	—	—
	Director (representative)	David Pan	—	—
	Independent Director	George Yen	—	—
	Independent Director	Jeremy Chen	—	—
	Independent Director	Roger Yang	1,322	—
ASE Test Inc.	Director and Supervisor	Advanced Semiconductor Engineering, Inc.	1,131,452,502	100%
	Chairman	Jason C.S. Chang	—	—
	Director (representative) and General Manager	Raymond Lo	—	—
	Director (representative)	David Pan	—	—
	Director (representative)	Rutherford Chang	—	—
	Director (representative)	TS Chen	—	—
	Director (representative)	Alan Li	—	—
	Director (representative)	Jeffrey Chen	—	—
	Director (representative)	Alan Cheng	—	—
	Director (representative)	Jerry Chang	—	—
	Director (representative)	Chun-Che Lee	—	—
	Director (representative)	Anne Chang	—	—
	Supervisor (representative)	Andrew Tang	—	—
	Supervisor (representative)	Murphy Kuo	—	—
	Supervisor (representative)	Yuan-Yi Tseng	—	—
Lu-Chu Development Corporation	Director	Advanced Semiconductor Engineering, Inc.	145,178,015	67.11%
	Supervisor	ASE Test Inc.	40,981,245	18.94%
	Chairman	David Pan	—	—
	Director (representative)	TS Chen	—	—

Company	Title	Name or Representative	Shareholding	
			Shares	%
	Director (representative)	Murphy Kuo	—	—
	Director (representative)	Alan Li	—	—
	Director (representative)	Joseph Tung	—	—
	Supervisor (representative)	Hsu-Chun Yu	—	—
	Supervisor (representative)	Eddie Chang	—	—
TLJ Intertech Inc.	Director	ASE Test Inc.	2,119,080	60%
	Chairman	David Pan	—	—
	Director	Shih-Ling Lin	617,720	17.49%
	Director and General Manager	Joseph Tung	366,000	10.36%
	Director (representative)	Alan Li	—	—
	Director (representative)	Chu-Ling Liu	—	—
	Supervisor	Freddie Liu	—	—
Alto Enterprises Limited	Director	Jason Chang	—	—
	Director	Richard Chang	—	—
	Director	Joseph Tung	—	—
Super Zone Holdings Limited	Director	Jason C.S. Chang	—	—
	Director	Richard H.P. Chang	—	—
	Director	Jeffrey Chen	—	—
ASE Investment (KunShan) Limited	Chairman	Jason C.S. Chang	—	—
	Director and General Manager	Rutherford Chang	—	—
	Director	Chris Hsu	—	—
	Supervisor	Vincent Cheng	—	—
Advanced Semiconductor Engineering (China) Ltd.	Chairman and General Manager	Dtuang Wang	—	—
	Director	Walter Chen	—	—
	Director	Wu Tien Yue	—	—
	Supervisor	Alan Li	—	—
ASE Investment (Labuan) Inc.	Director	A.S.E. Holding Limited	—	—
	Director	Chau Siew Ha	—	—
	Director	ASE Test Limited	—	—
ASE Test Limited	Director	Jason C.S. Chang	—	—
	Director	Richard H.P. Chang	—	—
	Director	Lee Kwai Mun	—	—
	Director	Jeffrey Chen	—	—
	Director	Po Lien Li	—	—
ASE (Korea) Inc.	Director	Gichol Lee	—	—
	Director	Tien Wu	—	—
	Director	Joseph Tung	—	—
	Supervisor	Jeffrey Chen	—	—
J&R Industrial Inc.	Director and Supervisor	J&R Holding Limited	4,207,353	100%
	Chairman	Jason C.S. Chang	—	—
	Director (representative)	Richard H. P. Chang	—	—
	Director (representative)	Joseph Tung	—	—
	Supervisor (representative)	Mei-Jen Feng	—	—
ASE Japan Co., Ltd.	Chairman	Chih-Hsiao Chung	—	—
	Director	Tien Wu	—	—
	Director	David Pan	—	—
	Supervisor	Joseph Tung	—	—
ASE (U.S.) Inc.	Director	Kenneth Shih-Jye Hsiang	—	—
Global Advanced Packaging Technology Limited	Director	Richard H. P. Chang	—	—
	Director	Tien Wu	—	—
ASE (Shanghai) Inc.	Chairman	Tien Wu	—	—
	Director	Chun-Che Lee	—	—
	Director and General Manager	Chung Lin	—	—

Company	Title	Name or Representative	Shareholding	
			Shares	%
	Supervisor	Jeffrey Chen	—	—
ASE Corporation	Director	Jason Chang	—	—
	Director	Joseph Hung Szu Tung	—	—
ASE Mauritius Inc.	Director	Jason Chang	—	—
	Director	Chettensingh Awotarsing	—	—
	Director	Pharvis Sadaful	—	—
	Director	Li, Po-Lien	—	—
ASE Labuan Inc.	Director	Jason Chang	—	—
	Director	Joseph Hung-Szu Tung	—	—
	Director	Chau Siew Ha	—	—
Shanghai Ding Hui Real Estate Development Co., Ltd.	Chairman	Jason C.S. Chang	—	—
	Director	Madeline D Chang	—	—
	Director	Jeffrey Chen	—	—
	Director and General Manager	Vincent Cheng	—	—
	Director	Andrew Robert Tang	—	—
	Supervisor	Kuo-Chiang Peng	—	—
Shanghai Ding Qi Property Management Co., Ltd.	Chairman	Jason C.S. Chang	—	—
	Director	Junting Chen	—	—
	Director	Jeffrey Chen	—	—
	General Manager	Roger Su	—	—
	Supervisor	Kuo-Chiang Peng	—	—
Advanced Semiconductor Engineering (HK) Limited	Chairman	Richard H. P. Chang	—	—
	Director	Jeffrey Chen	—	—
	Director	Vincent Cheng	—	—
Shanghai Ding Wei Real Estate Development Co., Ltd.	Chairman	Jason C.S. Chang	—	—
	Director	Jeffrey Chen	—	—
	Director and General Manager	Chun-Ting Chen	—	—
	Director	Madeline D Chang	—	—
	Director	Andrew Robert Tang	—	—
	Supervisor	Kuo-Chiang Peng	—	—
Shanghai Ding Yu Real Estate Development Co., Ltd.	Chairman	Jason C.S. Chang	—	—
	Director	Jeffrey Chen	—	—
	Director and General Manager	Chun-Ting Chen	—	—
	Director	Madeline D Chang	—	—
	Director	Andrew Robert Tang	—	—
	Supervisor	Kuo-Chiang Peng	—	—
Shanghai Ding Fan Business Management Co., Ltd.	Chairman	Jason C.S. Chang	—	—
	Director	Jeffrey Chen	—	—
	Director and General Manager	Chun-Ting Chen	—	—
	Supervisor	Kuo-Chiang Peng	—	—
KunShan Ding Hong Real Estate Development Co., Ltd.	Chairman	Jason C.S. Chang	—	—
	Director and General Manager	Vincent Cheng	—	—
	Director	Jeffrey Chen	—	—
	Supervisor	Kuo-Chiang Peng	—	—
Shanghai Ding Xu Property Management Co., Ltd.	Chairman	Jason C.S. Chang	—	—
	Director and General Manager	Roc Xie	—	—
	Director	Jeffrey Chen	—	—
	Supervisor	Kuo-Chiang Peng	—	—
Shanghai Dingyao Estate	Chairman	Jason C.S. Chang	—	—

Company	Title	Name or Representative	Shareholding	
			Shares	%
Development Co., Ltd.	Director and General Manager	Chun-Ting Chen	—	—
	Director	Jeffrey Chen	—	—
	Supervisor	Kuo-Chiang Peng	—	—
ASE Electronics Inc.	Director and Supervisor	ASE Labuan Inc.	398,981,900	100%
	Chairman	Tien Wu	—	—
	Director (representative) and General Manager	Chun-Che Lee	—	—
	Director (representative)	Jeffrey Chen	—	—
ASE Test Holdings, Ltd.	Supervisor (representative)	David Pan	—	—
	Director	Jason C. S. Chang	—	—
	Director	David Pan	—	—
	Director	Joseph Tung	—	—
ASE Holdings (Singapore) Pte Ltd	Director	Jeffrey Chen	—	—
	Director	Hsiang De Way	—	—
	Director	Choong Lai Heng	—	—
	Director	Jeswant Singh s/o Darshan Singh	—	—
ASE Singapore Pte. Ltd.	Chairman	Wu, Tien-Yue	—	—
	Director	Lee Kwai Mun	—	—
	Director	Kenneth Hsiang Shih-Jye	—	—
	Director	Fan Jui Ying	—	—
ISE Labs, Inc.	Chairman	Tien Wu	—	—
	Director	Ken Hsiang	—	—
	Director	Jui Ko	—	—
	Director	Vincent Sy	—	—
	Director	Jeff Thompson	—	—
ISE Services, Inc.	Director	Ken Hsiang	—	—
	Director	Vincent Sy	—	—
	Director	Jeff Thompson	—	—
ASE Electronics (M) Sdn. Bhd.	General Manager	Ooi Heng Ee	—	—
	Director	Tien Wu	—	—
	Director	Lee Kwai Mun	—	—
	Director	Hsiang, De-Way	—	—
	Director	Joseph Tung	—	—
	Director	Choong Lai Heng	—	—
ASE Assembly & Test (Shanghai) Limited	Chairman	Tien-Yue Wu	—	—
	Director	Alan Li	—	—
	Director and General Manager	Dtuang Wang	—	—
	Supervisor	Jeffrey Chen	—	—
ISE Labs, China, Ltd.	Chairman	Tien Wu	—	—
	Director	Kenneth Shih-Jye Hsiang	—	—
	Director and General Manager	Bruce Chen	—	—
	Supervisor	Chris Hsu	—	—
Wuxi Tongzhi Microelectronics Co., Ltd.	Chairman	Tien Wu	—	—
	Director and General Manager	Chih-Hsiao Chung	—	—
	Director	Jeffrey Chen	—	—
	Supervisor	Joseph Tung	—	—
SPIIL (B.V.I.) Holding Limited	Director	Chi-Wen Tsai	—	—
Siliconware USA, Inc.	Director	Chi-Wen Tsai	—	—
	Director	Ray Harris	—	—
	Director and General Manager	Chi-Pin Chang	—	—
SPIIL (Cayman) Holding Limited	Director	Chi-Wen Tsai	—	—
Siliconware Technology (Suzhou)	Director	Chi-Wen Tsai	—	—

Company	Title	Name or Representative	Shareholding	
			Shares	%
Ltd.	Director and General Manager	Kevin Yu	—	—
	Director	John Yu	—	—
	Supervisor	Jay Huang	—	—
Huntington Holdings International Co. Ltd.	Director	Jeffrey Chen	—	—
	Director	Chen-Yen Wei	—	—
	Director	Meng-Kuo Shih	—	—
	Director	Chen-Lung Wei	—	—
Unitech Holdings International Co. Ltd.	Director	Chen-Yen Wei	—	—
	Director	Meng-Kuo Shih	—	—
Real Tech Holdings Limited	Director	Jeffrey Chen	—	—
	Director	Meng-Kuo Shih	—	—
	Director	Chen-Yen Wei	—	—
Universal ABIT Holding Co., Ltd.	Director	Chen-Lung Wei	—	—
	Director	Hong He	—	—
	Director	Da-Yi Lin	—	—
	Director	Meng-Kuo Shih	—	—
	Director	Kuo-Hsiang Wu	—	—
USI Enterprise Limited	Director	Dan-Yang Liu	—	—
	Director	Meng-Kuo Shih	—	—
	Director	Chen-Yen Wei	—	—
Universal Scientific Industrial (Shanghai) Co., Ltd.	Chairman	Jeffrey Chen	—	—
	Director	Gilles Benhamou	—	—
	Director	Rutherford Chang	—	—
	Director and General Manager	Chen-Yen Wei	—	—
	Director	Dtuang Wang	—	—
	Director	Neng Chao Chang	—	—
	Independent Director	Yiyun Chu	—	—
	Independent Director	Yun-Wei Tang	—	—
	Independent Director	Michael Chung	—	—
	Supervisor	Andrew Robert Tang	—	—
	Supervisor	Meng-Kuo Shih	—	—
	Supervisor	David Huang	—	—
Universal Global Technology Co., Ltd.	Director	Jeffrey Chen	—	—
	Director	Chen-Yen Wei	—	—
	Director	Dan-Yang Liu	—	—
	Director	Meng-Kuo Shih	—	—
Universal Global Technology (Kunshan) Co., Ltd.	Chairman	Jeffrey Chen	—	—
	Director and General Manager	Da-Yi Lin	—	—
	Director	Chen-Yen Wei	—	—
	Supervisor	Meng-Kuo Shih	—	—
Universal Global Technology (Shanghai) Co., Ltd.	Chairman	Jeffrey Chen	—	—
	Director	Chen-Yen Wei	—	—
	Director	Chen-Lung Wei	—	—
	General Manager	Jing Cao	—	—
	Supervisor	Meng-Kuo Shih	—	—
Universal Global Electronics (Shanghai) Co., Ltd.	Chairman	Jeffrey Chen	—	—
	Director and General Manager	Chen-Yen Wei	—	—
	Director	Meng-Kuo Shih	—	—
	Supervisor	Dan-Yang Liu	—	—

Company	Title	Name or Representative	Shareholding	
			Shares	%
Universal Global Industrial Co., Limited	Director	Jeffrey Chen	—	—
	Director	Chen-Yen Wei	—	—
	Director	Meng-Kuo Shih	—	—
Universal Global Scientific Industrial Co., Ltd.	Director and Supervisor	Universal Global Technology Co., Limited	198,000,000	100%
	Chairman	Chen-Yen Wei	—	—
	Director (representative)	Jeffrey Chen	—	—
	Director (representative)	Meng-Kuo Shih	—	—
	Supervisor (representative)	Dan-Yang Liu	—	—
USI America Inc.	Director	Chen-Yen Wei	—	—
	Director	Clement Chen	—	—
	Director	Meng-Kuo Shih	—	—
Universal Scientific Industrial De Mexico S.A De C.V	Director	Chen-Yen Wei	—	—
	Director	Clement Chen	—	—
	Director	Da-Yi Lin	—	—
	Director	Meng-Kuo Shih	—	—
	Director and General Manager	Bernardo Santos Balderrama	—	—
USI Japan Co., Ltd.	Director	Chen-Yen Wei	—	—
	Director	Chen-Lung Wei	—	—
	Director	Clement Chen	—	—
	Director	Chih-Hsiao Chung	—	—
	Supervisor	Meng-Kuo Shih	—	—
USI Electronics (Shenzhen) Co., Ltd.	Chairman	Chen-Yen Wei	—	—
	Director	Vincent Lin	—	—
	Director	Chen-Lung Wei	—	—
	Director	Jeffrey Chen	—	—
	Director	Da-Yi Lin	—	—
	General Manager	Vincent Lin	—	—
	Supervisor	Meng-Kuo Shih	—	—
Universal Global Electronics Co., Ltd.	Director	Jeffrey Chen	—	—
	Director	Chen-Yen Wei	—	—
	Director	Meng-Kuo Shih	—	—
	Director	Dan-Yang Liu	—	—
Universal Scientific Industrial Co., Ltd	Director and Supervisor	Universal Global Scientific Industrial Co., Ltd.	139,972,740	100%
	Chairman	Chen-Yen Wei	—	—
	Director (representative)	Jeffrey Chen	—	—
	Director (representative)	Meng-Kuo Shih	—	—
	Supervisor (representative)	Dan-Yang Liu	—	—
Universal Scientific Industrial (France)	Chairman	Jeffrey Chen	—	—
	Director and General Manager	Chen-Yen Wei	—	—
	Director	Meng-Kuo Shih	—	—
Universal Global Technology (Huizhou) Co., Ltd.	Chairman	Jeffrey Chen	—	—
	Director	Chen-Yen Wei	—	—
	Director	Da-Yi Lin	—	—
	General Manager	Vincent Lin	—	—
	Supervisor	Meng-Kuo Shih	—	—
Universal Scientific Industrial Poland Sp. z o.o.	Chairman	Meng-Kuo Shih	—	—
	Director	Alex Lee	—	—
	Director	Felix Timmermann	—	—

Company	Title	Name or Representative	Shareholding	
			Shares	%
Universal Scientific Industrial Vietnam Company Limited	Chairman	Chen-Yen Wei	—	—
	Director	Chen-Lung Wei	—	—
	Director and General Manager	Liu, Hui-Min	—	—
USI Science and Technology (Shenzhen) Co., Ltd.	Chairman	Jeffrey Chen	—	—
	Director and General Manager	Chen-Yen Wei	—	—
	Director	Chen-Lung Wei	—	—
	Supervisor	Meng-Kuo Shih	—	—
FINANCIERE AFG	Director	Universal Global Technology Co., Limited	—	—
	Director	Universal Scientific Industrial (France)	—	—
	Director	ASDI Assistance Direction	—	—
	Director	SPFH Holding Korlatolt	—	—
	Chairman	Felelossegu Tarsasag	—	—
	Director (representative)	Jeffrey Chen	—	—
	Director (representative)	Chen-Yen Wei	—	—
	Director (representative)	Gilles Benhamou	—	—
ASTEELFLASH (BEDFORD) LIMITED	Director	Pierre Guilbault	—	—
	Director	Malcolm Stewart	—	—
	Director	Neil Stuart Mincher	—	—
	Director	Gilles Benhamou	—	—
ASTEELFLASH FRANCE	Director	Felix Timmerman	—	—
	Director	Alex Lee	—	—
	Director	FINANCIERE AFG	—	—
	Director	Asteelflash Technologie	—	—
	Director	Universal Global Technology Co., Limited	—	—
	Director	Universal Scientific Industrial (France)	—	—
	Chairman	Gilles Benhamou	—	—
	Director (representative)	Nicolas Denis	—	—
ASTEELFLASH TUNISIE S.A.	Director (representative)	Aurelie Preulier	—	—
	Director (representative)	Alex Lee	—	—
	Director (representative)	Ying Huang	—	—
	Director	Asteelflash Group	—	—
	Director	Universal Scientific Industrial (France)	—	—
	Director	Asteelflash France	—	—
	Chairman	Gilles Benhamou	—	—
ASTEELFLASH HONG KONG LIMITED	Director (representative)	Ridha Bouras	—	—
	Director (representative)	Alex Lee	—	—
	Director (representative)	Nicolas Denis	—	—
	Director (representative)		—	—
ASTEELFLASH MEXICO S.A. de C.V.	Director	Gilles Benhamou	—	—
	Director	Raymond Wu	—	—
	Director	Clement Chen	—	—
ASTEELFLASH GERMANY GmbH	Managing Director	Gilles Benhamou	—	—
	Managing Director	Felix Timmermann	—	—
MANUFACTURING POWER TUNISIA	General Manager	Gilles Benhamou	—	—
ASTEELFLASH US HOLDING	Director	Gilles Benhamou	—	—

Company	Title	Name or Representative	Shareholding	
			Shares	%
CORP.	Director	Raymond Wu	—	—
	Director	Clement Chen	—	—
ASTEELFLASH TECHNOLOGIE	Legal representative	Asteelflash France	—	—
	Legal representative (representative)	Nicolas Denis	—	—
ASTEELFLASH BRETAGNE	Legal representative	Gilles Benhamou	—	—
ASTEEL ELECTRONICS MANUFACTURING SERVICES	General Manager	Gilles Benhamou	—	—
AFERH TUNISIE	General Manager	Gilles Benhamou	—	—
ASTEELFLASH SUZHOU CO., LTD.	Chairman	Gilles Benhamou	—	—
	Director and General Manager	Andrew Wu	—	—
	Director	Dan-Yang Liu	—	—
	Supervisor	Raymond Wu	—	—
ASTEELFLASH HERSFELD GmbH	Managing Director	Gilles Benhamou	—	—
	Managing Director	Felix Timmermann	—	—
ASTEELFLASH EBERBACH GmbH	Managing Director	Gilles Benhamou	—	—
	Managing Director	Felix Timmermann	—	—
ASTEELFLASH BONN GmbH	Managing Director	Gilles Benhamou	—	—
	Managing Director	Felix Timmermann	—	—
ASTEELFLASH SCHWANDORF GmbH	Managing Director	Gilles Benhamou	—	—
	Managing Director	Claude Savard	—	—
ASTEELFLASH DESIGN SOLUTIONS HAMBOURG GmbH	Managing Director	Albert Buckers	—	—
	Managing Director	Felix Timmermann	—	—
ASTEELFLASH PLZEN S.R.O.	Director	Asteelflash Group	—	—
	Director	Asteelflash Germany GmbH	—	—
	Director	Universal Scientific Industrial (France)	—	—
	Director (representative)	Felix Timmermann	—	—
	Director (representative)	Gilles Benhamou	—	—
	Director (representative)	Alex Lee	—	—
EN ELECTRONICNETWORK SRL	Administrator	Claude Savard	—	—
	Administrator	Hans-Dieter Magon	—	—
ASTEELFLASH USA CORP.	Director	Gilles Benhamou	—	—
	Director	Raymond Wu	—	—
	Director	Clement Chen	—	—
Integrated Solutions Enterprise Europe	Administrator	Kuo Hung-Ming	—	—
	Administrator	Handwerker Juliette	—	—
ASE Technology Partners, Limited	Director	Jason Chang	—	—
	Director	Tien Wu	—	—
	Director	Po Lien Li	—	—
ASE Technology Acquisition Corporation	Director	Andrew Robert Tang	—	—

8.1.6 Operational Highlights of Affiliated Companies

Units: NTD in thousands/Earnings per Share in NTD

Company	Paid-in Capital*	Total Assets	Total Liabilities	Net Worth	Operating Revenue	Operating Income	Net Income (Loss) After Tax	Earnings (Loss) Per Share After Tax
ASE Technology Holding Co., Ltd.	43,679,841	352,788,312	51,503,064	301,285,248	63,383,227	62,245,084	62,090,494	13.94
Advanced Semiconductor Engineering, Inc.	59,941,438	338,879,412	189,223,791	149,655,621	183,295,348	34,050,907	36,960,792	5.97
Siliconware Precision Industries Co., Ltd.	37,857,489	147,699,291	49,394,321	98,304,970	106,127,875	23,072,302	22,714,468	5.84
USI Inc.	29,267,356	60,115,221	16,134,816	43,980,405	0	(317,195)	8,369,011	2.86
ASE Social Enterprise Co., Ltd.	50,000	50,152	49	50,103	52	(66)	103	0.02
J&R Holding Limited	7,220,781	86,580,209	6,821,402	79,758,807	0	(66,983)	1,249,069	5,312.29
A.S.E. Holding Limited	7,031,556	20,288,391	581	20,287,810	0	(3,847)	1,318,034	5,756.46
Innosource Limited	2,644,131	4,982,360	0	4,982,360	0	(135)	271,567	3.15
Omniquest Industrial Limited	11,018,873	18,783,835	0	18,783,835	0	(132)	1,161,039	3.24
ASE Marketing & Service Japan Co., Ltd.	13,944	49,523	9,472	40,051	59,830	3,914	3,600	3,000.00
Advanced Microelectronic Products Inc.	1,095,364	2,053,568	1,606,979	446,589	1,787,744	231,792	244,085	2.23
ASE Test Inc.	11,314,525	39,111,906	8,488,172	30,623,734	20,126,850	6,832,807	6,203,204	5.48
Lu-Chu Development Corporation	2,163,282	2,119,809	2,197	2,117,612	0	(1,602)	3,260	0.02
TLJ Intertech Inc.	35,318	77,111	7,912	69,199	18,591	8,588	7,276	2.06
Alto Enterprises Limited	5,773,480	4,813,569	114	4,813,455	0	(398)	499,450	2.66
Super Zone Holdings Limited	3,071,000	3,167,629	0	3,167,629	0	(19)	95,735	0.96
ASE (KunShan) Inc.	3,362,569	3,143,343	60,049	3,083,294	0	(192)	430,242	N/A
ASE Investment (KunShan) Limited	2,936,567	3,190,173	22,642	3,167,531	0	(82,900)	95,754	N/A
ASE Investment (Labuan) Inc.	7,430,189	21,752,056	192	21,751,864	0	(355)	1,470,458	6.08
ASE Test Limited	13,877,051	29,654,717	2,264	29,652,453	0	(4,522)	2,302,756	26.54
ASE (Korea) Inc.	3,008,857	25,071,370	3,560,087	21,511,283	16,981,183	1,818,594	1,463,387	70.55
J&R Industrial Inc.	42,074	46,298	81	46,217	0	(359)	134	0.03
ASE Japan Co., Ltd.	23,240	2,270,999	756,830	1,514,169	1,570,353	(121,872)	(228,508)	(31,737.22)
ASE (U.S.) Inc.	614	945,907	227,938	717,969	1,606,379	84,266	49,559	49,559.00
Global Advanced Packaging Technology Limited	11,548,217	50,110,507	928,956	49,181,551	0	(2,020)	(702,660)	(1.87)

Company	Paid-in Capital*	Total Assets	Total Liabilities	Net Worth	Operating Revenue	Operating Income	Net Income (Loss) After Tax	Earnings (Loss) Per Share After Tax
ASE (Shanghai) Inc.	5,179,188	14,573,950	1,491,964	13,081,986	6,021,971	776,209	381,739	N/A
ASE Corporation	10,941,484	18,773,381	114	18,773,267	0	(565)	1,161,170	3.26
ASE Mauritius Inc.	6,688,638	14,115,386	162	14,115,224	0	(558)	510,230	2.34
ASE Labuan Inc.	3,875,113	4,535,924	78	4,535,846	0	(256)	636,041	5.04
Shanghai Ding Hui Real Estate Development Co., Ltd.	15,873,991	19,048,781	60,445	18,988,336	1,705	(215,735)	(787,891)	N/A
Shanghai Ding Qi Property Management Co., Ltd.	4,409	137,658	167,057	(29,399)	287,470	(22,019)	(18,732)	N/A
Advanced Semiconductor Engineering (HK) Limited	30,710	500,061	184,306	315,755	312,793	(30,677)	78	N/A
Shanghai Ding Wei Real Estate Development Co., Ltd.	7,928,177	11,694,223	6,032,656	5,661,567	701,401	(122,128)	(342,046)	N/A
Shanghai Ding Yu Real Estate Development Co., Ltd.	4,850,386	9,687,311	5,432,467	4,254,844	404,175	(141,527)	(328,625)	N/A
Shanghai Ding Fan Business Management Co., Ltd.	8,819	1,737	95	1,642	0	(1,295)	(1,300)	N/A
KunShan Ding Hong Real Estate Development Co., Ltd.	2,954,326	3,573,480	724,622	2,848,858	0	(7,767)	(29,858)	N/A
Shanghai Ding Xu Property Management Co., Ltd.	22,047	56,911	8,817	48,094	57,808	9,910	10,353	N/A
Shanghai Dingyao Estate Development Co.,Ltd.	44,094	3,211,525	3,481,332	(269,807)	561,118	51,652	(52,273)	N/A
ASE Electronics Inc.	3,989,819	5,789,332	1,269,942	4,519,390	5,708,395	769,842	636,295	1.59
ASE Test Holdings, Ltd.	0**	3,379,274	0	3,379,274	0	0	82,938	****
ASE Holdings (Singapore) Pte Ltd	1,634,293	5,783,195	0	5,783,195	0	(172)	813,098	11.38
ASE Singapore Pte. Ltd.	923,030	7,726,351	1,526,307	6,200,044	4,366,083	790,646	750,652	1.74
ISE Labs, Inc.	806	3,186,929	441,706	2,745,223	1,087,724	26,707	82,938	3.16
ISE Services, Inc.	0***	850,950	738,713	112,237	683,577	125,134	98,960	98,960.00
ASE Electronics (M) Sdn. Bhd.	1,912,010	7,308,327	1,011,015	6,297,312	6,972,589	1,084,428	987,359	0.48
ASE Assembly & Test (Shanghai) Limited	3,402,620	14,631,151	1,650,476	12,980,675	0	(227,352)	(78,689)	N/A
ASE Advanced Semiconductor (Shanghai) Limited	440,944	1,528,586	1,085,032	443,554	392,907	17,147	9,949	N/A
Wuxi Tongzhi Microelectronics Co., Ltd.	323,922	582,166	114,615	467,551	426,545	46,325	58,700	N/A

Company	Paid-in Capital*	Total Assets	Total Liabilities	Net Worth	Operating Revenue	Operating Income	Net Income (Loss) After Tax	Earnings (Loss) Per Share After Tax
SPIL (B.V.I.) Holding Limited	6,592,246	20,063,460	0	20,063,460	0	(94)	3,302,014	11.05
Siliconware USA, Inc.	38,388	505,821	165,612	340,209	547,252	51,929	36,731	18.23
SPIL (Cayman) Holding Limited	6,581,666	19,715,597	0	19,715,597	0	(150)	3,264,678	10.79
Siliconware Technology (Suzhou) Ltd.	7,843,641	40,751,903	21,443,768	19,308,135	24,741,244	2,510,833	3,219,051	N/A
Huntington Holdings International Co. Ltd.	7,857,364	61,744,702	92,130	61,652,572	0	(172)	9,648,485	37.71
Unitech Holdings International Co. Ltd.	92,130	242,874	394	242,480	0	(4,732)	(135,738)	(45.25)
Real Tech Holdings Limited	4,580,427	61,304,672	0	61,304,672	0	(55)	9,841,270	65.98
Universal ABIT Holding Co., Ltd.	863,719	510	124	386	0	0	0	0.00
USI Enterprise Limited	6,476,739	66,532,330	6,635,028	59,897,302	22,762	(316,360)	9,838,623	46.65
Universal Scientific Industrial (Shanghai) Co., Ltd.	9,731,040	103,952,967	34,470,862	69,482,105	96,748,432	4,709,179	13,500,673	6.19
Universal Global Technology Co., Limited	12,591,100	46,443,896	15,827,575	30,616,321	78,940	(245,673)	4,584,163	1.44
Universal Global Technology (Kunshan) Co., Ltd.	2,425,193	16,070,791	7,933,512	8,137,279	29,416,468	1,865,725	1,829,789	N/A
Universal Global Technology (Shanghai) Co., Ltd.	5,864,558	16,263,187	7,263,880	8,999,307	40,061,493	1,881,231	1,939,104	N/A
Universal Global Electronics (Shanghai) Co., Ltd.	220,472	291,669	581	291,088	0	(176)	16,577	N/A
Universal Global Industrial Co., Limited	337,810	8,198,997	7,721,967	477,030	40,116	35,101	37,394	0.44
Universal Global Scientific Industrial Co., Ltd.	1,980,000	33,341,492	21,864,545	11,476,947	69,039,662	2,991,248	2,873,724	14.51
USI America Inc.	291,745	289,685	63,186	226,499	245,614	5,749	12,637	50.55
Universal Scientific Industrial De Mexico S.A. De C.V.	1,964,300	10,679,456	8,350,576	2,328,880	16,115,244	390,356	161,300	0.13
USI Japan Co., Ltd.	22,078	33,445	2,063	31,382	14,791	1,526	1,005	157.03
USI Electronics (Shenzhen) Co., Ltd.	2,582,274	8,100,661	1,149,524	6,951,137	17,778,194	810,936	823,885	N/A
Universal Global Electronics Co., Ltd.	1,566,210	1,898,155	16,011	1,882,144	0	(441)	251,175	4.93
Universal Scientific Industrial Co., Ltd	1,399,727	7,429,559	3,512,393	3,917,166	19,577,880	488,187	309,954	2.21
Universal Scientific Industrial (France)	10,526,720	13,123,219	974,632	12,148,587	0	6,152	740,208	2.30
Universal Global Technology	3,527,554	11,428,584	7,939,411	3,489,173	7,182,150	(37,645)	21,692	N/A

Company	Paid-in Capital*	Total Assets	Total Liabilities	Net Worth	Operating Revenue	Operating Income	Net Income (Loss) After Tax	Earnings (Loss) Per Share After Tax
(Huizhou) Co., Ltd								
Universal Scientific Industrial Poland Sp. z o.o.	566,075	1,347,621	124,316	1,223,305	937,446	157,899	221,968	137.27
Universal Scientific Industrial Vietnam Company Limited	3,071,000	6,666,743	3,613,747	3,052,996	12,127,167	247,412	195,312	N/A
USI Science and Technology (Shenzhen) Co., Ltd.	66,142	91,700	8,461	83,239	36,695	11,214	11,789	N/A
FINANCIERE AFG	6,015,491	8,161,590	2,233,386	5,928,204	0	(6,028)	22,340	0.28
ASTEELFLASH (BEDFORD) LIMITED	1,944	595,636	508,422	87,214	707,626	16,875	(3,825)	(72.68)
ASTEELFLASH FRANCE	388,406	4,970,216	2,878,658	2,091,558	6,342,298	202,488	142,725	183.55
ASTEELFLASH TUNISIE S.A.	270,951	3,662,884	2,964,356	698,528	4,326,922	270,226	172,638	17.66
ASTEELFLASH HONG KONG LIMITED	571,875	638,360	24,855	613,505	312,956	5,173	5,551	****
ASTEELFLASH MEXICO S.A. de C.V.	159	251,371	191,922	59,449	241,248	29,151	17,439	5,813.00
ASTEELFLASH GERMANY GmbH	32,755	603,979	203,139	400,840	17,666	(36,644)	(31,205)	****
MANUFACTURING POWER TUNISIA	144	36,562	267	36,295	0	(46)	(760)	(760.00)
ASTEELFLASH US HOLDING CORP.	507,000	702,942	0	702,942	0	0	3,542	17.71
ASTEELFLASH TECHNOLOGIE	103,179	575,908	191,051	384,857	718,217	59,138	46,359	103.02
ASTEELFLASH BRETAGNE	0	0	0	0	0	0	0	0.00
ASTEEL ELECTRONICS MANUFACTURING SERVICES	0	0	0	0	0	0	0	0.00
AFERH TUNISIE	0	0	0	0	0	0	0	0.00
ASTEELFLASH SUZHOU CO., LTD.	552,780	7,691,916	2,006,482	5,685,434	8,429,627	660,178	582,639	N/A
ASTEELFLASH HERSFELD GmbH	164,890	1,765,166	1,489,518	275,648	1,997,986	103,642	110,977	****
ASTEELFLASH EBERBACH GmbH	40,125	742,408	634,687	107,721	901,768	14,627	6,613	****
ASTEELFLASH BONN GmbH	16,378	514,159	375,372	138,787	722,967	37,435	24,138	****
ASTEELFLASH SCHWANDORF GmbH	819	5,351	1,082	4,269	0	(98)	(115)	(4.60)
ASTEELFLASH DESIGN SOLUTIONS HAMBOURG GmbH	4,193	299,006	190,750	108,256	271,776	(15,624)	(11,623)	****
ASTEELFLASH PLZEN S.R.O.	164,328	717,995	571,520	146,475	872,202	67,122	31,746	****

Company	Paid-in Capital*	Total Assets	Total Liabilities	Net Worth	Operating Revenue	Operating Income	Net Income (Loss) After Tax	Earnings (Loss) Per Share After Tax
EN ELECTRONICNETWORK SRL	0	0	0	0	0	0	0	0.00
ASTEELFLASH USA CORP.	659,199	1,973,980	1,711,985	261,995	2,216,521	(111,926)	(119,122)	(1,191,220.00)
Integrated Solutions Enterprise Europe	406	204,885	69,866	135,019	602,259	69,695	52,328	281,333.33
ASE Technology Partners, Limited	13,205	11,552	15	11,537	0	(299)	(671)	(1.56)
ASE Technology Acquisition Corporation	18	11,182	264	10,918	0	(372)	(372)	(0.06)

* If an affiliate is a foreign company, the number shall be expressed in NTD with the exchange rate of the reporting date.

** The startup capital is US\$5.

*** The startup capital is US\$1.

**** The EPS won't disclose if the capital shares is less than 5 shares when established.

8.1.7 Consolidated Financial Statements of Affiliated Companies: Refer to P.1 of the Annual Report (II) Financial Statement.

8.1.8 The Company has disclosed the derivative products trading information, making endorsement and guarantees, and fund lending information of all the affiliated companies on P.91-101 and P.108-112 of the consolidated financial statements and P.29-31 and P.35-39 of parent company only financial statements of “(II) Financial Statement” section in this annual report. Affiliate companies not listed did not engage in relevant activities.

8.2 Private Placement Securities: None.

8.3 Subsidiaries’ Shareholding or Disposition of the Company’s Shares:

February 28, 2023 Units: NT\$ in thousands (unless otherwise specified) / shares / %												
Name of Subsidiary	Share Capital	Sources of funds	Shareholding ratio	Date of acquisition or disposal	Shares acquired and amount	Shares disposed and amount	Investment earnings (losses)	Shareholding as of the Date of this Annual Report	Pledged shares	Endorsement for subsidiary	Loan to subsidiary	
ASE Test Inc.	11,314,525	Three-in-one stock exchange and surplus distribution of ASE merger with ASE Materials Inc., and ASE (Chungli) Inc.	100%	In August, 2004, the company obtained the 2010-2012 distributed stock dividend and disposed part of the shares on February 2010.	— —	— —	—	As of December 31, 2022: 5,489,388 shares Book value: \$515,454 Amount transferred to treasury: \$196,677	—	—	—	
				Current Year up to the Date of this Annual Report	— —	— —	—	5,489,388 shares Book value: \$515,454 Amount transferred to treasury: \$196,677	—	—	—	
Advanced Semiconductor Engineering, Inc.	59,941,438	The subsidiaries returned the stock due to the capital reduction.	100%	In November, 2022, the company obtained the stock.	— —	— —	—	As of December 31, 2022: 67,452,117shares Book value: \$6,333,754 Amount transferred to treasury: \$1,762,430	—	—	—	
				Current Year up to the Date of this Annual Report	— —	— —	—	67,452,117shares Book value: \$6,333,754 Amount transferred to treasury: \$1,762,430	—	—	—	

8.4 Other Supplementary Notes: None

IX. Other Issues:

Events Regulated in Article 36, Paragraph 3, Subparagraph 2 of the Securities and Exchange Act That Have Impacts on Shareholders' Equity or the Price of Securities during the Current Fiscal Year up to the Date of Publication of the Annual Report: None.

ASE Technology Holding Co., Ltd.

Founder: Jason C.S. Chang

Date: February 28, 2023

Stock No. : 3711

NYSE : ASX



ASE Technology Holding Co., Ltd.

2022 Annual Report (Ⅱ)

Financial Statements

Print date : February 28, 2023

**ASE Technology Holding Co., Ltd.
and Subsidiaries**

**Consolidated Financial Statements for the
Years Ended December 31, 2022 and 2021 and
Independent Auditors' Report**

REPRESENTATION LETTER

The entities that are required to be included in the combined financial statements of ASE Technology Holding Co., Ltd. as of and for the year ended December 31, 2022, under the Criteria Governing the Preparation of Affiliation Reports, Consolidated Business Reports and Consolidated Financial Statements of Affiliated Enterprises are the same as those included in the consolidated financial statements prepared in conformity with the International Financial Reporting Standards No. 10, "Consolidated Financial Statements." In addition, the information required to be disclosed in the combined financial statements is included in the consolidated financial statements. Consequently, ASE Technology Holding Co., Ltd. and its subsidiaries do not prepare a separate set of combined financial statements.

Very truly yours,

ASE Technology Holding Co., Ltd.

By

JASON C.S. CHANG

Chairman

February 21, 2023



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INDEPENDENT AUDITORS' REPORT

The Board of Directors and Shareholders
ASE Technology Holding Co., Ltd.

Opinion

We have audited the accompanying consolidated financial statements of ASE Technology Holding Co., Ltd. (the "Company") and its subsidiaries (collectively referred to as the "Group"), which comprise the consolidated balance sheets as of December 31, 2022 and 2021, and the consolidated statements of comprehensive income, changes in equity and cash flows for the years then ended, and the notes to the consolidated financial statements, including a summary of significant accounting policies (collectively referred to as the "consolidated financial statements").

In our opinion, based on our audits and the report of other auditors (please refer to the Other Matter paragraph), the accompanying consolidated financial statements present fairly, in all material respects, the consolidated financial position of the Group as of December 31, 2022 and 2021, and its consolidated financial performance and its consolidated cash flows for the years then ended in accordance with the Regulations Governing the Preparation of Financial Reports by Securities Issuers and International Financial Reporting Standards (IFRS), International Accounting Standards (IAS), IFRIC Interpretations (IFRIC), and SIC Interpretations (SIC) endorsed and issued into effect by the Financial Supervisory Commission of the Republic of China.

Basis for Opinion

We conducted our audits in accordance with the Regulations Governing Auditing and Attestation of Financial Statements by Certified Public Accountants and Standards on Auditing of the Republic of China. Our responsibilities under those standards are further described in the Auditors' Responsibilities for the Audit of the Consolidated Financial Statements section of our report. We are independent of the Group in accordance with The Norm of Professional Ethics for Certified Public Accountant of the Republic of China, and we have fulfilled our other ethical responsibilities in accordance with these requirements. We believe that the audit evidence we have obtained is sufficient and appropriate to provide a basis for our opinion based on our audits and the report of other auditors.

Key Audit Matters

Key audit matters are those matters that, in our professional judgment, were of most significance in our audit of the consolidated financial statements for the year ended December 31, 2022. These matters were addressed in the context of our audit of the consolidated financial statements as a whole, and in forming our opinion thereon, and we do not provide a separate opinion on these matters.

The key audit matter of the Group's consolidated financial statements for the year ended December 31, 2022 is discussed as follows.

Evaluation of Goodwill for Impairment

The Group's evaluation of goodwill for impairment involves the comparison of the value in use of each segment to its carrying value. The Group used the discounted cash flow model to estimate value in use, which required management to make significant estimates and assumptions related to discount rates and forecasts of future revenues. Changes in these estimates and assumptions could have a significant impact on either the value in use, the amount of any goodwill impairment charge, or both. The goodwill balance was NT\$51,657,594 thousand as of December 31, 2022, of which NT\$34,863,747 thousand and NT\$13,321,826 thousand were allocated to the packaging and testing segments, respectively. The value in use of the packaging and testing segments exceeded their carrying values as of the measurement date and, therefore, no impairment was recognized.

The operation of packaging and testing segments are sensitive to changes in demand in the semiconductor industry which varies by economic trends. Given the significant estimates and assumptions management makes to estimate the value in use of packaging and testing segments and the sensitivity of their operations to changes in demand, performing audit procedures to evaluate the reasonableness of management's estimates and assumptions related to the selection of the discount rates and forecasts of future revenues for the packaging and testing segments required a high degree of auditors' judgment and an increased extent of effort, including the need to involve our fair value specialists.

Please refer to Notes 4(k), 5 and 18 for the related accounting policy, critical accounting judgements and key sources of estimation uncertainty as well as other disclosures for the Group's evaluation of goodwill for impairment.

Our audit procedures related to the discount rates and forecasts of future revenues used by management to estimate the value in use of the packaging and testing segments included the following, among others:

1. We tested the design and operating effectiveness of controls over management's evaluation of goodwill for impairment, including those over the determination of the value in use of the packaging and testing segments, such as controls related to management's selection of the discount rates and assessment on the reasonableness of forecasts of future revenues.
2. We evaluated management's ability to accurately forecast future revenues of the packaging and testing segments by comparing their actual results to management's historical forecasts.
3. We performed sensitivity analyses to evaluate the risk of impairment if key assumptions are changed.
4. With the assistance of our fair value specialists, we evaluated the reasonableness of the selected discount rates by performing certain procedures, including:
 - Testing the source information underlying the determination of the discount rates and the mathematical accuracy of the calculation.
 - Developing a range of independent estimates and comparing those to the discount rates selected by management.

Other Matter

We did not audit the consolidated financial statements of Siliconware Precision Industries Co., Ltd (SPIL), a subsidiary included in the consolidated financial statements of the Group, for the year ended December 31, 2021, but such statements were audited by other auditors. Our opinion, insofar as it relates to the amounts included for SPIL for the year ended December 31, 2021, is based solely on the report of other auditors. The total assets of SPIL constituted 22% of consolidated total assets as of December 31, 2021, and total revenues constituted 19% of consolidated total revenues for the year ended December 31, 2021.

We have also audited the parent company only financial statements of the Company for the years ended December 31, 2022 and 2021, respectively, on which we have expressed an unmodified opinion and an unmodified opinion with other matter paragraph, respectively.

Responsibilities of Management and Those Charged with Governance for the Consolidated Financial Statements

Management is responsible for the preparation and fair presentation of the consolidated financial statements in accordance with the Regulations Governing the Preparation of Financial Reports by Securities Issuers and IFRS, IAS, IFRIC, and SIC endorsed and issued into effect by the Financial Supervisory Commission of the Republic of China, and for such internal control as management determines is necessary to enable the preparation of consolidated financial statements that are free from material misstatement, whether due to fraud or error.

In preparing the consolidated financial statements, management is responsible for assessing the Group's ability to continue as a going concern, disclosing, as applicable, matters related to going concern and using the going concern basis of accounting unless management either intends to liquidate the Group or to cease operations, or has no realistic alternative but to do so.

Those charged with governance, including the audit committee, are responsible for overseeing the Group's financial reporting process.

Auditors' Responsibilities for the Audit of the Consolidated Financial Statements

Our objectives are to obtain reasonable assurance about whether the consolidated financial statements as a whole are free from material misstatement, whether due to fraud or error, and to issue an auditors' report that includes our opinion. Reasonable assurance is a high level of assurance, but is not a guarantee that an audit conducted in accordance with the Standards on Auditing of the Republic of China will always detect a material misstatement when it exists. Misstatements can arise from fraud or error and are considered material if, individually or in the aggregate, they could reasonably be expected to influence the economic decisions of users taken on the basis of these consolidated financial statements.

As part of an audit in accordance with the Standards on Auditing of the Republic of China, we exercise professional judgment and maintain professional skepticism throughout the audit. We also:

1. Identify and assess the risks of material misstatement of the consolidated financial statements, whether due to fraud or error, design and perform audit procedures responsive to those risks, and obtain audit evidence that is sufficient and appropriate to provide a basis for our opinion. The risk of not detecting a material misstatement resulting from fraud is higher than for one resulting from error, as fraud may involve collusion, forgery, intentional omissions, misrepresentations, or the override of internal control.
2. Obtain an understanding of internal control relevant to the audit in order to design audit procedures that are appropriate in the circumstances, but not for the purpose of expressing an opinion on the effectiveness of the Group's internal control.
3. Evaluate the appropriateness of accounting policies used and the reasonableness of accounting estimates and related disclosures made by management.
4. Conclude on the appropriateness of management's use of the going concern basis of accounting and, based on the audit evidence obtained, whether a material uncertainty exists related to events or conditions that may cast significant doubt on the Group's ability to continue as a going concern. If we conclude that a material uncertainty exists, we are required to draw attention in our auditors' report to the related disclosures in the consolidated financial statements or, if such disclosures are inadequate, to modify our opinion. Our conclusions are based on the audit evidence obtained up to the date of our auditors' report. However, future events or conditions may cause the Group to cease to continue as a going concern.

5. Evaluate the overall presentation, structure and content of the consolidated financial statements, including the disclosures, and whether the consolidated financial statements represent the underlying transactions and events in a manner that achieves fair presentation.
6. Obtain sufficient and appropriate audit evidence regarding the financial information of entities or business activities within the Group to express an opinion on the consolidated financial statements. We are responsible for the direction, supervision, and performance of the group audit. We remain solely responsible for our audit opinion.

We communicate with those charged with governance regarding, among other matters, the planned scope and timing of the audit and significant audit findings, including any significant deficiencies in internal control that we identify during our audit.

We also provide those charged with governance with a statement that we have complied with relevant ethical requirements regarding independence, and to communicate with them all relationships and other matters that may reasonably be thought to bear on our independence, and where applicable, related safeguards.

From the matters communicated with those charged with governance, we determine those matters that were of most significance in the audit of the consolidated financial statements for the year ended December 31, 2022 and are therefore the key audit matters. We describe these matters in our auditors' report unless law or regulation precludes public disclosure about the matter or when, in extremely rare circumstances, we determine that a matter should not be communicated in our report because the adverse consequences of doing so would reasonably be expected to outweigh the public interest benefits of such communication.

The engagement partners on the audit resulting in this independent auditors' report are Shih-Tsung Wu and Lee-Yuan Kuo.

Deloitte & Touche
Taipei, Taiwan
Republic of China

February 22, 2023

Notice to Readers

The accompanying consolidated financial statements are intended only to present the consolidated financial position, consolidated financial performance and consolidated cash flows in accordance with accounting principles and practices generally accepted in the Republic of China and not those of any other jurisdictions. The standards, procedures and practices to audit such consolidated financial statements are those generally applied in the Republic of China.

For the convenience of readers, the independent auditors' report and the accompanying consolidated financial statements have been translated into English from the original Chinese version prepared and used in the Republic of China. If there is any conflict between the English version and the original Chinese version or any difference in the interpretation of the two versions, the Chinese-language independent auditors' report and consolidated financial statements shall prevail.

ASE TECHNOLOGY HOLDING CO., LTD. AND SUBSIDIARIES

CONSOLIDATED BALANCE SHEETS

(In Thousands of New Taiwan Dollars)

ASSETS	December 31, 2022		December 31, 2021	
	NT\$	%	NT\$	%
CURRENT ASSETS				
Cash and cash equivalents (Note 6)	\$ 58,040,394	8	\$ 76,073,345	11
Financial assets at fair value through profit or loss				
- current (Note 7)	6,825,157	1	2,933,446	-
Contract assets - current (Note 41)	5,731,173	1	5,607,209	1
Trade receivables, net (Note 10)	114,646,999	16	115,462,210	17
Other receivables (Notes 10 and 30)	16,270,569	2	13,732,607	2
Current tax assets	748,519	-	542,180	-
Inventories (Note 11)	87,337,475	12	67,832,981	10
Inventories related to real estate business (Notes 12 and 36)	5,488,676	1	5,412,114	1
Other financial assets - current (Notes 13 and 36)	734,465	-	140,857	-
Other current assets	4,543,797	1	4,620,779	1
Total current assets	300,367,224	42	292,357,728	43
NON-CURRENT ASSETS				
Financial assets at fair value through profit or loss- non-current (Note 7)	2,108,994	-	2,502,834	-
Financial assets at fair value through other comprehensive income-non-current (Note 8)	1,542,271	-	2,019,812	-
Investments accounted for using the equity method (Note 14)	14,813,682	2	17,320,791	3
Property, plant and equipment (Notes 15, 25, 36 and 37)	268,234,618	38	239,867,550	36
Right-of-use assets (Note 16)	11,060,783	2	10,680,262	2
Investment properties (Notes 17, 25 and 36)	21,729,092	3	22,144,787	3
Goodwill (Note 18)	51,657,594	7	51,416,608	8
Other intangible assets (Notes 19 and 25)	21,177,708	3	24,563,707	4
Deferred tax assets	6,341,772	1	5,369,010	1
Other financial assets - non-current (Notes 13 and 36)	4,444,059	1	1,416,123	-
Other non-current assets	3,590,576	1	3,275,073	-
Total non-current assets	406,701,149	58	380,576,557	57
TOTAL	<u>\$ 707,068,373</u>	<u>100</u>	<u>\$ 672,934,285</u>	<u>100</u>

(Continued)

ASE TECHNOLOGY HOLDING CO., LTD. AND SUBSIDIARIES

CONSOLIDATED BALANCE SHEETS

(In Thousands of New Taiwan Dollars)

LIABILITIES AND EQUITY	December 31, 2022		December 31, 2021	
	NT\$	%	NT\$	%
CURRENT LIABILITIES				
Short-term borrowings (Notes 20 and 36)	\$ 34,526,510	5	\$ 34,319,464	5
Financial liabilities at fair value through profit or loss - current (Note 7)	626,760	-	417,660	-
Financial liabilities for hedging - current (Notes 20 and 34)	12,204,620	2	6,716,965	1
Trade payables	78,997,300	11	84,470,284	13
Other payables (Note 22)	57,115,100	8	46,696,900	7
Current tax liabilities	11,296,222	2	10,044,739	1
Lease liabilities - current (Note 16)	979,612	-	809,536	-
Current portion of bonds payable (Note 21)	4,998,971	1	9,902,710	2
Current portion of long-term borrowings (Notes 20 and 36)	5,041,841	1	4,526,683	1
Other current liabilities	16,473,962	2	13,022,789	2
Total current liabilities	222,260,898	32	210,927,730	32
NON-CURRENT LIABILITIES				
Financial liabilities for hedging - non-current (Notes 20 and 34)	-	-	4,780,931	1
Bonds payable (Note 21)	42,851,353	6	42,364,627	6
Long-term borrowings (Notes 20 and 36)	94,947,610	13	117,164,876	17
Deferred tax liabilities	8,479,555	1	7,114,529	1
Lease liabilities - non-current (Note 16)	6,728,875	1	6,590,348	1
Net defined benefit liabilities (Note 23)	4,325,492	1	5,864,071	1
Other non-current liabilities	7,549,527	1	3,494,448	1
Total non-current liabilities	164,882,412	23	187,373,830	28
Total liabilities	387,143,310	55	398,301,560	60
EQUITY ATTRIBUTABLE TO OWNERS OF THE COMPANY (Note 24)				
Share capital				
Ordinary shares	43,642,185	6	44,034,146	7
Shares subscribed in advance	37,656	-	52,356	-
Total share capital	43,679,841	6	44,086,502	7
Capital surplus	142,686,356	20	143,691,717	21
Retained earnings				
Legal reserve	12,582,960	2	6,300,198	1
Special reserve	10,367,052	1	9,569,027	1
Unappropriated earnings	97,882,542	14	75,449,674	11
Total retained earnings	120,832,554	17	91,318,899	13
Other equity	(3,954,396)	(1)	(11,532,042)	(2)
Treasury shares	(1,959,107)	-	(7,488,362)	(1)
Equity attributable to owners of the Company	301,285,248	42	260,076,714	38
NON-CONTROLLING INTERESTS (Note 24)	18,639,815	3	14,556,011	2
Total equity	319,925,063	45	274,632,725	40
TOTAL	<u>\$ 707,068,373</u>	<u>100</u>	<u>\$ 672,934,285</u>	<u>100</u>

The accompanying notes are an integral part of the consolidated financial statements.

(With Deloitte & Touche auditor's report dated February 22, 2023)

(Concluded)

ASE TECHNOLOGY HOLDING CO., LTD. AND SUBSIDIARIES

CONSOLIDATED STATEMENTS OF COMPREHENSIVE INCOME (In Thousands of New Taiwan Dollars Except Earnings Per Share)

	For the Year Ended December 31			
	2022		2021	
	NT\$	%	NT\$	%
OPERATING REVENUE (Note 41)	\$ 670,872,643	100	\$ 569,997,133	100
OPERATING COSTS (Notes 11 and 25)	535,942,631	80	459,628,356	81
GROSS PROFIT	134,930,012	20	110,368,777	19
OPERATING EXPENSES (Note 25)				
Selling and marketing expenses	6,920,503	1	6,386,763	1
General and administrative expenses	23,464,019	3	20,804,032	3
Research and development expenses	24,369,907	4	21,053,633	4
Total operating expenses	54,754,429	8	48,244,428	8
PROFIT FROM OPERATIONS	80,175,583	12	62,124,349	11
NON-OPERATING INCOME AND EXPENSES				
Other income (Note 25)	3,026,352	-	1,910,872	-
Other gains and losses (Note 25)	1,305,781	-	18,157,637	3
Finance costs (Note 25)	(4,009,782)	-	(2,831,307)	-
Share of the profit of associates and joint ventures	1,127,779	-	973,856	-
Total non-operating income and expenses	1,450,130	-	18,211,058	3
PROFIT BEFORE INCOME TAX	81,625,713	12	80,335,407	14
INCOME TAX EXPENSE (Note 26)	16,398,575	2	14,321,826	3
NET PROFIT FOR THE PERIOD	65,227,138	10	66,013,581	11
OTHER COMPREHENSIVE INCOME (LOSS)				
Items that will not be reclassified subsequently to profit or loss:				
Remeasurement of defined benefit obligation	1,157,261	-	51,167	-
Unrealized gain (loss) on equity investments at fair value through other comprehensive income	(423,303)	-	202,092	-

(Continued)

ASE TECHNOLOGY HOLDING CO., LTD. AND SUBSIDIARIES

CONSOLIDATED STATEMENTS OF COMPREHENSIVE INCOME (In Thousands of New Taiwan Dollars Except Earnings Per Share)

	For the Year Ended December 31			
	2022		2021	
	NT\$	%	NT\$	%
Share of other comprehensive income (loss) of associates and joint ventures	\$ (3,061,731)	-	\$ 3,675,236	1
Income tax relating to items that will not be reclassified subsequently to profit or loss	(208,482)	-	(19,319)	-
	<u>(2,536,255)</u>	<u>-</u>	<u>3,909,176</u>	<u>1</u>
Items that may be reclassified subsequently to profit or loss:				
Exchange differences on translating foreign operations	10,326,729	1	(4,094,565)	(1)
Unrealized gain (loss) on debt investments at fair value through other comprehensive income	(16,746)	-	63,722	-
Gain (loss) on hedging instruments	509,229	-	738,600	-
Share of other comprehensive income of associates and joint ventures	<u>(152,833)</u>	<u>-</u>	<u>29,209</u>	<u>-</u>
	<u>10,666,379</u>	<u>1</u>	<u>(3,263,034)</u>	<u>(1)</u>
Other comprehensive income (loss) for the period, net of income tax	<u>8,130,124</u>	<u>1</u>	<u>646,142</u>	<u>-</u>
TOTAL COMPREHENSIVE INCOME FOR THE PERIOD	<u>\$ 73,357,262</u>	<u>11</u>	<u>\$ 66,659,723</u>	<u>11</u>
NET PROFIT ATTRIBUTABLE TO:				
Owners of the Company	\$ 62,090,494	9	\$ 63,907,680	11
Non-controlling interests	<u>3,136,644</u>	<u>1</u>	<u>2,105,901</u>	<u>-</u>
	<u>\$ 65,227,138</u>	<u>10</u>	<u>\$ 66,013,581</u>	<u>11</u>
TOTAL COMPREHENSIVE INCOME ATTRIBUTABLE TO:				
Owners of the Company	\$ 69,793,469	10	\$ 64,627,793	11
Non-controlling interests	<u>3,563,793</u>	<u>1</u>	<u>2,031,930</u>	<u>-</u>
	<u>\$ 73,357,262</u>	<u>11</u>	<u>\$ 66,659,723</u>	<u>11</u>
EARNINGS PER SHARE (Note 27)				
Basic	<u>\$ 14.53</u>		<u>\$ 14.84</u>	
Diluted	<u>\$ 13.94</u>		<u>\$ 14.40</u>	

The accompanying notes are an integral part of the consolidated financial statements.

(With Deloitte & Touche auditor’s report dated February 22, 2023)

(Concluded)

ASE TECHNOLOGY HOLDING CO., LTD. AND SUBSIDIARIES

CONSOLIDATED STATEMENTS OF CHANGES IN EQUITY
(In Thousands of New Taiwan Dollars)

	Equity Attributable to Owners of the Company															
	Share Capital						Other Equity									
							Exchange Differences on Translating Foreign Operations	Unrealized Gain (Loss) on Financial Assets at Fair Value Through Other Comprehensive Income	Gain (Loss) on Hedging Instruments	Unearned Compensation	Total	Treasury Shares	Total	Non-controlling Interests	Total Equity	
	Shares (In Thousands)	Amounts	Capital Surplus	Legal Reserve	Special Reserve	Unappropriated Earnings	Total									
BALANCE AT JANUARY 1, 2021 (RETROSPECTIVELY ADJUSTED)	4,351,592	\$ 43,515,920	\$ 139,766,099	\$ 3,901,384	\$ 10,847,697	\$ 32,132,053	\$ 46,881,134	\$ (11,641,040)	\$ 2,501,278	\$ (429,265)	\$ -	\$ (9,569,027)	\$ (1,959,107)	\$ 218,635,019	\$ 15,627,534	\$ 234,262,553
Appropriation of 2020 earnings	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Legal reserve	-	-	-	2,398,814	-	(2,398,814)	-	-	-	-	-	-	-	-	-	-
Special reserve	-	-	-	-	(1,278,670)	1,278,670	-	-	-	-	-	-	-	-	-	-
Cash dividends distributed by the Company	-	-	-	-	-	(18,389,856)	(18,389,856)	-	-	-	-	-	-	(18,389,856)	-	(18,389,856)
	-	-	-	2,398,814	(1,278,670)	(19,510,000)	(18,389,856)	-	-	-	-	-	-	(18,389,856)	-	(18,389,856)
Changes from investments in associates accounted for using the equity method	-	-	(30,533)	-	-	382,572	382,572	-	(450,054)	-	-	(450,054)	-	(98,015)	-	(98,015)
Other changes in the capital surplus	-	-	1,633	-	-	-	-	-	-	-	-	-	-	1,633	-	1,633
Net profit for the year ended December 31, 2021	-	-	-	-	-	63,907,680	63,907,680	-	-	-	-	-	-	63,907,680	2,105,901	66,013,581
Other comprehensive income (loss) for the year ended December 31, 2021, net of income tax	-	-	-	-	-	25,842	25,842	(3,751,707)	3,894,880	551,098	-	694,271	-	720,113	(73,971)	646,142
Total comprehensive income (loss) for the year ended December 31, 2021, net of income tax	-	-	-	-	-	63,933,522	63,933,522	(3,751,707)	3,894,880	551,098	-	694,271	-	64,627,793	2,031,930	66,659,723
Buy-back of ordinary shares	-	-	-	-	-	-	-	-	-	-	-	-	(5,529,255)	(5,529,255)	-	(5,529,255)
Cash dividends received by subsidiaries from the Company	-	-	305,737	-	-	-	-	-	-	-	-	-	-	305,737	-	305,737
Changes in percentage of ownership interests in subsidiaries (Note 31)	-	-	(58,448)	-	-	(2,530,714)	(2,530,714)	-	-	-	-	-	-	(2,589,162)	(2,748,521)	(5,337,683)
Issue of ordinary shares under employee share options (Note 28)	57,058	570,582	3,648,781	-	-	-	-	-	-	-	(1,164,991)	(1,164,991)	-	3,054,372	-	3,054,372
Cash dividends distributed by subsidiaries	-	-	-	-	-	-	-	-	-	-	-	-	-	-	(1,062,529)	(1,062,529)
Additional non-controlling interest arising on issue of employee share options by subsidiaries (Note 28)	-	-	58,448	-	-	-	-	-	-	-	-	-	-	58,448	314,398	372,846
Issue of convertible bonds by subsidiary (Note 21)	-	-	-	-	-	-	-	-	-	-	-	-	-	-	393,199	393,199
Disposal of investments in equity instruments at fair value through other comprehensive income	-	-	-	-	-	1,042,241	1,042,241	-	(1,042,241)	-	-	(1,042,241)	-	-	-	-
BALANCE AT DECEMBER 31, 2021	4,408,650	\$ 44,086,502	\$ 143,691,717	\$ 6,300,198	\$ 9,569,027	\$ 75,449,674	\$ 91,318,899	\$ (15,392,747)	\$ 4,903,863	\$ 121,833	\$ (1,164,991)	\$ (11,532,042)	\$ (7,488,362)	\$ 260,076,714	\$ 14,556,011	\$ 274,632,725
BALANCE AT JANUARY 1, 2022	4,408,650	\$ 44,086,502	\$ 143,691,717	\$ 6,300,198	\$ 9,569,027	\$ 75,449,674	\$ 91,318,899	\$ (15,392,747)	\$ 4,903,863	\$ 121,833	\$ (1,164,991)	\$ (11,532,042)	\$ (7,488,362)	\$ 260,076,714	\$ 14,556,011	\$ 274,632,725
Appropriation of 2021 earnings	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Legal reserve	-	-	-	6,282,762	-	(6,282,762)	-	-	-	-	-	-	-	-	-	-
Special reserve	-	-	-	-	798,025	(798,025)	-	-	-	-	-	-	-	-	-	-
Cash dividends distributed by the Company	-	-	-	-	-	(30,501,981)	(30,501,981)	-	-	-	-	-	-	(30,501,981)	-	(30,501,981)
	-	-	-	6,282,762	798,025	(37,582,768)	(30,501,981)	-	-	-	-	-	-	(30,501,981)	-	(30,501,981)

(Continued)

ASE TECHNOLOGY HOLDING CO., LTD. AND SUBSIDIARIES

CONSOLIDATED STATEMENTS OF CHANGES IN EQUITY
(In Thousands of New Taiwan Dollars)

	Equity Attributable to Owners of the Company														Non-controlling Interests	Total Equity	
	Share Capital						Other Equity										
							Exchange Differences on Translating Foreign Operations	Unrealized Gain (Loss) on Financial Assets at Fair Value Through Other Comprehensive Income	Gain (Loss) on Hedging Instruments	Unearned Compensation	Total	Treasury Shares	Total				
	Shares (In Thousands)	Amounts	Capital Surplus	Legal Reserve	Special Reserve	Unappropriated Earnings								Total			
Donations from shareholders	-	-	\$ 471,894	-	-	\$ -	\$ -	-	\$ -	-	-	-	\$ -	-	\$ 471,894	-	\$ 471,894
Changes from investments in associates accounted for using the equity method	-	-	87,940	-	-	152,102	152,102	-	(152,102)	-	-	(152,102)	-	87,940	-	87,940	
Other changes in the capital surplus	-	-	1,186	-	-	-	-	-	-	-	-	-	-	1,186	-	1,186	
Net profit for the year ended December 31, 2022	-	-	-	-	-	62,090,494	62,090,494	-	-	-	-	-	-	62,090,494	3,136,644	65,227,138	
Other comprehensive income (loss) for the year ended December 31, 2022, net of income tax	-	-	-	-	-	895,896	895,896	9,864,258	(3,455,627)	398,448	-	6,807,079	-	7,702,975	427,149	8,130,124	
Total comprehensive income (loss) for the year ended December 31, 2022, net of income tax	-	-	-	-	-	62,986,390	62,986,390	9,864,258	(3,455,627)	398,448	-	6,807,079	-	69,793,469	3,563,793	73,357,262	
Buy-back of treasury shares	-	-	-	-	-	-	-	-	-	-	-	-	(205,608)	(205,608)	-	(205,608)	
Cancellation of treasury shares	(55,000)	(550,000)	(2,463,716)	-	-	(2,721,147)	(2,721,147)	-	-	-	-	-	5,734,863	-	-	-	
Cash dividends received by subsidiaries from the Company	-	-	38,404	-	-	-	-	-	-	-	-	-	-	38,404	-	38,404	
Changes in percentage of ownership interest in subsidiaries (Note 31)	-	-	(8,963)	-	-	(211,184)	(211,184)	-	-	-	-	-	-	(220,147)	(312,775)	(532,922)	
Issue of ordinary shares under employee share options (Note 28)	14,334	143,339	742,845	-	-	-	-	-	-	-	732,144	732,144	-	1,618,328	-	1,618,328	
Cash dividends distributed by subsidiaries	-	-	-	-	-	-	-	-	-	-	732,144	732,144	-	-	(575,089)	(575,089)	
Additional non-controlling interest arising on issue of employee share options by subsidiaries (Note 28)	-	-	125,049	-	-	-	-	-	-	-	-	-	-	125,049	315,871	440,920	
Issue of convertible bonds by subsidiary (Note 21)	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1,092,004	1,092,004	
Disposal of investments in equity instruments at fair value through other comprehensive income	-	-	-	-	-	(190,525)	(190,525)	-	190,525	-	-	190,525	-	-	-	-	
BALANCE AT DECEMBER 31, 2022	4,367,984	\$ 43,679,841	\$ 142,686,356	\$ 12,582,960	\$ 10,367,052	\$ 97,882,542	\$ 120,832,554	\$ (5,528,489)	\$ 1,486,659	\$ 520,281	\$ (432,847)	\$ (3,954,396)	\$ (1,959,107)	\$ 301,285,248	\$ 18,639,815	\$ 319,925,063	

The accompanying notes are an integral part of the consolidated financial statements.

(With Deloitte & Touche auditor’s report dated February 22, 2023)

(Concluded)

ASE TECHNOLOGY HOLDING CO., LTD. AND SUBSIDIARIES

CONSOLIDATED STATEMENTS OF CASH FLOWS

(In Thousands of New Taiwan Dollars)

	For the Year Ended December 31	
	2022	2021
	NT\$	NT\$
CASH FLOWS FROM OPERATING ACTIVITIES		
Profit before income tax	\$ 81,625,713	\$ 80,335,407
Adjustments for:		
Depreciation expense	51,520,810	50,470,157
Amortization expense	3,931,079	4,054,120
Net (gain) loss on fair value changes of financial assets and liabilities at fair value through profit or loss	(4,107,745)	1,490,005
Finance costs	4,009,782	2,831,307
Interest income	(654,747)	(542,329)
Dividend income	(278,381)	(289,852)
Share based compensations	989,843	699,211
Share of profit of associates and joint ventures	(1,127,779)	(973,856)
Gain on disposal of property, plant and equipment	(113,356)	(71,770)
Impairment loss recognized on financial assets	119,974	4,718
Impairment loss recognized on non-financial assets	2,359,055	774,712
Gain on disposal of subsidiaries	-	(17,340,418)
Gain recognized in bargain purchase transaction	-	(33,114)
Net loss on foreign currency exchange	6,318,273	(1,668,522)
Others	6,766	(74,356)
Changes in operating assets and liabilities		
Financial assets mandatorily classified as at fair value through profit or loss	7,070,941	2,174,012
Contract assets	(123,964)	(1,345,069)
Trade receivables	754,156	(27,957,812)
Other receivables	(1,953,605)	(354,849)
Inventories	(21,669,101)	(23,325,588)
Other current assets	20,864	(819,252)
Other financial assets	(3,476,090)	(811,510)
Other operating assets	(606,418)	26,306
Financial liabilities held for trading	(5,928,083)	(3,814,095)
Trade payables	(5,456,906)	13,654,819
Other payables	7,047,162	5,938,081
Other current liabilities	1,592,098	5,552,277
Other operating liabilities	5,265,384	2,017,904
Cash generated from operations	127,135,725	90,600,644
Interest received	652,679	527,551
Dividend received	957,611	655,537
Interest paid	(3,494,516)	(2,625,883)
Income tax paid	(14,250,527)	(7,423,947)
Net cash generated from operating activities	111,000,972	81,733,902

(Continued)

ASE TECHNOLOGY HOLDING CO., LTD. AND SUBSIDIARIES

CONSOLIDATED STATEMENTS OF CASH FLOWS

(In Thousands of New Taiwan Dollars)

	For the Year Ended December 31	
	2022	2021
	NT\$	NT\$
CASH FLOWS FROM INVESTING ACTIVITIES		
Purchase of financial assets at fair value through other comprehensive income	\$ (20,000)	\$ (32,246)
Proceeds from sale of financial assets at fair value through other comprehensive income	-	672
Return of capital from financial assets at fair value through other comprehensive income	63,051	14,201
Proceeds from sale of financial assets at amortized cost	-	26,531
Acquisition of associates accounted for using the equity method	(117,589)	(226,560)
Net cash outflow on acquisition of subsidiaries	-	(180,718)
Proceeds from disposal of subsidiaries	-	23,941,276
Payments for property, plant and equipment	(72,639,905)	(70,905,659)
Proceeds from disposal of property, plant and equipment	749,757	1,605,002
Payments for intangible assets	(382,767)	(1,069,866)
Proceeds from disposal of intangible assets	4,932	1,421
Payments for right-of-use assets	(682,602)	(956,218)
Payments for investment properties	(114,786)	-
Increase in other financial assets	(268,205)	(372,091)
Decrease in other financial assets	252,845	447,665
Increase in other non-current assets	(267,003)	(1,416,675)
Decrease in other non-current assets	280,916	324,270
Income tax paid	(842,440)	(570,700)
Proceeds from disposal of right-of-use assets	-	278,126
Other investing activities items	31,922	-
Net cash used in investing activities	(73,951,874)	(49,091,569)
CASH FLOWS FROM FINANCING ACTIVITIES		
Proceeds from short-term borrowings	1,866,253	10,043,398
Proceeds from bonds offering	6,365,377	3,280,943
Repayment of bonds payable	(9,904,800)	(7,000,000)
Proceeds from long-term borrowings	214,642,236	190,192,666
Repayment of long-term borrowings	(244,158,657)	(174,173,841)
Repayment of the principle portion of lease liabilities	(1,035,019)	(907,403)
Dividends paid	(29,990,842)	(18,082,500)
Proceeds from exercise of employee share options	1,069,255	2,727,915
Payments for buy-back of ordinary shares	(205,608)	(5,529,255)
Decrease in non-controlling interests	(1,108,010)	(6,400,212)
Other financing activities	1,009	(22,557)
Net cash generate from (used in) financing activities	(62,458,806)	(5,870,846)

(Continued)

ASE TECHNOLOGY HOLDING CO., LTD. AND SUBSIDIARIES

CONSOLIDATED STATEMENTS OF CASH FLOWS
(In Thousands of New Taiwan Dollars)

	For the Year Ended December 31	
	2022	2021
	NT\$	NT\$
EFFECTS OF EXCHANGE RATE CHANGES ON THE BALANCE OF CASH AND CASH EQUIVALENTS	<u>\$ 7,376,757</u>	<u>\$ (2,236,213)</u>
NET INCREASE (DECREASE) IN CASH AND CASH EQUIVALENTS	(18,032,951)	24,535,274
CASH AND CASH EQUIVALENTS AT THE BEGINNING OF THE PERIOD	<u>76,073,345</u>	<u>51,538,071</u>
CASH AND CASH EQUIVALENTS AT THE END OF THE PERIOD	<u><u>\$ 58,040,394</u></u>	<u><u>\$ 76,073,345</u></u>

The accompanying notes are an integral part of the consolidated financial statements.

(With Deloitte & Touche auditor's report dated February 22, 2023)

(Concluded)

ASE TECHNOLOGY HOLDING CO., LTD. AND SUBSIDIARIES

NOTES TO CONSOLIDATED FINANCIAL STATEMENTS

FOR THE YEARS ENDED DECEMBER 31, 2022 AND 2021

(Amounts in Thousands of New Taiwan Dollars, Unless Stated Otherwise)

1. GENERAL INFORMATION

ASE Technology Holding Co., Ltd. (the “Company”) is a corporation incorporated in Nanzih Technology Industrial Park under the laws of Republic of China (“R.O.C.”) starting from April 30, 2018 (date of incorporation). The Company and its subsidiaries (collectively referred to as the “Group”) offer a comprehensive range of semiconductors packaging, testing, and electronic manufacturing services (“EMS”).

The Company’s subsidiaries, Advanced Semiconductor Engineering, Inc. (symbol “2311”, “ASE”) and Siliconware Precision Industries Co., Ltd. (symbol “2325”, “SPIL”), entered into and executed a joint share exchange agreement to establish the Company and the Company acquired all issued and outstanding ordinary shares of ASE and SPIL on April 30, 2018. Both of ASE’s and SPIL’s ordinary shares have been delisted while the ordinary shares of the Company were listed starting from the same date under the symbol “3711”. In addition, ASE’s ordinary shares that have been traded on the New York Stock Exchange (the “NYSE”) under the symbol “ASX” in the form of American Depositary Shares (“ADS”) starting from September 2000 were exchanged as the Company’s ADSs under the same symbol “ASX” starting from April 30, 2018.

The ordinary shares of the Company’s subsidiary, Universal Scientific Industrial (Shanghai) Co., Ltd. (“USISH”), have been listed on the Shanghai Stock Exchange under the symbol “601231” since February 2012.

The consolidated financial statements are presented in the Company’s functional currency, New Taiwan dollar (NT\$).

2. APPROVAL OF FINANCIAL STATEMENTS

The consolidated financial statements were authorized for issue by the board of directors on February 21, 2023.

3. APPLICATION OF NEW, AMENDED AND REVISED STANDARDS AND INTERPRETATIONS

- a. Initial application of the amendments to the International Financial Reporting Standards (IFRS), International Accounting Standards (IAS), IFRIC Interpretations (IFRIC), and SIC Interpretations (SIC) (collectively, the “IFRSs”) endorsed and issued into effect by the Financial Supervisory Commission (the “FSC”)

The initial application of the IFRSs endorsed and issued into effect by the FSC did not have material impact on the Group’s accounting policies.

b. The IFRSs endorsed by the FSC for application starting from 2023

New, Revised or Amended Standards and Interpretations (New IFRSs)	Effective Date Announced by IASB
Amendments to IAS 1 “Disclosure of Accounting Policies”	January 1, 2023 (Note 1)
Amendments to IAS 8 “Definition of Accounting Estimates”	January 1, 2023 (Note 2)
Amendments to IAS 12 “Deferred Tax related to Assets and Liabilities arising from a Single Transaction”	January 1, 2023 (Note 3)

Note 1: The amendments will be applied prospectively for annual reporting periods beginning on or after January 1, 2023.

Note 2: The amendments will be applicable to changes in accounting estimates and changes in accounting policies that occur on or after the beginning of the annual reporting period beginning on or after January 1, 2023.

Note 3: Except for deferred taxes that were recognized on January 1, 2022 for temporary differences associated with leases and decommissioning obligations, the amendments were applied prospectively to transactions that occur on or after January 1, 2022.

1) Amendments to IAS 1 “Disclosure of Accounting Policies”

The amendments specify that the Group should refer to the definition of material to determine its material accounting policy information to be disclosed. Accounting policy information is material if it can reasonably be expected to influence decisions that the primary users of general purpose financial statements make on the basis of those financial statements. The amendments also clarify that:

- Accounting policy information that relates to immaterial transactions, other events or conditions is immaterial and need not be disclosed;
- The Group may consider the accounting policy information as material because of the nature of the related transactions, other events or conditions, even if the amounts are immaterial; and
- Not all accounting policy information relating to material transactions, other events or conditions is itself material.

The amendments also illustrate that accounting policy information is likely to be considered as material to the financial statements if that information relates to material transactions, other events or conditions and:

- (1) the Group changed its accounting policy during the reporting period and this change resulted in a material change to the information in the financial statements;
- (2) the Group chose the accounting policy from options permitted by the standards;
- (3) the accounting policy was developed in accordance with IAS 8 “Accounting Policies, Changes in Accounting Estimates and Errors” in the absence of an IFRS that specifically applies;
- (4) the accounting policy relates to an area for which the Group is required to make significant judgments or assumptions in applying an accounting policy, and the Group discloses those judgments or assumptions; or
- (5) the accounting is complex and users of the financial statements would otherwise not understand those material transactions, other events or conditions.

2) Amendments to IAS 8 “Definition of Accounting Estimates”

The amendments define that accounting estimates are monetary amounts in financial statements that are subject to measurement uncertainty. In applying accounting policies, the Group may be required to measure items at monetary amounts that cannot be observed directly and must instead be estimated. In such a case, the Group uses measurement techniques and inputs to develop accounting estimates to achieve the objective. The effects on an accounting estimate of a change in a measurement technique or a change in an input are changes in accounting estimates unless they result from the correction of prior period errors.

3) Amendments to IAS 12 “Deferred Tax related to Assets and Liabilities arising from a Single Transaction”

The amendments clarify that the initial recognition exemption under IAS 12 does not apply to transactions in which equal taxable and deductible temporary differences arise on initial recognition.

The Group shall recognize a deferred tax asset (to the extent that it is probable that taxable profit will be available against which the deductible temporary difference can be utilized) and a deferred tax liability for all deductible and taxable temporary differences associated with leases and decommissioning obligations on January 1, 2022, and the Group shall recognize the cumulative effect of initial application in retained earnings at that date. The Group shall apply the amendments prospectively to transactions other than leases and decommissioning obligations that occur on or after January 1, 2022. The Group shall restate its comparative information when it initially applies the aforementioned amendments.

Except for the above impact, as of the date the consolidated financial statements were authorized for issue, the Group has assessed that the application of other standards and interpretations will not have a material impact on the Group’s financial position and financial performance.

c. The IFRSs issued by IASB but not yet endorsed and issued into effect by the FSC

New, Revised or Amended Standards and Interpretations	Effective Date Announced by IASB (Note 1)
Amendments to IFRS 10 and IAS 28 “Sale or Contribution of Assets between An Investor and Its Associate or Joint Venture”	To be determined by IASB
Amendments to IFRS 16 “Leases Liability in a Sale and leaseback”	January 1, 2024 (Note 2)
Amendments to IAS 1 “Classification of Liabilities as Current or Non-current”	January 1, 2024
Amendments to IAS 1 “Non-current Liabilities with Covenants”	January 1, 2024

Note 1: Unless stated otherwise, the above New IFRSs are effective for annual reporting periods beginning on or after their respective effective dates.

Note 2: A seller-lessee shall apply the Amendments to IFRS 16 retrospectively to sale and leaseback transactions entered into after the date of initial application of IFRS 16.

1) Amendments to IAS 1 “Classification of Liabilities as Current or Non-current” (referred to as the “2020 amendments”) and “Non-current Liabilities with Covenants” (referred to as the “2022 amendments”)

The 2020 amendments clarify that for a liability to be classified as non-current, the Group shall assess whether it has the right at the end of the reporting period to defer settlement of the liability for at least twelve months after the reporting period. If such rights are in existence at the end of the

reporting period, the liability is classified as non-current regardless of whether the Group will exercise that right.

The 2020 amendments also stipulate that, if the right to defer settlement is subject to compliance with specified conditions, the Group must comply with those conditions at the end of the reporting period even if the lender does not test compliance until a later date. The 2022 amendments further clarify that only covenants with which an entity is required to comply on or before the reporting date should affect the classification of a liability as current or non-current. Although the covenants to be complied with within twelve months after the reporting period do not affect the classification of a liability, the Group shall disclose information that enables users of financial statements to understand the risk of the Group that may have difficulty complying with the covenants and repay its liabilities within twelve months after the reporting period

The 2020 amendments stipulate that, for the purpose of liability classification, the aforementioned settlement refers to a transfer of cash, other economic resources or the Group's own equity instruments to the counterparty that results in the extinguishment of the liability. However, if the terms of a liability that could, at the option of the counterparty, result in its settlement by a transfer of the Group's own equity instruments, and if such option is recognized separately as equity in accordance with IAS 32 "Financial Instruments: Presentation", the aforementioned terms would not affect the classification of the liability.

Except for the above impact, as of the date the consolidated financial statements were authorized for issue, the Group is continuously assessing the possible impact that the application of other standards and interpretations will have on the Group's financial position and financial performance and will disclose the relevant impact when the assessment is completed.

4. SUMMARY OF SIGNIFICANT ACCOUNTING POLICIES

a. Statement of compliance

The consolidated financial statements have been prepared in accordance with the Regulations Governing the Preparation of Financial Reports by Securities Issuers and IFRSs as endorsed by the FSC.

b. Basis of Preparation

The consolidated financial statements have been prepared on the historical cost basis except for financial instruments measured at fair value, contingent considerations assumed in business combinations and net defined benefit liabilities which are measured at the present value of the defined benefit obligation less the fair value of plan assets.

The fair value measurements, which are grouped into Levels 1 to 3 based on the degree to which the fair value measurement inputs are observable and based on the significance of the inputs to the fair value measurement in its entirety, are described as follows:

- 1) Level 1 inputs are quoted prices (unadjusted) in active markets for identical assets or liabilities;
- 2) Level 2 inputs are inputs other than quoted prices included within Level 1 that are observable for an asset or a liability, either directly (i.e. as prices) or indirectly (i.e. derived from prices); and
- 3) Level 3 inputs are unobservable inputs for an asset or a liability.

c. Classification of current and non-current assets and liabilities

Current assets include cash and cash equivalents and those assets held primarily for trading purposes or expected to be realized within twelve months after the balance sheet date, unless the asset is to be used for an exchange or to settle a liability, or otherwise remains restricted, at more than twelve months after the balance sheet date. Current liabilities are obligations incurred for trading purposes or to be settled within twelve months after the balance sheet date (even if an agreement to refinance, or to reschedule payments, on a long-term basis is completed after the balance sheet date and before the consolidated financial statements are authorized for issue) and liabilities that do not have an unconditional right to defer settlement for at least 12 months after the balance sheet date (terms of a liability that could, at the option of the counterparty, result in its settlement by the issue of equity instruments do not affect its classification). Assets and liabilities that are not classified as current are classified as non-current.

The Group engages in the construction business which has an operating cycle of over one year. The normal operating cycle applies when considering the classification of the Group's construction-related assets and liabilities.

d. Basis of consolidation

1) Principles for preparing consolidated financial statements

The consolidated financial statements incorporate the financial statements of the Company and the entities controlled by the Company (i.e. its subsidiaries).

Income and expenses of subsidiaries acquired or disposed of during the period are included in the consolidated statement of profit or loss and other comprehensive income from the effective dates of acquisitions up to the effective dates of disposals, as appropriate.

When necessary, adjustments are made to the financial statements of subsidiaries to bring their accounting policies into line with those used by the Company.

All intra-group transactions, balances, income and expenses are eliminated in full upon consolidation. Total comprehensive income of subsidiaries is attributed to the owners of the Company and to the non-controlling interests even if this results in the non-controlling interests having a deficit balance.

Changes in the Group's ownership interests in subsidiaries that do not result in the Group losing control over the subsidiaries are accounted for as equity transactions. The carrying amounts of the interests of the Group and the non-controlling interests are adjusted to reflect the changes in their relative interests in the subsidiaries. Any difference between the amount by which the non-controlling interests are adjusted and the fair value of the consideration paid or received is recognized directly in equity and attributed to the owners of the Company.

When the Group loses control of a subsidiary, a gain or loss is recognized in profit or loss and is calculated as the difference between (i) the aggregate of the fair value of the consideration received and any investment retained in the former subsidiary at its fair value at the date when control is lost and (ii) the assets (including any goodwill) and liabilities and any non-controlling interests of the former subsidiary at their carrying amounts at the date when control is lost. The Group accounts for all amounts recognized in other comprehensive income in relation to that subsidiary on the same basis as would be required had the Group directly disposed of the related assets or liabilities.

2) Subsidiaries included in consolidated financial statements were as follows:

Name of Investor	Name of Investee	Main Businesses	Establishment and Operating Location	Percentage of Ownership (%)	
				December 31,	
				2022	2021
The Company	ASE	Engaged in the packaging and testing of semiconductors	R.O.C.	100.0	100.0
	USI Inc. (“USIINC”)	Holding company	R.O.C.	100.0	100.0
	SPIL	Engaged in the assembly, testing and turnkey services of integrated circuit	R.O.C.	100.0	100.0
	ASE Social Enterprise Co., Ltd	Engaged in social services and was established in June 2022	R.O.C.	100.0	-
ASE	A.S.E. Holding Limited	Holding company	Bermuda	100.0	100.0
	J & R Holding Limited (“J&R Holding”)	Holding company	Bermuda	100.0	100.0
	Innosource Limited	Holding company	British Virgin Islands	100.0	100.0
	Omniquest Industrial Limited	Holding company	British Virgin Islands	71.0	71.0
	ASE Marketing & Service Japan Co., Ltd.	Engaged in marketing and sales services	Japan	100.0	100.0
	ASE Test, Inc.	Engaged in the testing of semiconductors	R.O.C.	100.0	100.0
	Luchu Development Corporation	Engaged in the development of real estate properties	R.O.C.	67.1	67.1
	Advanced Microelectronic Products Inc. (“AMPI”)	Engaged in the manufacturing of integrated circuit	R.O.C.	7.6	7.6
	ASE Singapore Pte. Ltd.	Engaged in the packaging and testing of semiconductors (acquired from ASE Test Limited (“ASE Test”) in November 2022)	Singapore	100.0	-
	ASE Electronics (M) Sdn. Bhd.	Engaged in the packaging and testing of semiconductors (acquired from ASE Holdings (Singapore) Pte Ltd in November 2022)	Malaysia	100.0	-
	ASE Test, Inc.	Alto Enterprises Limited	British Virgin Islands	100.0	100.0
	Super Zone Holdings Limited	Holding company	Hong Kong	100.0	100.0
	Luchu Development Corporation	Engaged in the development of real estate properties	R.O.C.	19.0	19.0
ASE Test, Inc.	TLJ Intertech Inc.	Engaged in information software services	R.O.C.	60.0	60.0
	MingFeng Information Service Corp., Ltd.	Liquidation completed in February 2022	R.O.C.	-	100.0
	AMPI	Engaged in the manufacturing of integrated circuit	R.O.C.	43.4	43.4
	A.S.E. Holding Limited	ASE Investment (Labuan) Inc.	Malaysia	70.1	70.1
	ASE Test	Holding company	Singapore	10.2	10.2
A.S.E. Holding Limited	ASE Technology Partners, Limited	Holding company	British Cayman Islands	100.0	100.0
	Integrated Solutions Enterprise Europe (“ITGEU”)	Trading company, and was acquired in October 2021 (Note 29)	Belgium	100.0	100.0
	J&R Holding	ASE Test	Singapore	89.8	89.8
	Omniquest Industrial Limited	Holding company	British Virgin Islands	8.4	8.4
	J&R Industrial Inc.	Engaged in leasing equipment and investing activity	R.O.C.	100.0	100.0
J&R Holding	ASE Japan Co., Ltd.	Engaged in the packaging and testing of semiconductors	Japan	100.0	100.0
	ASE (U.S.) Inc.	After-sales service and sales support	U.S.A.	100.0	100.0
	Global Advanced Packaging Technology Limited	Holding company	British Cayman Islands	100.0	100.0
	Innosource Limited	Omniquest Industrial Limited	British Virgin Islands	20.6	20.6
	ASE (Shanghai) Inc.	Engaged in the production of substrates	Shanghai, China	8.5	8.5
Omniquest Industrial Limited	ASE Corporation	Holding company	British Cayman Islands	100.0	100.0
	Alto Enterprises Limited	ASE (Kun shan) Inc.	Kun Shan, China	-	(Note 2)
Alto Enterprises Limited	ASE Investment (Kun Shan) Limited	Holding company (returned shares to ASE Assembly & Test (Shanghai) Limited through capital reduction in November 2022 and increased Alto Enterprises Limited’s percentage of ownership to 100%)	Kun Shan, China	100.0	85.9
	Super Zone Holdings Limited	Advanced Semiconductor Engineering (China) Ltd.	Shanghai, China	100.0	100.0
	ASE Investment (Labuan) Inc.	ASE (Korea) Inc. (“ASE Korea”)	Korea	100.0	100.0
ASE Technology Partners, Limited	ASE Technology Acquisition Corporation	Holding company	British Cayman Islands	100.0	100.0

(Continued)

Name of Investor	Name of Investee	Main Businesses	Establishment and Operating Location	Percentage of Ownership (%)	
				December 31, 2022	December 31, 2021
ASE Test	ASE Test Holdings, Ltd.	Holding company	British Cayman Islands	100.0	100.0
	ASE Holdings (Singapore) Pte Ltd	Holding company	Singapore	100.0	100.0
	ASE Investment (Labuan) Inc.	Holding company	Malaysia	29.9	29.9
	ASE Singapore Pte. Ltd.	Engaged in the packaging and testing of semiconductors (disposed to ASE in November 2022)	Singapore	-	100.0
ASE Test Holdings, Ltd.	ISE Labs, Inc.	Engaged in the testing of semiconductors	U.S.A.	100.0	100.0
ISE Labs, Inc.	ISE Services, Inc.	Engaged in wafer procurement and customer product management services	U.S.A.	100.0	100.0
ASE Holdings (Singapore) Pte Ltd	ASE Electronics (M) Sdn. Bhd.	Engaged in the packaging and testing of semiconductors (disposed to ASE in November 2022)	Malaysia	-	100.0
Global Advanced Packaging Technology Limited	ASE Assembly & Test (Shanghai) Limited	Engaged in the packaging and testing of semiconductors and leasing of properties	Shanghai, China	100.0	100.0
	GAPT Holding Limited	Holding company	British Virgin Islands	-	(Note2)
GAPT Holding Limited	Global Advanced Packaging Test (Hongkong) Limited	Engaged in the trading of substrates	Hong Kong	-	(Note2)
Global Advanced Packaging Test (Hongkong) Limited	Suzhou ASEN Semiconductors Co., Ltd. (“ASEN”)	Engaged in the packaging and testing of semiconductors	Suzhou, China	-	(Note2)
	ASE (Weihai) Inc.	Engaged in the packaging and testing of semiconductors (acquired from J&R Holding in October 2021 through share exchange under restructure)	Shandong, China	-	(Note2)
ASEN	ASE Advanced Semiconductor (Shanghai) Limited	Engaged in the packaging and testing of semiconductors (acquired from Global Advanced Packaging Technology Limited in November 2021)	Shanghai, China	-	(Note2)
ASE Assembly & Test (Shanghai) Limited	ASE Investment (Kun Shan) Limited	Holding company (reduced capital to ASE Assembly & Test (Shanghai) Limited in November 2022 and increased Alto Enterprises Limited’s percentage of ownership to 100%)	Kun Shan, China	-	14.1
	Wuxi Tongzhi Microelectronics Co., Ltd.	Engaged in the packaging and testing of semiconductors	Wuxi, China	100.0	100.0
	ISE Labs, China, Ltd.	Engaged in the testing of semiconductor	Shanghai, China	100.0	100.0
	Shanghai Ding Hui Real Estate Development Co., Ltd. (“DH”)	Engaged in the development, construction and sale of real estate properties	Shanghai, China	60.0	60.0
DH	Shanghai Ding Qi Property Management Co., Ltd.	Engaged in the management of real estate properties	Shanghai, China	100.0	100.0
	Shanghai Ding Wei Real Estate Development Co., Ltd.	Engaged in the management of properties, parking lot business and leasing of properties for shopping center	Shanghai, China	100.0	100.0
	Shanghai Ding Yu Real Estate Development Co., Ltd.	Engaged in the management of properties, parking lot business and leasing of properties for shopping center	Shanghai, China	100.0	100.0
	Kun Shan Ding Hong Real Estate Development Co., Ltd	Engaged in the development, construction and leasing of properties for shopping center	Kun Shan, China	100.0	100.0
	Shanghai Ding Xu Property Management Co., Ltd.	Engaged in the management of real estate properties	Shanghai, China	100.0	100.0
	Shanghai Ding yao Estate Development Co., Ltd.	Engaged in the management of real estate properties	Shanghai, China	100.0	100.0
	Shanghai Ding Fan Business Management Co., Ltd.	Engaged in the management of commercial complex services and department store trading	Shanghai, China	100.0	100.0
	ASE (Kun Shan) Inc.	Engaged in the packaging and testing of semiconductors	Kun Shan, China	-	(Note2)
ASE Investment (Kun Shan) Limited	ASE (Kun Shan) Inc.	Engaged in the packaging and testing of semiconductors	Kun Shan, China	-	(Note2)
ASE Corporation	ASE Mauritius Inc.	Holding company	Mauritius	100.0	100.0
ASE Mauritius Inc.	ASE Labuan Inc.	Holding company	Malaysia	100.0	100.0
	ASE (Kunshan) Inc.	Engaged in the packaging and testing of semiconductors	Kun Shan, China	-	(Note2)
ASE Labuan Inc. ASE (Shanghai) Inc.	ASE (Shanghai) Inc.	Engaged in the production of substrates	Shanghai, China	91.5	91.5
	ASE Electronics Inc.	Engaged in the production of substrates	R.O.C.	100.0	100.0
	Advanced Semiconductor Engineering (HK) Limited	Engaged in the trading of substrates	Hong Kong	100.0	100.0
	Shanghai Ding Hui Real Estate Development Co., Ltd.	Engaged in the development, construction and sale of real estate properties	Shanghai, China	40.0	40.0

(Continued)

Name of Investor	Name of Investee	Main Businesses	Establishment and Operating Location	Percentage of Ownership (%)	
				December 31, 2022	2021
USIINC	Universal Scientific Industrial (Shanghai) Co., Ltd. (“USISH”)	Engaged in the designing, manufacturing and sales of electronic components	Shanghai, China	0.8	0.8
	Huntington Holdings International Co., Ltd.	Holding company	British Virgin Islands	100.0	100.0
	Unitech Holdings International Co., Ltd.	Holding company	British Virgin Islands	100.0	100.0
Huntington Holdings International Co., Ltd.	Real Tech Holdings Limited	Holding company	British Virgin Islands	100.0	100.0
Real Tech Holdings Limited	Universal ABIT Holding Co., Ltd.	In the process of liquidation	British Cayman Islands	100.0	100.0
	USI Enterprise Limited (“USIE”)	Engaged in the service of investment advisory and warehousing management	Hong Kong	100.0	100.0
USIE	USISH	Engaged in the designing, manufacturing and sales of electronic components	Shanghai, China	77.2	77.1
USISH	Universal Global Technology Co., Limited	Holding company	Hong Kong	100.0	100.0
	Universal Global Technology (Kunshan) Co., Ltd. (“UGKS”)	Engaged in the designing and manufacturing of electronic components	Kun Shan, China	100.0	100.0
	Universal Global Technology (Shanghai) Co., Ltd.	Engaged in the processing and sales of computer and communication peripherals as well as business in import and export of goods and technology	Shanghai, China	100.0	100.0
Universal Global Technology Co., Limited	Universal Global Electronics (Shanghai) Co., Ltd.	Engaged in the sales of electronic components and telecommunications equipment	Shanghai, China	100.0	100.0
	USI Electronics (Shenzhen) Co., Ltd.	Engaged in the design, manufacturing and sales of motherboards and computer peripherals	Shenzhen, China	50.0	50.0
	Universal Global Technology (Huizhou) Co., Ltd	Engaged in the research and manufacturing of new electronic applications, communications, computers and other electronics products and also provided auxiliary technical services as well as import and export services	Huizhou, China	100.0	100.0
	FINANCIERE AFG (“FAFG”)	Holding company	France	10.4	10.4
	Universal Global Industrial Co., Limited	Engaged in manufacturing, trading and investing activity	Hong Kong	100.0	100.0
	Universal Global Scientific Industrial Co., Ltd. (“UGTW”)	Engaged in the manufacturing of components of telecommunication and cars and provision of related R&D services	R.O.C.	100.0	100.0
	USI America Inc.	Engaged in the manufacturing and processing of motherboards and wireless network communication and provision of related technical service	U.S.A.	100.0	100.0
	Universal Scientific Industrial De Mexico S.A. De C.V.	Engaged in the assembling of motherboards and computer components	Mexico	100.0	100.0
	USI Japan Co., Ltd.	Engaged in the manufacturing and sales of computer peripherals, integrated chip and other related accessories	Japan	100.0	100.0
	USI Electronics (Shenzhen) Co., Ltd.	Engaged in the design, manufacturing and sales of motherboards and computer peripherals	Shenzhen, China	50.0	50.0
	Universal Global Electronics Co., Ltd.	Engaged in accepting and outsourcing orders as well as sales of electronic components and service of technical advisory	Hong Kong	100.0	100.0
	Universal Scientific Industrial (France) (“USIFR”)	Engaged in investing activities	France	100.0	100.0
Universal Global Industrial Co., Limited	UNIVERSAL SCIENTIFIC INDUSTRIAL VIETNAM COMPANY LIMITED	Engaged in IC assembly for wearable devices	Vietnam	100.0	100.0
	Universal Scientific Industrial De Mexico S.A. De C.V.	Engaged in the assembling of motherboards and computer components	Mexico	(Note 1)	(Note 1)
	UGTW	Engaged in the manufacturing, processing and sales of computers, computer peripherals and related accessories	R.O.C.	100.0	100.0
Universal Global Electronics Co., Ltd.	Universal Scientific Industrial Poland Sp. z o.o. (“USIPL”)	Engaged in the design and manufacturing of electronic components and new electronic applications.	Poland	100.0	100.0

(Continued)

Name of Investor	Name of Investee	Main Businesses	Establishment and Operating Location	Percentage of Ownership (%)	
				December 31, 2022	December 31, 2021
Universal Global Electronics (Shanghai) Co., Ltd.	USI Science and Technology (Shenzhen) Co., Ltd.	Engaged in the design of electronic components, service of technical advisory; wholesale of electronic components and communication peripherals as well as business in import and export of goods and management of properties.	Shenzhen, China	100.0	100.0
USIFR FAFG	FAFG	Holding company	France	89.6	89.6
	ASTEELFLASH GROUP	Holding company (acquired 1 share from USIFR in October 2021 and merged by FAFG in January 2022)	France	-	100.0
	MANUFACTURING POWER TUNISIA	Engaged in the design and manufacturing of electronic components (acquired from ASTEELFLASH GROUP in January 2022)	Tunisia	100.0	0.1
	ASTEELFLASH MEXICO S.A. de C.V.	Engaged in the design and manufacturing of electronic components (acquired from ASTEELFLASH GROUP in January 2022)	Mexico	100.0	0.1
	ASTEELFLASH (BEDFORD) LIMITED	Engaged in the design and manufacturing of electronic components (acquired from ASTEELFLASH GROUP in January 2022)	United Kingdom	100.0	-
	ASTEELFLASH FRANCE	Engaged in the design and manufacturing of electronic components (acquired from ASTEELFLASH GROUP in January 2022)	France	99.9	-
	ASTEELFLASH TUNISIE S.A.	Engaged in the design and manufacturing of electronic components (acquired from ASTEELFLASH GROUP in January 2022)	Tunisia	100.0	-
	ASTEELFLASH HONG KONG LIMITED	Holding company (acquired from ASTEELFLASH GROUP in January 2022)	Hong Kong	100.0	-
	ASTEELFLASH GERMANY GmbH	Engaged in the design and manufacturing of electronic components (acquired from ASTEELFLASH GROUP in January 2022)	Germany	100.0	-
	ASTEELFLASH US HOLDING CORP.	Holding company (acquired from ASTEELFLASH GROUP in January 2022)	U.S.A.	100.0	-
	AFERH TUNISIE	Engaged in the management, training and consulting of human resources (acquired from ASTEELFLASH GROUP in January 2022)	Tunisia	0.5	-
	ASTEEL ELECTRONICS MANUFACTURING SERVICES	Engaged in the design and manufacturing of electronic components (acquired from ASTEELFLASH GROUP in January 2022)	Tunisia	0.1	-
	ASTEELFLASH PLZEN S.R.O.	Engaged in the design and manufacturing of electronic components (acquired from ASTEELFLASH GROUP in January 2022)	Czech Republic	100.0	-
	ASTEELFLASH GROUP	ASTEELFLASH (BEDFORD) LIMITED	United Kingdom	-	100.0
		ASTEELFLASH FRANCE	France	-	99.9
		ASTEELFLASH TUNISIE S.A.	Tunisia	-	100.0
		ASTEELFLASH HONG KONG LIMITED	Hong Kong	-	100.0
		ASTEELFLASH MEXICO S.A. de C.V.	Mexico	-	99.9

(Continued)

Name of Investor	Name of Investee	Main Businesses	Establishment and Operating Location	Percentage of Ownership (%)	
				December 31, 2022	2021
ASTEELFLASH (BEDFORD) LIMITED	ASTEELFLASH GERMANY GmbH	Engaged in the design and manufacturing of electronic components (disposed to FAFG in January 2022)	Germany	-	100.0
	MANUFACTURING POWER TUNISIA	Engaged in the design and manufacturing of electronic components (disposed to FAFG in January 2022)	Tunisia	-	99.9
	ASTEELFLASH US HOLDING CORP.	Holding company (disposed to FAFG in January 2022)	U.S.A.	-	100.0
	AFERH TUNISIE	Engaged in the management, training and consulting of human resources (disposed to FAFG in January 2022)	Tunisia	-	0.5
	ASTEEL ELECTRONICS MANUFACTURING SERVICES	Engaged in the design and manufacturing of electronic components (disposed to FAFG in January 2022)	Tunisia	-	0.1
	ASTEELFLASH PLZEN S.R.O.	Engaged in the design and manufacturing of electronic components (disposed to FAFG in January 2022)	Czech Republic	-	100.0
	ASTEELFLASH TUNISIE S.A.	Engaged in the design and manufacturing of electronic components	Tunisia	(Note1)	(Note1)
	ASTEELFLASH FRANCE	Engaged in the design and manufacturing of electronic components	France	(Note1)	(Note1)
	ASTEEL ELECTRONICS MANUFACTURING SERVICES	Engaged in the design and manufacturing of electronic components	Tunisia	99.9	99.9
	ASTEELFLASH TECHNOLOGIE	Engaged in projection of plastic and the design and manufacturing of industrial components	France	100.0	100.0
ASTEELFLASH FRANCE	ASTEELFLASH BRETAGNE	Engaged in the design and manufacturing of electronic components	France	100.0	100.0
	ASTEELFLASH TUNISIE S.A.	Engaged in the design and manufacturing of electronic components	Tunisia	(Note1)	(Note1)
	AFERH TUNISIE	Engaged in the management, training and consulting of organization and human resources	Tunisia	99.5	99.5
	ASTEELFLASH HONG KONG LIMITED	Engaged in the design and manufacturing of electronic components	Suzhou, China	100.0	100.0
	ASTEELFLASH SUZHOU CO., LTD.	Engaged in the design and manufacturing of electronic components	Tunisia	(Note1)	(Note1)
	ASTEELFLASH GERMANY GmbH	Engaged in the design and manufacturing of electronic components	Germany	100.0	100.0
	ASTEELFLASH EBERBACH GmbH	Engaged in the design and manufacturing of electronic components	Germany	100.0	100.0
	ASTEELFLASH BONN GmbH	Engaged in the design and manufacturing of electronic components	Germany	100.0	100.0
	ASTEELFLASH SCHWANDORF GmbH	Engaged in the design and manufacturing of electronic components	Germany	100.0	100.0
	ASTEELFLASH DESIGN SOLUTIONS HAMBOURG GmbH	Engaged in the design and manufacturing of electronic components	Germany	100.0	100.0
ASTEELFLASH SUZHOU CO., LTD.	EN ELECTRONICNETWORK SRL	Engaged in the design and manufacturing of electronic components	Romania	100.0	100.0
	ASTEELFLASH TUNISIE S.A.	Engaged in the design and manufacturing of electronic components	Tunisia	(Note1)	(Note1)
	ASTEELFLASH MEXICO S.A. de C.V.	Engaged in the design and manufacturing of electronic components	Tunisia	(Note1)	(Note1)
	ASTEELFLASH US HOLDING CORP.	Engaged in the design and manufacturing of electronic components	U.S.A.	100.0	100.0
	ASTEELFLASH USA CORP.	Engaged in the design and manufacturing of electronic components	Tunisia	(Note1)	(Note1)
	SPIL	Engaged in investing activities	British Virgin Islands	100.0	100.0

(Continued)

Name of Investor	Name of Investee	Main Businesses	Establishment and Operating Location	Percentage of Ownership (%)	
				December 31, 2022	December 31, 2021
SPIL (B.V.I.) Holding Limited	Siliconware Investment Co., Ltd.	Engaged in investing activities (merged by SPIL in March 2022)	R.O.C.	-	100.0
	Siliconware USA, Inc.	Engaged in marketing activities	U.S.A.	100.0	100.0
	SPIL (Cayman) Holding Limited	Engaged in investing activities	British Cayman Islands	100.0	100.0
SPIL (Cayman) Holding Limited	Siliconware Technology (Suzhou) Limited("SZ")	Engaged in the packaging and testing of semiconductors	Suzhou, China	100.0	100.0

(Concluded)

Note 1: The number of shares held was 1 share or 3 shares and the percentage of ownership was less than 0.1%.

Note 2: In December 2021, the Company's board of directors resolved to dispose its 100% shareholdings in those subsidiaries, which were settled in December 2021 and resulted in losing its control over those subsidiaries. Refer to Note 30 DISPOSAL OF SUBSIDIARIES for related disclosure.

e. Business combinations

Acquisitions of businesses are accounted for using the acquisition method. Acquisition-related costs are generally recognized in profit or loss as they are incurred.

Goodwill is measured as the excess of the sum of the consideration transferred, the amount of any non-controlling interests in the acquiree, and the fair value of the acquirer's previously held equity interest in the acquiree (if any) over the net of the acquisition-date amounts of the identifiable assets acquired and the liabilities assumed. If, after re-assessment, the net of the acquisition-date amounts of the identifiable assets acquired and liabilities assumed exceeds the sum of the consideration transferred, the amount of any non-controlling interests in the acquiree and the fair value of the acquirer's previously held interest in the acquiree (if any), the excess is recognized immediately in profit or loss as a bargain purchase gain.

Where the consideration the Group transfers in a business combination includes assets or liabilities resulting from a contingent consideration arrangement, the contingent consideration is measured at its acquisition-date fair value and considered as part of the consideration transferred in a business combination. Changes in the fair value of the contingent consideration that qualify as measurement period adjustments are adjusted retrospectively, with the corresponding adjustments being made against goodwill or gains on bargain purchases. Measurement period adjustments are adjustments that arise from additional information obtained during the measurement period about facts and circumstances that existed as of the acquisition date. The measurement period does not exceed 1 year from the acquisition date.

The subsequent accounting for changes in the fair value of the contingent consideration that do not qualify as measurement period adjustments depends on how the contingent consideration is classified. Contingent consideration not classified as equity is remeasured at fair value at the end of subsequent reporting period with any gain or loss recognized in profit or loss.

When a business combination is achieved in stages, the Group's previously held equity interest in an acquiree is remeasured to fair value at acquisition date, and the resulting gain or loss, if any, is recognized in profit or loss or other comprehensive income. Amounts arising from interests in the acquiree prior to the acquisition date that have previously been recognized in other comprehensive income are recognized on the same basis as would be required had those interest been directly disposed of by the Group.

If the initial accounting for a business combination is incomplete by the end of the reporting period in which the combination occurs, the Group reports provisional amounts for the items for which the accounting is incomplete. Those provisional amounts are adjusted retrospectively during the measurement period, or additional assets or liabilities are recognized, to reflect new information obtained about facts and circumstances that existed at the acquisition date that, if known, would have affected the amounts recognized at that date.

Business combination involving entities under common control is not accounted for using the acquisition method but is accounted for at the carrying amounts of the entities. The Group elected not to restate comparative information of the prior period in the financial statements as the business combination was an organization restructure under common control.

f. Foreign currencies

In preparing the financial statements of each individual entity, transactions in currencies other than the entity's functional currency (i.e. foreign currencies) are recognized at the rates of exchange prevailing at the dates of the transactions.

At each balance sheet date, monetary items denominated in foreign currencies are retranslated at the rates prevailing at that date. Exchange differences on monetary items arising from settlement or translation are recognized in profit or loss in the period in which they arise except for exchange differences on transactions entered into in order to hedge certain foreign currency risks.

Non-monetary items denominated in foreign currencies that are measured at fair value are retranslated at the rates prevailing at the date when the fair value was determined. Exchange differences arising from the retranslation of non-monetary items are included in profit or loss for the period except for exchange differences arising from the retranslation of non-monetary items in respect of which gains and losses are recognized directly in other comprehensive income, in which cases, the exchange differences are also recognized directly in other comprehensive income.

Non-monetary items denominated in a foreign currency and measured at historical cost are translated using the exchange rate at the date of the transaction, and are not retranslated.

For the purposes of presenting the consolidated financial statements, the assets and liabilities of the Group's foreign operations (including subsidiaries, associates and joint ventures in other countries that use currencies which are different from the currency of the Company) are translated into the New Taiwan dollars using exchange rates prevailing at each balance sheet date. Income and expense items are translated at the average exchange rates for the period. The resulting currency translation differences are recognized in other comprehensive income and accumulated in equity attributed to the owners of the Company and non-controlling interests as appropriate.

On the disposal of the Group's entire interest in a foreign operation, or a disposal involving the loss of control over a subsidiary that includes a foreign operation, or a partial disposal of an interest in a joint arrangement or an associate that includes a foreign operation of which the retained interest becomes a financial asset, all of the exchange differences accumulated in equity in respect of that operation attributable to the owners of the Company are reclassified to profit or loss.

In relation to a partial disposal of a subsidiary that does not result in the Group losing control over the subsidiary, the proportionate share of accumulated exchange differences is re-attributed to the non-controlling interests of the subsidiary and is not recognized in profit or loss. For all other partial disposals, the proportionate share of the accumulated exchange differences recognized in other comprehensive income is reclassified to profit or loss.

Goodwill and fair value adjustments recognized on identifiable assets and liabilities of acquired foreign operation are treated as assets and liabilities of the foreign operation and translated at the rates of exchange prevailing at the end of each reporting period. Exchange differences are recognized in other

comprehensive income.

g. Inventories and inventories related to real estate business

Inventories, including raw materials, supplies, work in process, finished goods, and materials and supplies in transit are stated at the lower of cost or net realizable value. Inventory write-downs are made by item, except for those that may be appropriate to group items of similar or related inventories. Net realizable value is the estimated selling prices of inventories less all estimated costs of completion and estimated costs necessary to make the sale. Raw materials and supplies are recorded at moving average cost while work in process and finished goods are recorded at standard cost.

Inventories related to real estate business include land and buildings held for sale, land held for construction and construction in progress. Land held for development is recorded as land held for construction upon obtaining the title of ownership. Prior to the completion, the borrowing costs directly attributable to construction in progress are capitalized as part of the cost of the asset. Construction in progress is transferred to land and buildings held for sale upon completion. Land and buildings held for sale, construction in progress and land held for construction are stated at the lower of cost or net realizable value and related write-downs are made by item. The amounts received in advance for real estate properties are first recorded as advance receipts and then recognized as revenue when the construction is completed and the title and significant risk of the real estate properties are transferred to customers. Cost of sales of land and buildings held for sale are recognized based on the ratio of property sold to the total property developed.

h. Investments in associates and joint ventures

An associate is an entity over which the Group has significant influence and that is neither a subsidiary nor an interest in a joint venture. Joint venture is a joint arrangement whereby the Group and other parties that have joint control of the arrangement have rights to the net assets of the arrangement.

The Group applies the equity method to investments in an associate and joint venture.

Under the equity method, investments in an associate and a joint venture are initially recognized at cost and adjusted thereafter to recognize the Group's share of the profit or loss and other comprehensive income of the associate and joint venture. The Group also recognizes the changes in the Group's share of equity of associates and joint venture.

Any excess of the cost of acquisition over the Group's share of the net fair value of the identifiable assets and liabilities of an associate or a joint venture at the date of acquisition is recognized as goodwill, which is included within the carrying amount of the investment and is not amortized. Any excess of the Group's share of the net fair value of the identifiable assets and liabilities over the cost of acquisition after reassessment is recognized immediately in profit or loss.

When the Group subscribes for additional new shares of an associate and joint venture at a percentage different from its existing ownership percentage, the resulting carrying amount of the investment differs from the amount of the Group's proportionate interest in the associate and joint venture. The Group records such a difference as an adjustment to investments with the corresponding amount charged or credited to capital surplus - changes in capital surplus from investments in associates and joint ventures accounted for using the equity method. If the Group's ownership interest is reduced due to its additional subscription of the new shares of the associate and joint venture, the proportionate amount of the gains or losses previously recognized in other comprehensive income in relation to that associate and joint venture is reclassified to profit or loss on the same basis as would be required had the investee directly disposed of the related assets or liabilities. When the adjustment should be debited to capital surplus, but the capital surplus recognized from investments accounted for using the equity method is insufficient, the shortage is debited to retained earnings..

When the Group's share of losses of an associate and a joint venture equals or exceeds its interest in that associate and joint venture (which includes any carrying amount of the investment accounted for using the equity method and long-term interests that, in substance, form part of the Group's net investment in the associate and joint venture), the Group discontinues recognizing its share of further losses. Additional losses and liabilities are recognized only to the extent that the Group has incurred legal obligations or constructive obligations, or made payments on behalf of that associate and joint venture.

The entire carrying amount of an investment (including goodwill) is tested for impairment as a single asset by comparing its recoverable amount with its carrying amount. Any impairment loss recognized is not allocated to any asset, including goodwill, that forms part of the carrying amount of the investment. Any reversal of that impairment loss is recognized to the extent that the recoverable amount of the investment subsequently increases.

The Group discontinues the use of the equity method from the date on which its investment ceases to be an associate and a joint venture. Any retained investment is measured at fair value at that date, and the fair value is regarded as the investment's fair value on initial recognition as a financial asset. The difference between the previous carrying amount of the associate and the joint venture attributable to the retained interest and its fair value is included in the determination of the gain or loss on disposal of the associate and the joint venture. The Group accounts for all amounts previously recognized in other comprehensive income in relation to that associate and joint venture on the same basis as would be required had that associate directly disposed of the related assets or liabilities. If an investment in an associate becomes an investment in a joint venture or an investment in a joint venture becomes an investment in an associate, the Group continues to apply the equity method and does not remeasure the retained interest.

When a group entity transacts with its associate and joint venture, profits and losses resulting from the transactions with the associate and joint venture are recognized in the Group's consolidated financial statements only to the extent that interests in the associate and the joint venture are not related to the Group.

i. Property, plant and equipment

Except for land which is stated at cost, property, plant and equipment are stated at cost less accumulated depreciation and accumulated impairment.

Properties in the course of construction are carried at cost, less any recognized impairment loss. Cost includes professional fees and borrowing costs eligible for capitalization. Such assets are depreciated and classified to the appropriate categories of property, plant and equipment when completed and ready for their intended use.

Freehold land is not depreciated.

Depreciation of property, plant and equipment is recognized using the straight-line method. Each significant part is depreciated separately. The estimated useful lives, residual values and depreciation method are reviewed at each balance sheet date, with the effect of any changes in estimate accounted for on a prospective basis.

On derecognition of an item of property, plant and equipment, the difference between the sales proceeds and the carrying amount of the asset is recognized in profit or loss.

j. Investment properties

Investment properties are properties held to earn rental and/or for capital appreciation. Investment properties include right-of-use assets and properties under construction that meet the definition of investment properties.

Freehold investment properties are initially measured at cost, including transaction costs. Subsequent to initial recognition, investment properties are measured at cost less accumulated depreciation and accumulated impairment loss.

Investment properties acquired through leases are initially measured at cost, which comprises the initial measurement of lease liabilities adjusted for lease payments made on or before the commencement date, plus initial direct costs incurred and an estimate of costs needed to restore the underlying assets, less any lease incentives received. These investment properties are subsequently measured at cost less accumulated depreciation and accumulated impairment loss and adjusted for any remeasurement of the lease liabilities.

Depreciation is recognized using the straight-line method.

Investment properties under construction are measured at cost less accumulated impairment loss. Cost includes professional fees and borrowing costs eligible for capitalization. Depreciation of these assets commences when the assets are ready for their intended use.

For a transfer of classification from investment properties to property, plant and equipment and to right-of-use assets, the deemed cost of the property for subsequent accounting is its carrying amount at the commencement of owner-occupation.

For a transfer of classification from property, plant and equipment and right-of-use assets to investment properties, the deemed cost of an item of property for subsequent accounting is its carrying amount at the end of owner-occupation.

For a transfer of classification from inventories to investment properties, the deemed cost of an item of property for subsequent accounting is its carrying amount at the inception of an operating lease.

On derecognition of an investment property, the difference between the net disposal proceeds and the carrying amount of the asset is included in profit or loss.

k. Goodwill

Goodwill arising from an acquisition of a business is carried at cost as established at the date of acquisition of the business less accumulated impairment loss.

For the purposes of impairment testing, goodwill is allocated to each of the Group's cash-generating units or groups of cash-generating units (referred to as "cash-generating unit") that is expected to benefit from the synergies of the combination.

A cash-generating unit to which goodwill has been allocated is tested for impairment annually, or more frequently when there is an indication that the unit may be impaired, by comparing its carrying amount, including the attributed goodwill, with its recoverable amount. However, if the goodwill allocated to a cash-generating unit was acquired in a business combination during the current annual period, that unit shall be tested for impairment before the end of the current annual period. If the recoverable amount of the cash-generating unit is less than its carrying amount, the impairment loss is allocated first to reduce the carrying amount of any goodwill allocated to the unit and then pro rata to the other assets of the unit based on the carrying amount of each asset in the unit. Any impairment loss is recognized directly in profit or loss. An impairment loss recognized for goodwill is not reversed in subsequent periods.

1. Other intangible assets

1) Separate acquisition

Other intangible assets with finite useful lives acquired separately are initially measured at cost and subsequently measured at cost less accumulated amortization and accumulated impairment loss. Other intangible assets are amortized using the straight-line method over their estimated useful lives. The estimated useful lives, residual values, and amortization methods are reviewed at each balance sheet date, with the effect of any changes in estimate being accounted for on a prospective basis.

2) Acquired through business combinations

Other intangible assets acquired in a business combination and recognized separately from goodwill are initially recognized at their fair value at the acquisition date which is regarded as their cost. Subsequent to initial recognition, they are measured on the same basis as intangible assets that are acquired separately.

3) Derecognition

On derecognition of an intangible asset, the difference between the net disposal proceeds and the carrying amount of the asset are recognized in profit or loss.

m. Impairment of property, plant and equipment, right-of-use asset, investment properties and intangible assets other than goodwill

At each balance sheet date, the Group reviews the carrying amounts of its property, plant and equipment, right-of-use asset, investment properties and intangible assets, excluding goodwill, to determine whether there is any indication that those assets have suffered an impairment loss. If any such indication exists, the recoverable amount of the asset is estimated in order to determine the extent of the impairment loss. When it is not possible to estimate the recoverable amount of an individual asset, the Group estimates the recoverable amount of the cash-generating unit to which the asset belongs. Corporate assets are allocated to the individual cash-generating units on a reasonable and consistent basis of allocation. The recoverable amount is the higher of fair value less costs to sell and value in use. If the recoverable amount of an asset or cash-generating unit is estimated to be less than its carrying amount, the carrying amount of the asset or cash-generating unit is reduced to its recoverable amount, with the resulting impairment loss recognized in profit or loss.

When an impairment loss is subsequently reversed, the carrying amount of the asset or cash-generating unit is increased to the revised estimate of its recoverable amount, but only to the extent of the carrying amount that would have been determined had no impairment loss been recognized for the asset or cash-generating unit in prior years. A reversal of an impairment loss is recognized immediately in profit or loss.

n. Financial instruments

Financial assets and financial liabilities are recognized when a group entity becomes a party to the contractual provisions of the instruments.

Financial assets and financial liabilities are initially measured at fair value. Transaction costs that are directly attributable to the acquisition or issue of financial assets and financial liabilities (other than financial assets and financial liabilities at FVTPL) are added to or deducted from the fair value of the financial assets or financial liabilities, as appropriate, on initial recognition. Transaction costs directly attributable to the acquisition of financial assets or financial liabilities at fair value through profit or loss are recognized immediately in profit or loss.

1) Financial assets

All regular way purchases or sales of financial assets are recognized and derecognized on a settlement date basis.

a) Measurement categories

Financial assets held by the Group are classified into the following categories: financial assets at FVTPL, financial assets at amortized cost, and investments in debt instruments and equity instruments at FVTOCI.

i. Financial asset at FVTPL

Financial asset is classified as at FVTPL when the financial asset is mandatorily classified or it is designated as at FVTPL. The Group's financial assets mandatorily classified as at FVTPL include investments in equity instruments which are not designated as at FVTOCI and debt instruments that do not meet the amortized cost criteria or the FVTOCI criteria.

Financial assets at FVTPL are subsequently measured at fair value, and any dividends or interest earned on such financial assets are recognized in other income; any remeasurement gains or losses on such financial assets are recognized in other gains or losses.

Fair value is determined in the manner described in Note 34.

ii. Financial assets at amortized cost

Financial assets that meet the following conditions are subsequently measured at amortized cost:

- i) The financial asset is held within a business model whose objective is to hold financial assets in order to collect contractual cash flows; and
- ii) The contractual terms of the financial asset give rise on specified dates to cash flows that are solely payments of principal and interest on the principal amount outstanding.

Subsequent to initial recognition, financial assets at amortized cost, including cash and cash equivalents, trade receivables at amortized cost, other receivables and other financial assets, are measured at amortized cost, which equals to gross carrying amount determined using the effective interest method less any impairment loss. Exchange differences are recognized in profit or loss.

Interest income is calculated by applying the effective interest rate to the gross carrying amount of a financial asset, except for:

- i) Purchased or originated credit-impaired financial assets, for which interest income is calculated by applying the credit-adjusted effective interest rate to the amortized cost of the financial asset; and
- ii) Financial assets that are not credit-impaired on purchase or origination but have subsequently become credit-impaired, for which interest income is calculated by applying the effective interest rate to the amortized cost of such financial assets in subsequent reporting periods.

A financial asset is credit impaired when one or more of the following events have occurred:

- i) Significant financial difficulty of the issuer or the borrower;
- ii) Breach of contract, such as a default;
- iii) It is becoming probable that the borrower will enter bankruptcy or undergo a financial reorganization; or
- iv) The disappearance of an active market for that financial asset because of financial difficulties.

Cash equivalents include time deposits with original maturities within 3 months from the date of acquisition, which are highly liquid, readily convertible to a known amount of cash and are subject to an insignificant risk of changes in value and repurchase agreements collateralized by bonds. These cash equivalents are held for the purpose of meeting short-term cash commitments.

iii. Investments in debt instruments at FVTOCI

For the Group's debt instruments that meet the following conditions are subsequently measured at FVTOCI:

- i) the debt instrument is held within a business model whose objective is achieved by both the collecting of contractual cash flows and the selling of the financial assets; and
- ii) the contractual terms of the debt instrument give rise on specified dates to cash flows that are solely payments of principal and interest on the principal amount outstanding.

Investments in debt instruments at FVTOCI are subsequently measured at fair value. Changes in the carrying amounts of these debt instruments relating to changes in foreign currency exchange rates, interest income calculated using the effective interest method and impairment losses or reversals are recognized in profit or loss. Other changes in the carrying amount of these debt instruments are recognized in other comprehensive income and will be reclassified to profit or loss when the investment is disposed of.

iv. Investments in equity instruments at FVTOCI

On initial recognition, the Group make an irrevocable election to designate investments in equity instruments as at FVTOCI. Designation at FVTOCI is not permitted if the equity investment is held for trading or if it is contingent consideration recognized by an acquirer in a business combination.

Investments in equity instruments at FVTOCI are subsequently measured at fair value with gains and losses arising from changes in fair value recognized in other comprehensive income and accumulated in other equity. The cumulative gain or loss will not be reclassified to profit or loss on disposal of the equity investments, instead, they will be transferred to retained earnings.

Dividends on these investments in equity instruments are recognized in profit or loss when the Group's right to receive the dividends is established, unless the dividends clearly represent a recovery of part of the cost of the investment.

b) Impairment of financial assets and contract assets

At each balance sheet date, the Group recognizes a loss allowance for expected credit losses on financial assets at amortized cost (including trade receivables) and investments in debt instruments that are measured at FVTOCI and contract assets.

The Group always recognizes lifetime Expected Credit Loss (“ECL”) for trade receivables and contract assets. For all other financial instruments, the Group recognizes lifetime ECL when there has been a significant increase in credit risk since initial recognition. If, on the other hand, the credit risk on the financial instrument has not increased significantly since initial recognition, the Group measures the loss allowance for that financial instrument at an amount equal to 12-month ECL.

Expected credit losses reflect the weighted average of credit losses with the respective risks of a default occurring as the weights. Lifetime ECL represents the expected credit losses that will result from all possible default events over the expected life of a financial instrument. In contrast, 12-month ECL represents the portion of lifetime ECL that is expected to result from default events on a financial instrument that are possible within 12 months after the reporting date.

The Group recognizes an impairment gain or loss in profit or loss for all financial instruments with a corresponding adjustment to their carrying amount through a loss allowance account, except for investments in debt instruments that are measured at FVTOCI, for which the loss allowance is recognized in other comprehensive income and does not reduce the carrying amount of the financial asset.

c) Derecognition of financial assets

The Group derecognizes a financial asset only when the contractual rights to the cash flows from the asset expire or when it transfers the financial asset and substantially all the risks and rewards of ownership of the asset to another entity.

On derecognition of a financial asset at amortized cost in its entirety, the difference between the asset’s carrying amount and the sum of the consideration received and receivable is recognized in profit or loss. On derecognition of an investment in a debt instrument at FVTOCI, the difference between the asset’s carrying amount and the sum of the consideration received and receivable and the cumulative gain or loss which had been recognized in other comprehensive income is recognized in profit or loss. However, on derecognition of an investment in an equity instrument at FVTOCI, the difference between the asset’s carrying amount and the sum of the consideration received and receivable is recognized in profit or loss, and the cumulative gain or loss which had been recognized in other comprehensive income is transferred directly to retained earnings, without recycling through profit or loss.

2) Equity instruments

Debt and equity instruments issued by a group entity are classified as either financial liabilities or as equity in accordance with the substance of the contractual arrangements and the definitions of a financial liability and an equity instrument.

Equity instruments issued by a group entity are recognized at the proceeds received, net of direct issue costs.

Repurchase of the Company’s own equity instruments is recognized in and deducted directly from equity and calculated separately by repurchase category. No gain or loss is recognized in profit or loss on the purchase, sale, issue or cancellation of the Company’s own equity instruments.

3) Financial liabilities

a) Subsequent measurement

All financial liabilities are measured at amortized cost using the effective interest method or at fair value through profit or loss:

Financial liabilities are classified as at FVTPL when such financial liabilities are held for trading. Financial liabilities held for trading are stated at fair value, and any gains or losses on such financial liabilities are recognized in other gains or losses.

Fair value is determined in the manner described in Note 34.

b) Derecognition of financial liabilities

The difference between the carrying amount of a financial liability derecognized and the consideration paid, including any non-cash assets transferred or liabilities assumed, is recognized in profit or loss.

4) Derivative financial instruments

The Group enters into a variety of derivative financial instruments to manage its exposure to foreign exchange rate risks, including forward exchange contracts, swap contracts and target redemption forward contracts.

Derivatives are initially recognized at fair value at the date on which the derivative contracts are entered into and are subsequently remeasured to their fair value at the end of each reporting period. The resulting gain or loss is recognized in profit or loss immediately unless the derivative is designated and effective as a hedging instrument; in which event, the timing of the recognition in profit or loss depends on the nature of the hedging relationship. When the fair value of a derivative financial instrument is positive, the derivative is recognized as a financial asset; when the fair value of a derivative financial instrument is negative, the derivative is recognized as a financial liability.

Derivatives embedded in hybrid contracts that contain financial asset hosts that is within the scope of IFRS 9 are not separated; instead, the classification is determined in accordance with the entire hybrid contract. Derivatives embedded in non-derivative host contracts that are not financial assets that is within the scope of IFRS 9 (e.g. financial liabilities) are treated as separate derivatives when they meet the definition of a derivative, their risks and characteristics are not closely related to those of the host contracts and the host contracts are not measured at FVTPL.

5) Convertible bonds issued by the subsidiaries

The component parts of compound instruments (i.e., convertible bonds) issued by the subsidiary are classified separately as financial liabilities and equity in accordance with the substance of the contractual arrangements and the definitions of a financial liability and an equity instrument.

On initial recognition, the fair value of the liability component is estimated using the prevailing market interest rate for similar non-convertible instruments. This amount is recorded as a liability on an amortized cost basis using the effective interest method until extinguished upon conversion or upon the instrument's maturity date. Any embedded derivative liability is measured at fair value.

The conversion option classified as equity is determined by deducting the amount of the liability component from the fair value of the compound instrument as a whole. This is recognized and included in non-controlling interests, and is not subsequently remeasured. When the conversion option remains unexercised at maturity, the balance recognized in non-controlling interests will be transferred to capital surplus - the change of interest in subsidiaries.

Transaction costs that relate to the issuance of the convertible bonds are allocated to the liability and equity components in proportion to the allocation of the gross proceeds. Transaction costs relating to the equity component are recognized directly in non-controlling interests. Transaction costs relating to the liability component are included in the carrying amount of the liability component

o. Hedge accounting

The Group designates certain hedging instruments, which include derivatives, embedded derivatives and non-derivatives in respect of foreign currency risk, as either fair value hedges or cash flow hedges or hedges of net investment in foreign operations.

1) Fair value hedges

Gains or losses on hedging instruments that are designated and qualify as fair value hedges are recognized in profit or loss immediately, together with any changes in the fair value of the hedged asset or liability that are attributable to the hedged risk. The change in the fair value of the hedging instrument and the change in the hedged item attributable to the hedged risk are recognized in profit or loss in the line item relating to the hedged item.

The Group discontinues hedge accounting only when the hedging relationship ceases to meet the qualifying criteria; for instance, when the hedging instrument expires or is sold, terminated or exercised.

2) Cash flow hedges

The effective portion of gains or losses on hedging instruments that are designated and qualify as cash flow hedges is recognized in other comprehensive income. The gains or losses relating to the ineffective portion are recognized immediately in profit or loss.

The associated gains or losses that were recognized in other comprehensive income are reclassified from equity to profit or loss as a reclassification adjustment in the line item relating to the hedged item in the same period when the hedged item affects profit or loss. If a hedge of a forecasted transaction subsequently results in the recognition of a non-financial asset or a non-financial liability, the associated gains and losses that were recognized in other comprehensive income are removed from equity and included in the initial cost of the non-financial asset or non-financial liability.

The Group discontinues hedge accounting only when the hedging relationship ceases to meet the qualifying criteria; for instance, when the hedging instrument expires or is sold, terminated, or exercised. The cumulative gain or loss on the hedging instrument that has been previously recognized in other comprehensive income from the period when the hedge was effective remains separately in equity until the forecast transaction occurs. When a forecast transaction is no longer expected to occur, the gain or loss accumulated in equity is recognized immediately in profit or loss.

3) Hedges of net investments in foreign operations

Hedges of net investments in foreign operations are accounted for similarly to cash flow hedges. Any gains or losses on the hedging instrument relating to the effective portion of the hedge are recognized in other comprehensive income and accumulated under the heading of foreign currency translation reserve. The gains or losses relating to the ineffective portion are recognized immediately in profit or loss.

The gains and losses on the hedging instrument relating to the effective portion of the hedge, which were accumulated in the foreign currency translation reserve, are reclassified to profit or loss on the disposal or partial disposal of a foreign operation.

p. Revenue recognition

The Group identifies the contracts with customers, allocates transaction prices to performance obligations and, when performance obligations are satisfied, recognizes revenues at fixed amounts as agreed in the contracts with taking estimated volume discounts into consideration.

For contracts where the period between the date on which the Group transfers a promised good or service to a customer and the date on which the customer pays for that good or service is one year or less, the Group does not adjust the promised amount of consideration for the effects of a significant financing component.

The Group's duration of contracts with customers is expected to be one year or less, and the consideration from contracts with customers is included in transaction price and, therefore, can apply the practical expedient that not to disclose the performance obligations including (i) the aggregate amount of the transaction price allocated to the performance obligations that are not fully satisfied or have partially completed at the end of the reporting period, and (ii) the expected timing for recognition of revenue.

The Group's operating revenues include revenues from sale of goods and services as well as sale and leasing of real estate properties.

When customers control goods while they are manufactured in progress, the Group measures the progress on the basis of costs incurred relative to the total expected costs as there is a direct relationship between the costs incurred and the progress of satisfying the performance obligations. Revenue and contract assets are recognized during manufacture and contract assets are reclassified to trade receivables when the manufacture is completed or when the goods are shipped upon customer's request.

The Group recognizes revenues and trade receivables when the goods are shipped or when the goods are delivered to the customer's specific location because it is the time when the customer has full discretion over the manner of distribution and price to sell the goods, has the primary responsibility for sales to future customers and bears the risks of obsolescence.

Revenues from sale of real estate properties are recognized when customers purchase real estate properties and complete the transfer procedures. Revenues from leasing real estate properties are recognized during leasing periods on the straight-line basis.

q. Leases

At the inception of a contract, the Group assesses whether the contract is, or contains, a lease.

For a contract that contains a lease component and non-lease components, the Group elects to account for the lease and non-lease components as a single lease component.

1) The Group as lessor

Leases are classified as finance leases whenever the terms of a lease transfer substantially all the risks and rewards of ownership to the lessee. All other leases are classified as operating leases.

When the Group subleases a right-of-use asset, the sublease is classified by reference to the right-of-use asset arising from the head lease, not with reference to the underlying asset. However, if the head lease is a short-term lease that the Group, as a lessee, has accounted for applying recognition exemption, the sublease is classified as an operating lease.

Lease payments (less any lease incentives payable) from operating leases are recognized as income on a straight-line basis over the terms of the relevant leases. Initial direct costs incurred in obtaining

operating leases are added to the carrying amounts of the underlying assets and recognized as expenses on a straight-line basis over the lease terms.

2) The Group as lessee

The Group recognizes right-of-use assets and lease liabilities for all leases at the commencement date of a lease, except for short-term leases and low-value asset leases accounted for applying a recognition exemption where lease payments are recognized as expenses on a straight-line basis over the lease terms.

Right-of-use assets are initially measured at cost, which comprises the initial measurement of lease liabilities adjusted for lease payments made on or before the commencement date, plus any initial direct costs incurred and an estimate of costs needed to restore the underlying assets, and less any lease incentives received. Right-of-use assets are subsequently measured at cost less accumulated depreciation and impairment losses and adjusted for any remeasurement of the lease liabilities. Right-of-use assets are presented on a separate line in the consolidated balance sheets. With respect to the recognition and measurement of right-of-use assets that meet the definition of investment properties, refer to the aforementioned accounting policies for investment properties.

Right-of-use assets are depreciated using the straight-line method from the commencement dates to the earlier of the end of the useful lives of the right-of-use assets or the end of the lease terms. However, if leases transfer ownership of the underlying assets to the Group by the end of the lease terms or if the costs of right-of-use assets reflect that the Group will exercise a purchase option, the Group depreciates the right-of-use assets from the commencement dates to the end of the useful lives of the underlying assets.

Lease liabilities are initially measured at the present value of the lease payments, which comprise fixed payments, in-substance fixed payments, variable lease payments which depend on an index or a rate, residual value guarantees, the exercise price of a purchase option if the Group is reasonably certain to exercise that option, and payments of penalties for terminating a lease if the lease term reflects such termination, less any lease incentives receivable. The lease payments are discounted using the interest rate implicit in a lease, if that rate can be readily determined. If that rate cannot be readily determined, the Group uses the lessee's incremental borrowing rate.

Subsequently, lease liabilities are measured at amortized cost using the effective interest method, with interest expense recognized over the lease terms. When there is a change in a lease term, a change in the amounts expected to be payable under a residual value guarantee, a change in the assessment of an option to purchase an underlying asset, or a change in future lease payments resulting from a change in an index or a rate used to determine those payments, the Group remeasures the lease liabilities with a corresponding adjustment to the right-of-use assets. However, if the carrying amount of the right-of-use assets is reduced to zero, any remaining amount of the remeasurement is recognized in profit or loss. For a lease modification that is not accounted for as a separate lease, the Group accounts for the remeasurement of the lease liability by (a) decreasing the carrying amount of the right-of-use asset of lease modifications that decreased the scope of the lease, and recognizing in profit or loss any gain or loss on the partial or full termination of the lease; (b) making a corresponding adjustment to the right-of-use asset of all other lease modifications. Lease liabilities are presented on a separate line in the consolidated balance sheets.

The Group negotiates with the lessor for rent concessions as a direct consequence of the COVID-19 to change the lease payments originally due by June 30, 2022, that results in the revised consideration for the lease substantially the same as, or less than, the consideration for the lease immediately preceding the change. There is no substantive change to other terms and conditions. The Group elects to apply the practical expedient to all of these rent concessions, and therefore, does not assess whether the rent concessions are lease modifications. Instead, the Group recognizes the reduction in lease payment in profit or loss as a deduction of expenses of variable lease payments, in the period in which the events or conditions that trigger the concession occurs, and

makes a corresponding adjustment to the lease liability.

Variable lease payments that do not depend on an index or a rate are recognized as expenses in the periods in which they are incurred.

r. Borrowing costs

Borrowing costs directly attributable to the acquisition, construction or production of qualifying assets are added to the cost of those assets, until such time as the assets are substantially ready for their intended use or sale.

Investment income earned on the temporary investment of specific borrowings pending their expenditure on qualifying assets is deducted from the borrowing costs eligible for capitalization.

Other than stated above, all other borrowing costs are recognized in profit or loss in the period in which they are incurred.

s. Government grants

Government grants related to income are not recognized until there is reasonable assurance that the Group will comply with the conditions attaching to them and that the grants will be received.

Government grants are recognized in other income on a systematic basis over the periods in which the Group recognizes as expenses the related costs for which the grants are intended to compensate. Specifically, government grants whose primary condition is that the Group should purchase, construct or otherwise acquire non-current assets are recognized as deferred revenue in the consolidated financial statements and transferred to profit or loss on a systematic and rational basis over the useful lives of the related assets.

Government grants that are receivable as compensation for expenses or losses already incurred or for the purpose of giving immediate financial support to the Group with no future related costs are recognized in profit or loss in the period in which they become receivable.

The benefit of a government, loan received at a below-market rate of interest is treated as a government grant measured as the difference between the proceeds received and the fair value of the loan based on prevailing market interest rates.

t. Employee benefits

1) Short-term employee benefits

Liabilities recognized in respect of short-term employee benefits are measured at the undiscounted amount of the benefits expected to be paid in exchange for the related services.

2) Retirement benefits

Payments to defined contribution retirement benefit plans are recognized as expenses when employees have rendered services entitling them to the contributions.

Defined benefit costs (including service cost, net interest and remeasurement) under the defined benefit retirement benefit plans are determined using the projected unit credit method. Service cost (including current service cost and past service cost) and net interest on the net defined benefit liability (asset) are recognized as employee benefits expense in the period they occur. Remeasurement, comprising actuarial gains and losses and the return on plan assets (excluding interest), is recognized in other comprehensive income in the period in which they occur. Remeasurement recognized in other comprehensive income is reflected immediately in retained

earnings and will not be reclassified to profit or loss.

Net defined benefit liability (asset) represents the actual deficit (surplus) in the Group's defined benefit plan. Any surplus resulting from this calculation is limited to the present value of any refunds from the plans or reductions in future contributions to the plans.

u. Share-based payment arrangements

The fair value at the grant date of the employee share options and restricted stocks for employees is expensed on a straight-line basis over the vesting period, based on the Group's best estimate of the number of options or shares that are expected to ultimately vest, with a corresponding increase in capital surplus - employee share options or non-controlling interests (employee share options issued by subsidiaries) and other equity - unearned employee benefits or non-controlling interests (restricted stocks for employees issued by subsidiaries). It is recognized as an expense in full at the grant date if vesting immediately. The grant date of issued ordinary shares for cash which are reserved for employees is the date on which the number of shares that the employees purchase is confirmed.

When restricted stocks for employees are issued, other equity - unearned employee benefits is recognized on the grant date, with a corresponding increase in capital surplus - restricted stocks for employees.

At each balance sheet date, the Group reviews its estimate of the number of employee share options and restricted stocks for employees expected to vest. The impact of the revision of the original estimates is recognized in profit or loss such that the cumulative expense reflects the revised estimate, with a corresponding adjustment to the capital surplus - employee share options or non-controlling interests (employee share options issued by subsidiaries) and other equity - unearned employee benefits or non-controlling interests (restricted stocks for employees issued by subsidiaries).

v. Taxation

Income tax expense represents the sum of the tax currently payable and deferred tax.

1) Current tax

Income tax payable (recoverable) is based on taxable profit (loss) for the year determined according to the applicable tax laws of each tax jurisdiction.

According to the Income Tax Law of the R.O.C., an additional tax of unappropriated earnings is provided for as income tax in the year the shareholders approve to retain earnings.

Adjustments of prior years' tax liabilities are added to or deducted from the current year's tax provision.

2) Deferred tax

Deferred tax is recognized on temporary differences between the carrying amounts of assets and liabilities in the consolidated financial statements and the corresponding tax bases used in the computation of taxable profit. If a temporary difference arises from the initial recognition (other than in a business combination) of assets and liabilities in a transaction that affects neither the taxable profit nor the accounting profit, the resulting deferred tax asset or liability is not recognized. In addition, a deferred tax liability is not recognized on taxable temporary differences arising from the initial recognition of goodwill.

Deferred tax liabilities are generally recognized for all taxable temporary differences. Deferred tax assets are generally recognized for all deductible temporary differences, unused loss carryforwards and unused tax credits for capital expenditure to the extent that it is probable that taxable profits will

be available against which those deductible temporary differences can be utilized.

Deferred tax liabilities are recognized for taxable temporary differences associated with investments in subsidiaries and associates, except where the Group is able to control the reversal of the temporary differences and it is probable that the temporary difference will not reverse in the foreseeable future. Deferred tax assets arising from deductible temporary difference associated with such investments and interests are only recognized to the extent that it is probable that there will be sufficient taxable profits against which to utilize the benefits of the temporary differences and they are expected to reverse in the foreseeable future.

The carrying amount of deferred tax assets is reviewed at each balance sheet date and reduced to the extent that it is no longer probable that sufficient taxable profits will be available to allow all or part of the assets to be recovered. A previously unrecognized deferred tax asset is also reviewed at each balance sheet date and recognized to the extent that it has become probable that future taxable profit will allow the deferred tax asset to be recovered.

Deferred tax liabilities and assets are measured at the tax rates that are expected to apply in the period in which the liabilities are settled or assets are realized, based on tax rates (and tax laws) that have been enacted or substantively enacted by the balance sheet date. The measurement of deferred tax liabilities and assets reflects the tax consequences that would follow from the manner in which the Group expects, at the balance sheet date, to recover or settle the carrying amount of its assets and liabilities.

3) Current and deferred tax for the year

Current and deferred tax are recognized in profit or loss, except when they relate to items that are recognized in other comprehensive income or directly in equity, in which case, the current and deferred tax are also recognized in other comprehensive income or directly in equity, respectively.

Where current tax or deferred tax arises from the initial accounting for a business combination, the tax effect is included in the accounting for the business combination.

5. CRITICAL ACCOUNTING JUDGMENTS AND KEY SOURCES OF ESTIMATION UNCERTAINTY

In the application of the Group's accounting policies, management is required to make judgments, estimates, and assumptions on the carrying amounts of assets and liabilities that are not readily apparent from other sources. The estimates and underlying assumptions are based on historical experience and other factors that are considered to be relevant. Actual results may differ from these estimates.

The Group considers the recent development of the COVID-19 in R.O.C. and its economic environment implications when making its critical accounting estimates on cash flows, growth rates, discount rates, profitabilities, etc. The estimates and underlying assumptions are reviewed on an ongoing basis. Revisions to accounting estimates are recognized in the year in which the estimates are revised if the revisions affect only that year or in the year of the revisions and future years if the revisions affect both current and future years.

Impairment of goodwill

Determining whether goodwill is impaired requires an estimation of the value in use of the cash-generating units to which goodwill has been allocated. The calculation of the value in use requires management to estimate the future cash flows expected to be generated from the cash-generating units and a suitable discount rate in order to calculate the present value. Where the actual future cash flows are less than expected, or change in facts and circumstances results in downward revision of future cash flows or upward revision of discount rate, a material impairment loss may arise.

6. CASH AND CASH EQUIVALENTS

	December 31	
	2022	2021
	NT\$	NT\$
Cash on hand	\$ 5,989	\$ 5,638
Checking accounts and demand deposits	47,632,415	47,094,687
Cash equivalents (time deposits with original maturity of less than three months and repurchase agreements collateralized by bonds)	<u>10,401,990</u>	<u>28,973,020</u>
	<u>\$ 58,040,394</u>	<u>\$ 76,073,345</u>

7. FINANCIAL INSTRUMENTS AT FAIR VALUE THROUGH PROFIT OR LOSS (FVTPL)

	December 31	
	2022	2021
	NT\$	NT\$
<hr/> Financial assets mandatorily classified as at FVTPL <hr/>		
Derivative instruments (non-designated hedges)		
Swap contracts	\$ 3,205,828	\$ 85,629
Forward exchange contracts	246,710	23,373
Call option and put option of convertible bonds	-	8,463
Target redemption forward contracts	-	500
Non-derivative financial assets		
Quoted ordinary shares	2,521,964	2,683,193
Private-placement funds	1,599,932	1,322,686
Unquoted preferred shares	628,156	583,270
Contingent considerations (Note 29)	438,176	394,943
Open-end mutual funds	<u>293,385</u>	<u>334,223</u>
	8,934,151	5,436,280
Current	<u>6,825,157</u>	<u>2,933,446</u>
Non-current	<u>\$ 2,108,994</u>	<u>\$ 2,502,834</u>
<hr/> Financial liabilities held for trading - current <hr/>		
Derivative instruments (non-designated hedges)		
Swap contracts	\$ 543,547	\$ 360,797
Forward exchange contracts	<u>83,213</u>	<u>56,863</u>
	<u>\$ 626,760</u>	<u>\$ 417,660</u>

At each balance sheet date, outstanding swap contracts not accounted for hedge accounting were as follows:

Currency	Maturity Period	Notional Amount (In Thousands)
<hr/> December 31, 2022		
Sell RMB/Buy US\$	2023.01	RMB2,436,980/US\$350,000
Sell NT\$/Buy US\$	2023.01-2023.12	NT\$78,424,577/US\$2,690,000
Sell US\$/Buy KRW	2023.01	US\$42,000/KRW54,152,400
Sell US\$/Buy NT\$	2023.01	US\$530,320/NT\$16,220,105
<hr/> December 31, 2021		
Sell RMB/Buy US\$	2022.01	RMB2,617,518/US\$409,000
Sell NT\$/Buy US\$	2022.1-2022.12	NT\$52,916,127/US\$1,903,000
Sell US\$/Buy RMB	2022.02	US\$54,415/RMB349,800
Sell US\$/Buy JPY	2022.01	US\$17,671/JPY2,000,000
Sell US\$/Buy KRW	2022.01	US\$37,500/KRW44,418,750
Sell US\$/Buy NT\$	2022.01-2022.04	US\$570,130/NT\$15,845,090

At each balance sheet date, outstanding forward exchange contracts not accounted for hedge accounting were as follows:

Currency	Maturity Period	Notional Amount (In Thousands)
<hr/> December 31, 2022		
Sell RMB/Buy JPY	2023.01	RMB42,181/JPY810,000
Sell RMB/Buy NT\$	2023.01-2023.02	RMB7,000/NT\$30,722
Sell RMB/Buy US\$	2023.01-2023.02	RMB1,081,934/US\$155,418
Sell EUR/Buy JPY	2023.01	EUR697/JPY100,000
Sell NT\$/Buy US\$	2023.01-2023.03	NT\$4,010,015/US\$130,000
Sell US\$/Buy RMB	2023.01-2023.03	US\$368,500/RMB2,579,155
Sell US\$/Buy EUR	2023.01-2023.10	US\$14,668/EUR14,640
Sell US\$/Buy JPY	2023.01	US\$63,743/JPY8,485,493
Sell US\$/Buy KRW	2023.01	US\$2,000/KRW2,534,800
Sell US\$/Buy MYR	2023.01-2023.03	US\$25,000/MYR112,639
Sell US\$/Buy NT\$	2023.01-2023.03	US\$125,410/NT\$3,830,145
Sell US\$/Buy PLN	2023.01-2023.12	US\$12,000/PLN61,129
Sell US\$/Buy SGD	2023.01-2023.02	US\$16,600/SGD22,783
<hr/> December 31, 2021		
Sell RMB/Buy JPY	2022.01	RMB35,127/JPY630,000
Sell RMB/Buy US\$	2022.01	RMB727,645/US\$114,000
Sell NT\$/Buy US\$	2022.01-2022.03	NT\$3,465,805/US\$125,000
Sell US\$/Buy RMB	2022.01-2022.06	US\$265,000/RMB1,701,695
Sell US\$/Buy EUR	2022.01	US\$460/EUR407
Sell US\$/Buy JPY	2022.01-2022.02	US\$94,747/JPY10,789,851
Sell US\$/Buy MYR	2022.01-2022.02	US\$8,000/MYR33,430
Sell US\$/Buy NT\$	2022.01	US\$10,000/NT\$277,735
Sell US\$/Buy SGD	2022.01-2022.02	US\$16,900/SGD22,925

As of each balance sheet date, outstanding target redemption forward contracts not accounted for hedge accounting were as follows:

Currency	Maturity Period	Notional Amount (In Thousands)
<u>December 31, 2021</u>		
Sell EUR/Buy US\$	2022.04-2022.06	EUR2,982/US\$3,475

The target redeemable forward contracts held by subsidiaries are weekly settled. If the market exchange rate is lower than the execution rate at the time of settlement, the contract will be settled at the nominal amount, whereas if the market exchange rate is higher than the execution rate, the contract will be settled at leveraged nominal amount (twice the nominal amount). The contracts last until all the nominal amount of US\$ position is fully settled. However, when the accumulated excess of the execution rates over the market exchange rates reach the agreed threshold after the weekly settlement, the contracts will be automatically early terminated.

8. FINANCIAL ASSETS AT FAIR VALUE THROUGH OTHER COMPREHENSIVE INCOME (FVTOCI)

	December 31	
	2022	2021
	NT\$	NT\$
Investments in equity instruments at FVTOCI	\$ 482,559	\$ 943,354
Investments in debt instruments at FVTOCI	<u>1,059,712</u>	<u>1,076,458</u>
	<u>\$ 1,542,271</u>	<u>\$ 2,019,812</u>

a. Investments in equity instruments at FVTOCI

	December 31	
	2022	2021
	NT\$	NT\$
Unquoted ordinary shares	\$ 419,491	\$ 820,779
Quoted ordinary shares	45,683	102,124
Unquoted preferred shares	13,883	11,245
Limited partnership	<u>3,502</u>	<u>9,206</u>
	<u>\$ 482,559</u>	<u>\$ 943,354</u>

b. Investments in debt instruments at FVTOCI

	December 31	
	2022	2021
	NT\$	NT\$
Unsecured subordinate corporate bonds	<u>\$ 1,059,712</u>	<u>\$ 1,076,458</u>

The Group purchased 1,000 units of the abovementioned perpetual unsecured subordinate corporate bonds with par value of NT\$1,000 thousand with annual interest rate and effective interest rate at 3.5% and 3.2%, respectively.

9. CREDIT RISK MANAGEMENT FOR INVESTMENTS IN DEBT INSTRUMENTS

The Group’s investment in unsecured subordinate corporate bonds is rated the equivalent of investment grade or higher and has low credit risk for impairment assessment.

There was no significant increase in credit risk of such debt instrument since initial recognition leading to changes in interest rates and terms, and there was also no significant change in bond issuer’s operation affecting the ability performing debt obligation. Therefore, no expected credit losses existed. The Group reviews changes in bond yields and other public information periodically and makes an assessment whether there has been a significant increase in lifetime Expected Credit Loss (“ECL”) since initial recognition.

10. TRADE RECEIVABLES, NET

	December 31	
	2022	2021
	NT\$	NT\$
At amortized cost		
Gross carrying amount	\$109,408,693	\$109,473,101
Less: Allowance for impairment loss	<u>164,408</u>	<u>103,353</u>
	109,244,285	109,369,748
At FVTOCI	<u>5,402,714</u>	<u>6,092,462</u>
	<u>\$114,646,999</u>	<u>\$115,462,210</u>

a. Trade receivables

1) At amortized cost

The Group’s average credit terms granted to the customers were 30 to 90 days. The Group evaluates the risk and probability of credit loss of trade receivables by reference to the Group’s past experiences, financial condition of each customer, impact of COVID-19, as well as competitive advantage and future development of the industry in which the customer operates. The Group then reviews the recoverable amount of each individual trade receivable at each balance sheet date to ensure that adequate allowance is made for possible irrecoverable amounts. In this regard, management believes the Group’s credit risk was significantly reduced.

The Group measures the loss allowance for trade receivables at an amount equal to lifetime ECLs. The expected credit losses on trade receivables are estimated using a provision matrix by reference to past default experience of the debtor and an analysis of the debtor’s current financial position, adjusted for general economic conditions of the industry in which the debtors operate and an assessment of both the current as well as the forecast direction of economic conditions at each balance sheet date. As the Group’s historical credit loss experience shows significantly different loss patterns for different customer segments, the provision matrix for expected credit loss allowance based on trade receivables due status is further distinguished according to the Group’s different customer base.

The Group writes off a trade receivable when there is information indicating that the debtor is in severe financial difficulty and there is no realistic prospect of recovery. For trade receivables that have been written off, the Group continues to engage in enforcement activity to attempt to recover the receivables due. Where recoveries are made, these are recognized in profit or loss.

The following table details the loss allowance of trade receivables based on the Group’s provision matrix.

December 31, 2022

	<u>Not Past Due</u>	<u>Overdue</u>	<u>Overdue</u>	<u>Overdue</u>	<u>Individually</u>	<u>Total</u>
	<u>NT\$</u>	<u>1 to 30 days</u>	<u>31 to 90 Days</u>	<u>Over 91 Days</u>	<u>Impaired</u>	<u>NT\$</u>
	<u>NT\$</u>	<u>NT\$</u>	<u>NT\$</u>	<u>NT\$</u>	<u>NT\$</u>	<u>NT\$</u>
Expected credit loss rate	0%	0%-10%	0%-70%	1%-100%	0%-100%	
Gross carrying amount	\$ 102,857,157	\$ 4,765,548	\$ 1,413,656	\$ 294,937	\$ 77,395	\$ 109,408,693
Loss allowance (Lifetime ECLs)	<u>(20,445)</u>	<u>(1,778)</u>	<u>(47,752)</u>	<u>(70,133)</u>	<u>(24,300)</u>	<u>(164,408)</u>
	<u>\$ 102,836,712</u>	<u>\$ 4,763,770</u>	<u>\$ 1,365,904</u>	<u>\$ 224,804</u>	<u>\$ 53,095</u>	<u>\$ 109,244,285</u>

December 31, 2021

	<u>Not Past Due</u>	<u>Overdue</u>	<u>Overdue</u>	<u>Overdue</u>	<u>Individually</u>	<u>Total</u>
	<u>NT\$</u>	<u>1 to 30 days</u>	<u>31 to 90 Days</u>	<u>Over 91 Days</u>	<u>Impaired</u>	<u>NT\$</u>
	<u>NT\$</u>	<u>NT\$</u>	<u>NT\$</u>	<u>NT\$</u>	<u>NT\$</u>	<u>NT\$</u>
Expected credit loss rate	0%	0%-10%	0%-70%	1%-100%	0%-100%	
Gross carrying amount	\$ 105,538,390	\$ 3,136,438	\$ 609,695	\$ 99,118	\$ 89,640	\$ 109,473,101
Loss allowance (Lifetime ECLs)	<u>(18,062)</u>	<u>(1,811)</u>	<u>(22,785)</u>	<u>(46,337)</u>	<u>(14,358)</u>	<u>(103,353)</u>
	<u>\$ 105,520,328</u>	<u>\$ 3,134,627</u>	<u>\$ 586,910</u>	<u>\$ 52,781</u>	<u>\$ 75,102</u>	<u>\$ 109,369,748</u>

The movements of the loss allowance of trade receivables for the years ended December 31, 2022 and 2021 were as follows:

	<u>For the Year Ended December 31</u>	
	<u>2022</u>	<u>2021</u>
	<u>NT\$</u>	<u>NT\$</u>
Balance at January 1	\$ 103,353	\$ 97,358
Remeasurement of loss allowance	59,490	17,078
Amounts written off	-	(399)
Disposal of subsidiaries	-	(4,637)
Effects of foreign currency exchange differences	<u>1,565</u>	<u>(6,047)</u>
Balance at December 31	<u>\$ 164,408</u>	<u>\$ 103,353</u>

2) At FVTOCI

For the trade receivables due from certain customers, the Group decides whether or not to factor these trade receivables to banks without recourse based on the Group’s demand of working capital. These trade receivables are classified as at FVTOCI because they are held within a business model whose objective is achieved by both the collection of contractual cash flows and the selling of financial assets.

The following table details the loss allowance of trade receivables at FVTOCI based on the Group’s provision matrix.

December 31, 2022

	<u>Not Past Due</u>	<u>Overdue</u>	<u>Overdue</u>	<u>Overdue</u>	<u>Individually</u>	<u>Total</u>
	<u>NT\$</u>	<u>1 to 30 days</u>	<u>31 to 90 Days</u>	<u>Over 91 Days</u>	<u>Impaired</u>	<u>NT\$</u>
	<u>NT\$</u>	<u>NT\$</u>	<u>NT\$</u>	<u>NT\$</u>	<u>NT\$</u>	<u>NT\$</u>
Expected credit loss rate	0%	0%	0%	0%	-	
Gross carrying amount	\$ 5,291,410	\$ 22,221	\$ 83,767	\$ 5,316	\$ -	\$ 5,402,714
Loss allowance (Lifetime ECLs)	<u>-</u>	<u>-</u>	<u>-</u>	<u>-</u>	<u>-</u>	<u>-</u>
	<u>\$ 5,291,410</u>	<u>\$ 22,221</u>	<u>\$ 83,767</u>	<u>\$ 5,316</u>	<u>\$ -</u>	<u>\$ 5,402,714</u>

December 31, 2021

	Not Past Due	Overdue 1 to 30 days	Overdue 31 to 90 Days	Overdue Over 91 Days	Individually Impaired	Total
	NT\$	NT\$	NT\$	NT\$	NT\$	NT\$
Expected credit loss rate	0%	0%	0%	0%	-	
Gross carrying amount	\$ 5,991,543	\$ 9,415	\$ 91,493	\$ 11	\$ -	\$ 6,092,462
Loss allowance (Lifetime ECLs)	-	-	-	-	-	-
	<u>\$ 5,991,543</u>	<u>\$ 9,415</u>	<u>\$ 91,493</u>	<u>\$ 11</u>	<u>\$ -</u>	<u>\$ 6,092,462</u>

3) At FVTPL

Some of the Group's subsidiaries sell all of their trade receivables to banks without recourse. The sale will result in the derecognition of these trade receivables because the Group's subsidiaries will transfer substantially all risks and rewards to banks. These trade receivables are measured at FVTPL because the objective of those subsidiaries' business model is neither the collecting of contractual cash flows nor the collecting of contractual cash flows and the selling of financial assets. As of December 31, 2022, the trade receivables at FVTPL were all factored to banks without recourse.

b. Transfers of financial assets

The followings were the Group's outstanding trade receivables transferred but not yet due:

Counterparty	Receivables Factoring Proceed	Reclassified to Other Receivables	Advances Received – Unused	Advances Received – Used	Annual Interest Rates on Advances Received
	NT\$	NT\$	NT\$	NT\$	
<u>December 31, 2022</u>					
BNP Paribas	EUR 23,600	EUR 18,283	EUR 17,103	EUR 5,317	0.80%
<u>December 31, 2021</u>					
BNP Paribas	EUR 12,115	EUR 12,081	EUR 11,475	EUR 34	0.80%
First Commercial Bank	\$ 8,565	\$ -	\$ -	\$ 8,565	1.95%

Pursuant to the factoring agreements, losses from commercial disputes (such as sales returns and discounts) are borne by the Group, while losses from credit risk are borne by banks. As of December 31, 2021, the Group's issued promissory notes with aggregate amounts of US\$2,000 thousand to Citibank Taiwan Ltd. for possible commercial disputes. As of the date that the consolidated financial statements were authorized for issue by the management, the Group did not have a material commercial dispute and also expected to have no material commercial dispute in the foreseeable future.

11. INVENTORIES

	<u>December 31</u>	
	<u>2022</u>	<u>2021</u>
	NT\$	NT\$
Finished goods	\$ 12,628,314	\$ 8,454,783
Work in process	8,821,890	7,950,743
Raw materials	61,672,903	46,978,647
Supplies	3,344,968	3,339,042
		(Continued)

	December 31	
	2022	2021
	NT\$	NT\$
Raw materials and supplies in transit	\$ 869,400	\$ 1,109,766
	<u>\$ 87,337,475</u>	<u>\$ 67,832,981</u>
		(Concluded)

The cost of inventories recognized as operating costs for the years ended December 31, 2022 and 2021 were NT\$534,314,001 thousand and NT\$458,345,579 thousand, respectively, which included write-downs of inventories at NT\$2,031,485 thousand and NT\$647,946 thousand, respectively.

12. INVENTORIES RELATED TO REAL ESTATE BUSINESS

	December 31	
	2022	2021
	NT\$	NT\$
Land and buildings held for sale	\$ 678,080	\$ 667,630
Construction in progress	3,023,070	2,956,958
Land held for construction	<u>1,787,526</u>	<u>1,787,526</u>
	<u>\$ 5,448,676</u>	<u>\$ 5,412,114</u>

Construction in progress is mainly located on Lidu Road in Kun Shan, China. The capitalized borrowing costs for the years ended December 31, 2022 and 2021 are disclosed in Note 25.

As of December 31, 2022 and 2021, inventories related to real estate business of NT\$5,488,676 thousand and NT\$5,412,114 thousand, respectively, are expected to be recovered longer than twelve months.

Refer to Note 36 for the carrying amount of inventories related to real estate business that had been pledged by the Group to secure bank borrowings.

13. OTHER FINANCIAL ASSETS

	December 31	
	2022	2021
	NT\$	NT\$
Guarantee deposits	\$ 4,606,790	\$ 1,007,651
Pledged time deposits (Note 36)	447,459	415,065
Time deposits with original maturity over three months	63,853	60,499
Others (Note 36)	<u>60,422</u>	<u>73,765</u>
	5,178,524	1,556,980
Current	<u>734,465</u>	<u>140,857</u>
Non-current	<u>\$ 4,444,059</u>	<u>\$ 1,416,123</u>

14. INVESTMENTS ACCOUNTED FOR USING THE EQUITY METHOD

	December 31	
	2022	2021
	NT\$	NT\$
Investments in associates	\$ 14,298,331	\$ 16,824,861
Investments in joint ventures	<u>515,351</u>	<u>495,930</u>
	<u>\$ 14,813,682</u>	<u>\$ 17,320,791</u>

a. Investments in associates

- 1) Investments in associates accounted for using the equity method that was not individually material consisted of the following:

Name of Associate	Main Business	Operating Location	Carrying Amount as of December 31	
			2022	2021
			NT\$	NT\$
Yann Yuan Investment Co., Ltd. (“Yann Yuan”)	Engaged in investing activities	R.O.C.	\$ 7,616,780	\$ 10,164,945
ChipMOS Technologies Inc. (“ChipMOS”)	Engaged in the packaging and testing of semiconductors	R.O.C.	2,754,679	2,730,466
M-Universe Investments Pte. Ltd. (“MU”)	Investment company	Singapore	2,090,663	1,859,542
Hung Ching Development & Construction Co. (“HC”)	Engaged in the development, construction and leasing of real estate properties	R.O.C.	1,603,973	1,848,929
Hung Ching Kwan Co. (“HCK”)	Engaged in the leasing of real estate properties	R.O.C.	244,516	258,757
Chipletz, Inc. (“CHIPLETZ”)	Fabless substrate design house	U.S.A.	145,640	210,937
Questyle Audio Engineering Co., Ltd.(“QUESTYLE”)	Engaged in the research and development on technology and sales of electronic products, digital products, audio equipment and spare parts, domestic trading, import and export business.	China	88,189	-
Deca Technologies Inc. (“DECA”)	Holding company with group engaged in the development of wafer level packaging and interconnect technology	U.S.A.	54,040	51,434
			<u>14,598,480</u>	<u>17,125,010</u>
	Less: Deferred gain on transfer of land		<u>300,149</u>	<u>300,149</u>
			<u>\$ 14,298,331</u>	<u>\$ 16,824,861</u>

- 2) At each balance sheet date, the total percentages of ownership held by the Group were as follows:

	December 31	
	2022	2021
Yann Yuan	27.94%	29.45%
ChipMOS	10.85%	10.85%
MU	42.23%	42.23%
HC	26.22%	26.22%
HCK	27.31%	27.31%
CHIPLETZ	20.82%	20.82%
		(Continued)

	December 31	
	2022	2021
DECA	17.85%	17.85%
QUESTYLE	6.67%	-
3) In June 2022, the Group's subsidiary, SPIL, subscribed for additional new shares of Yann Yuan at a percentage different from its existing ownership percentage, which led to a decrease in the Group's percentage of ownership in Yann Yuan to 27.94%.		
4) In November 2022, the Group's subsidiary, USISH, invested RMB20,000 thousand to obtain 6.67% ownership of QUESTYLE. The Group considered it has significant influence over QUESTYLE since it involves in making significant decisions by participating in QUESTYLE's board meeting.		
5) At the end of 2022, the Group evaluated the recoverable amount of its investment in CHIPLETZ by using the value in use. The recoverable amount was lower than the carrying amount and, therefore, the Group recognized an impairment loss of NT\$61,206 thousand under the line item of other gains and losses (Note 25). The value in use of its investment in CHIPLETZ was the present value of cash flow projections made by CHIPLETZ's management with a discount rate of 22.2% at the end of 2022.		
6) Fair values (Level 1) of investments in associates with available published price quotation are summarized as follows:		

	December 31	
	2022	2021
	NT\$	NT\$
ChipMOS	\$ 2,643,498	\$ 3,835,045
HC	\$ 1,420,636	\$ 2,141,249

7) Aggregate information of associates that are not individually material

	December 31	
	2022	2021
	NT\$	NT\$
The Group's share of:		
Net income	\$ 1,025,940	\$ 946,853
Other comprehensive income (loss)	(3,214,564)	3,704,445
Total comprehensive income (loss)	\$ (2,188,624)	\$ 4,651,298

b. Investments in joint ventures

1) Investments in joint ventures that was not individually material and accounted for using the equity method consisted of the following:

Name of Joint Venture	Main Business	Operating Location	Carrying Amount as of December 31	
			2022	2021
			NT\$	NT\$
SUMA-USI Electronics Co., Ltd. ("SUMA-USI")	Engaged in the design and production of electronic products	China	\$ 488,760	\$ 495,930
MUtek Electronics Co., Ltd. ("MUtek")	Engaged in the production and wholesale of electronic products	R.O.C	26,591	-
			<u>\$ 515,351</u>	<u>\$ 495,930</u>

- 2) At each balance sheet date, the percentages of ownership held by the Group's subsidiary were as follows:

	December 31	
	2022	2021
SUMA-USI	49.00%	49.00%
MUtek	49.00%	-

UGTW entered into a joint venture agreement with Merry Electronics Co., Ltd. in July 2020 and established MUtek with a ownership of 49.00% in July 2022. Based on the joint venture agreement, both investors jointly lead the relevant operation activities of MUtek, which resulted in that the investment in MUtek was accounted for using the equity method.

In January 2023, UGKS entered into a shares transfer agreement with Cancon Information Industry Co., Ltd. to transfer its 49.00% ownership of SUMA-USI based on its business operation strategy. The transfer price was RMB110,880 thousand. After the completion of shares transfer, the Group will no longer hold ownership of SUMA-USI.

- 4) Aggregate information of joint ventures that were not individually material

	For the Year Ended December 31	
	2022	2021
	NT\$	NT\$
The Group's share of:		
Total comprehensive income	<u>\$ 101,839</u>	<u>\$ 27,003</u>

15. PROPERTY, PLANT AND EQUIPMENT

The carrying amounts of each class of property, plant and equipment were as follows:

	December 31	
	2022	2021
	NT\$	NT\$
Land	\$ 13,006,893	\$ 11,530,540
Buildings and improvements	91,623,291	79,273,937
Machinery and equipment	142,129,485	128,202,516
Other equipment	3,401,543	3,928,284
Construction in progress and machinery under installation	<u>18,073,406</u>	<u>16,932,273</u>
	<u>\$ 268,234,618</u>	<u>\$ 239,867,550</u>

For the year ended December 31, 2022

					Construction in Progress and Machinery under Installation	
	Land	Buildings and Improvements	Machinery and Equipment	Other Equipment		Total
	NT\$	NT\$	NT\$	NT\$	NT\$	NT\$
<u>Cost</u>						
Balance at January 1, 2022	\$ 11,530,540	\$ 152,641,699	\$ 423,488,598	\$ 14,601,044	\$ 16,932,273	\$ 619,194,154
Additions	1,453,816	302,092	1,514,563	137,208	72,392,895	75,800,574
Disposals	(63,446)	(1,129,046)	(7,457,317)	(1,176,897)	(6,271)	(9,832,977)
Reclassification	-	19,150,796	51,716,057	560,828	(71,530,690)	(103,009)
Effect of foreign currency exchange differences	85,983	1,833,158	4,232,801	232,425	285,199	6,669,566
Balance at December 31, 2022	<u>\$ 13,006,893</u>	<u>\$ 172,798,699</u>	<u>\$ 473,494,702</u>	<u>\$ 14,354,608</u>	<u>\$ 18,073,406</u>	<u>\$ 691,728,308</u>
<u>Accumulated depreciation and impairment</u>						
Balance at January 1, 2022	\$ -	\$ 73,367,762	\$ 295,286,082	\$ 10,672,760	\$ -	\$ 379,326,604
Depreciation expense	-	7,516,917	39,819,816	1,609,023	-	48,945,756
Impairment losses recognized	-	244,719	155,334	5,346	-	405,399
Disposals	-	(1,081,082)	(7,114,817)	(1,138,221)	-	(9,334,120)
Reclassification	-	198,534	365,180	(365,180)	-	198,534
Effect of foreign currency exchange differences	-	928,558	2,853,622	169,337	-	3,951,517
Balance at December 31, 2022	<u>\$ -</u>	<u>\$ 81,175,408</u>	<u>\$ 331,365,217</u>	<u>\$ 10,953,065</u>	<u>\$ -</u>	<u>\$ 423,493,690</u>

For the year ended December 31, 2021

					Construction in progress and machinery under installation	
	Land	Buildings and Improvements	Machinery and equipment	Other equipment		Total
	NT\$	NT\$	NT\$	NT\$	NT\$	NT\$
<u>Cost</u>						
Balance at January 1, 2021 (Retrospectively Adjusted)	\$ 10,457,960	\$ 158,812,500	\$ 416,368,479	\$ 16,870,978	\$ 13,853,465	\$ 616,363,382
Additions	1,126,012	2,718,507	1,332,497	135,439	69,105,086	74,417,541
Disposals	(2,400)	(659,833)	(10,999,274)	(2,144,766)	(32,960)	(13,839,233)
Disposal of subsidiaries (Note 30)	-	(12,344,067)	(33,309,236)	(1,247,326)	(1,237,431)	(48,138,060)
Reclassification	393	5,038,562	53,856,444	1,181,455	(64,884,288)	(4,807,434)
Acquisitions through business combinations (Note 29)	-	5,284	28,282	3,108	4,852	41,526
Effect of foreign currency exchange differences	(51,425)	(929,254)	(3,788,594)	(197,844)	123,549	(4,843,568)
Balance at December 31, 2021	<u>\$ 11,530,540</u>	<u>\$ 152,641,699</u>	<u>\$ 423,488,598</u>	<u>\$ 14,601,044</u>	<u>\$ 16,932,273</u>	<u>\$ 619,194,154</u>
<u>Accumulated depreciation and impairment</u>						
Balance at January 1, 2021	\$ -	\$ 75,998,643	\$ 293,828,682	\$ 12,170,660	\$ -	\$ 381,997,985
Depreciation expense	-	7,620,561	39,147,076	1,836,523	-	48,604,160
Impairment losses recognized	-	15,915	105,815	5,036	-	126,766
Disposals	-	(565,551)	(10,151,428)	(2,065,174)	-	(12,782,153)
Disposal of subsidiaries (Note 30)	-	(5,369,867)	(24,974,206)	(1,100,858)	-	(31,444,931)
Reclassification	-	(3,924,490)	142,234	(18,218)	-	(3,800,474)
Acquisitions through business combinations (Note 29)	-	241	1,067	2,452	-	3,760
Effect of foreign currency exchange differences	-	(407,690)	(2,813,158)	(157,661)	-	(3,378,509)
Balance at December 31, 2021	<u>\$ -</u>	<u>\$ 73,367,762</u>	<u>\$ 295,286,082</u>	<u>\$ 10,672,760</u>	<u>\$ -</u>	<u>\$ 379,326,604</u>

Based on the future operation plans and the capacity evaluation, the Group assessed that a portion of plant, equipment and other equipment in the packaging segment, testing segment, and EMS segment were not qualified for the production needs and, therefore, recognized an impairment loss of NT\$405,399 thousand and NT\$126,766 thousand, respectively, under the line item of other gains and losses for the years ended December 31, 2022 and 2021 (Note 25). Part of the recoverable amounts were determined by the fair value less cost of disposal, of which the fair value was based on the recent quoted prices of assets with similar age and obsolescence provided by vendors in secondary market or the disposal price, and both of which represented Level 3 inputs because the secondary market was not active and the disposal price was negotiated with counterparties. The recoverable amount of the other portion of the impaired plant and equipment was determined using value in use and the Group expected to derive zero future cash flows from

these assets.

Each class of property, plant and equipment was depreciated on a straight-line basis over the following useful lives:

Buildings and improvements	
Main plant buildings	10-55 years
Cleanrooms	10-20 years
Others	3-24 years
Machinery and equipment	2-15 years
Other equipment	2-25 years

The capitalized borrowing costs for the years ended December 31, 2022 and 2021 are disclosed in Note 25.

16. LEASE ARRANGEMENTS

a. Right-of-use assets

	December 31	
	2022	2021
	NT\$	NT\$
Carrying amounts		
Land	\$ 7,342,703	\$ 6,093,518
Buildings and improvements	3,411,750	3,663,682
Machinery and equipment	237,260	880,443
Other equipment	<u>69,070</u>	<u>42,619</u>
	<u>\$ 11,060,783</u>	<u>\$ 10,680,262</u>
	For the Year Ended December 31	
	2022	2021
	NT\$	NT\$
Additions to right-of-use assets	<u>\$ 2,140,942</u>	<u>\$ 3,239,770</u>
Depreciation charge for right-of-use assets		
Land	\$ 236,673	\$ 217,674
Buildings and improvements	660,276	509,746
Machinery and equipment	538,639	356,052
Other equipment	<u>32,452</u>	<u>31,478</u>
	<u>\$ 1,468,040</u>	<u>\$ 1,114,950</u>

The amounts disclosed above with respect to the right-of-use assets did not include the right-of-use assets that meet the definition of investment properties.

b. Lease liabilities

	December 31	
	2022	2021
	NT\$	NT\$
Carrying amounts		
Current	\$ 979,612	\$ 809,536
Non-current	\$ 6,728,875	\$ 6,590,348

The Group's lease liabilities were mainly from land and buildings and improvements. The range of discount rates for lease liabilities was as follows:

	December 31	
	2022	2021
Land (%)	0.54-8.00	0.54-8.00
Buildings and improvements (%)	0.45-8.84	0.45-8.84

c. Material lease-in activities and terms

The Group leases land and buildings for the use of plants and offices with remaining lease terms of 1-52 years and 1-28 years, respectively. For the leasehold land located in the R.O.C., the Group has extension options at the expiry of the lease periods. However, the government has the right to adjust the lease payments on the basis of changes in announced land value prices and also has the right to terminate the lease contract under certain circumstances. The Group does not have bargain purchase options to acquire the leasehold land and buildings at the expiry of the lease periods. In addition, the Group is prohibited from subleasing or transferring all or any portion of the underlying assets without the lessor's consent.

d. Subleases

In addition to the sublease transactions described in Note 17, the Group did not have other sublease transactions.

e. Other lease information

	For the Year Ended December 31	
	2022	2021
	NT\$	NT\$
Expenses relating to short-term leases	\$ 431,613	\$ 814,235
Expenses relating to low-value assets leases	\$ 3,242	\$ 5,080
Expenses relating to variable lease payments not included in the measurement of lease liabilities	\$ 126,584	\$ 61,141
Total cash outflow for leases	\$ 2,494,384	\$ 2,909,157

The Group elected to apply the recognition exemption for qualifying short-term leases and low-value asset leases and, therefore, did not recognize right-of-use assets and lease liabilities for these leases.

17. INVESTMENT PROPERTIES

For the year ended December 31, 2022

	Land	Buildings and	Right-of-use	Total
	NT\$	Improvements	Assets	NT\$
	NT\$	NT\$	NT\$	NT\$
<u>Cost</u>				
Balance at January 1, 2022	\$ 35,572	\$ 16,376,098	\$ 10,042,678	\$ 26,454,348
Additions	-	114,786	-	114,786
Disposals	-	(9,770)	-	(9,770)
Reclassification	-	39,158	(10,314)	28,844
Effects of foreign currency exchange differences	-	237,171	143,516	380,687
Balance at December 31, 2022	<u>\$ 35,572</u>	<u>\$ 16,757,443</u>	<u>\$ 10,175,880</u>	<u>\$ 26,968,895</u>
<u>Accumulated depreciation</u>				
Balance at January 1, 2022	\$ -	\$ 3,272,146	\$ 1,037,415	\$ 4,309,561
Depreciation expenses	-	779,431	327,583	1,107,014
Disposals	-	(8,354)	-	(8,354)
Reclassification	-	(198,631)	(12,186)	(210,817)
Effects of foreign currency exchange differences	-	23,515	18,884	42,399
Balance at December 31, 2022	<u>\$ -</u>	<u>\$ 3,868,107</u>	<u>\$ 1,371,696</u>	<u>\$ 5,239,803</u>
Carrying amount at December 31, 2022	<u>\$ 35,572</u>	<u>\$ 12,889,336</u>	<u>\$ 8,804,184</u>	<u>\$ 21,729,092</u>

For the year ended December 31, 2021

	Land	Buildings and	Right-of-use	Total
	NT\$	Improvements	Assets	NT\$
	NT\$	NT\$	NT\$	NT\$
<u>Cost</u>				
Balance at January 1, 2021	\$ 35,965	\$ 7,822,805	\$ 6,738,913	\$ 14,597,683
Disposals	-	(5,350)	-	(5,350)
Disposal of subsidiaries (Note 30)	-	(1,290,187)	(87,412)	(1,377,599)
Reclassification (Note 12)	(393)	9,818,133	3,398,139	13,215,879
Effects of foreign currency exchange differences	-	30,697	(6,962)	23,735
Balance at December 31, 2021	<u>\$ 35,572</u>	<u>\$ 16,376,098</u>	<u>\$ 10,042,678</u>	<u>\$ 26,454,348</u>

(Continued)

	Land	Buildings and	Right-of-use	Total
	NT\$	Improvements	Assets	NT\$
		NT\$	NT\$	
<u>Accumulated depreciation</u>				
Balance at January 1, 2021	\$ -	\$ 1,342,467	\$ 717,133	\$ 2,059,600
Depreciation expenses	-	482,625	268,422	751,047
Disposals	-	(3,671)	-	(3,671)
Disposal of subsidiaries (Note 30)	-	(570,403)	(19,946)	(590,349)
Reclassification	-	2,014,201	78,914	2,093,115
Effects of foreign currency exchange differences	-	6,927	(7,108)	(181)
Balance at December 31, 2021	<u>\$ -</u>	<u>\$ 3,272,146</u>	<u>\$ 1,037,415</u>	<u>\$ 4,309,561</u>
Carrying amount at December 31, 2021	<u>\$ 35,572</u>	<u>\$ 13,103,952</u>	<u>\$ 9,005,263</u>	<u>\$ 22,144,787</u> (Concluded)

Construction in progress located on Hutai Road in Shanghai was completed in 2021 and immediately leased out for shopping centers business. As a result, the Group reclassified those buildings and land use right under the line item of “inventories related to real estate - construction in progress” to investment properties with amount of NT\$9,722,579 thousand.

Right-of-use assets included in investment properties were leasehold land located in Shanghai and were subleased under operating leases.

The abovementioned investment properties were leased out for 1 to 20 years, with an option to extend for an additional lease term. The lease contracts contain market review clauses in the event that the lessees exercise their options to extend. The lessees do not have bargain purchase options to acquire the investment properties at the expiry of the lease term.

In addition to fixed lease payments, some of the lease contracts also indicated that the lessees should make variable payments determined at a specific percentage of the excess of respective lessee’s monthly revenues over a specific amount.

The maturity analysis of lease payments receivable under operating leases of investment properties was as follows:

	December 31	
	2022	2021
	NT\$	NT\$
Year 1	\$ 1,683,010	\$ 1,693,659
Year 2	1,380,058	1,405,450
Year 3	1,119,779	1,210,891
Year 4	990,867	1,019,498
Year 5	808,851	929,609
Year 6 onwards	<u>2,492,305</u>	<u>3,241,525</u>
	<u>\$ 8,474,870</u>	<u>\$ 9,500,632</u>

The investment properties were depreciated on a straight-line basis over the following useful lives:

Main buildings	10-40 years
Right-of-use assets	10-50 years

Because the market conditions were severely affected by COVID-19 in 2022 and 2021, the Group agreed to provide unconditional rent concessions for some lease contracts. The rent concessions were accounted for as adjustments to related income over the remaining lease term. For the years ended December 31, 2022 and 2021, total amount from the rent concessions were NT\$114,538 thousand and NT\$3,865 thousand, respectively.

The fair value of the investment properties was measured using the market approach and the income approach based on level 3 inputs by independent professional appraisers. The significant unobservable inputs were discount rates. The fair value of the investment properties was as follows:

	December 31	
	2022	2021
	NT\$	NT\$
Fair value	<u>\$ 36,869,289</u>	<u>\$ 36,158,216</u>

Refer to Note 36 for the carrying amount of the investment properties that had been pledged by the Group to secure borrowings.

18. GOODWILL

	Cost	Accumulated impairment	Carrying amount
	NT\$	NT\$	NT\$
<u>For the year ended December 31, 2022</u>			
Balance at January 1, 2022	\$ 53,830,721	\$ 2,414,113	\$ 51,416,608
Effect of foreign currency exchange differences	<u>240,986</u>	<u>-</u>	<u>240,986</u>
Balance at December 31, 2022	<u>\$ 54,071,707</u>	<u>\$ 2,414,113</u>	<u>\$ 51,657,594</u>
<u>For the year ended December 31, 2021</u>			
Balance at January 1, 2021	\$ 54,467,361	\$ 2,414,113	\$ 52,053,248
Disposal of subsidiaries (Note 30)	(310,711)	-	(310,711)
Effect of foreign currency exchange differences	<u>(325,929)</u>	<u>-</u>	<u>(325,929)</u>
Balance at December 31, 2021	<u>\$ 53,830,721</u>	<u>\$ 2,414,113</u>	<u>\$ 51,416,608</u>

a. Allocating goodwill to cash-generating units

The Group did not monitor goodwill for internal management purpose but for financial reporting purpose and, therefore, the goodwill was allocated to the following cash-generating units for evaluation of impairment: packaging segment, testing segment, EMS segment and other segment. The carrying amounts of goodwill allocated to cash-generating units were as follows:

Cash-generating units	December 31	
	2022	2021
	NT\$	NT\$
Packaging segment	\$ 34,863,747	\$ 34,849,069
Testing segment	13,321,826	13,211,590
EMS segment	3,323,920	3,207,848
Others	<u>148,101</u>	<u>148,101</u>
	<u>\$ 51,657,594</u>	<u>\$ 51,416,608</u>

b. Impairment assessment

At the end of each year, the Group performs evaluation of goodwill for impairment by reviewing the recoverable amounts based on value in use which incorporates cash flow projections estimated by management covering a five-year period. The cash flows beyond that five-year period are extrapolated using a steady per annum growth rate. In assessing value in use, the estimated future cash flows are discounted to their present value using annual pre-tax discount rates which were 8.65%-14.64% and 10.27%-15.76% as of December 31, 2022 and 2021, respectively. Based on the assessment, no impairment loss was recognized for the years ended December 31, 2022 and 2021. The key assumption used in calculating each segment's value in use also included the growth rates for operating revenues, which were based on the forecast for the Group and the industry as well as the Group's historical performance.

Management believes that any reasonably possible change in the key assumptions on which the recoverable amount was based on would not cause the carrying amount of each cash-generating unit to exceed its recoverable amount.

19. OTHER INTANGIBLE ASSETS

The carrying amounts of each class of other intangible assets were as follows:

	December 31	
	2022	2021
	NT\$	NT\$
Customer relationships	\$ 6,974,365	\$ 7,990,956
Computer software	2,310,815	2,779,723
Patents and acquired specific technology	11,829,167	13,730,404
Others	<u>63,361</u>	<u>62,624</u>
	<u>\$ 21,177,708</u>	<u>\$ 24,563,707</u>

For the year ended December 31, 2022

	Customer relationships	Computer software	Patents and acquired specific technology	Others	Total
	NT\$	NT\$	NT\$	NT\$	NT\$
Cost					
Balance at January 1, 2022	\$ 11,704,605	\$ 7,051,694	\$ 21,315,241	\$ 133,526	\$ 40,205,066
Additions	-	459,954	500	31,414	491,868

(Continued)

	Customer relationships	Computer software	Patents and acquired specific technology	Others	Total
	NT\$	NT\$	NT\$	NT\$	NT\$
Disposals or derecognition	\$ -	\$ (37,442)	\$ -	\$ (12,871)	\$ (50,313)
Effect of foreign currency exchange differences	<u>31,576</u>	<u>141,903</u>	<u>1,611</u>	<u>4,257</u>	<u>179,347</u>
Balance at December 31, 2022	<u>\$ 11,736,181</u>	<u>\$ 7,616,109</u>	<u>\$ 21,317,352</u>	<u>\$ 156,326</u>	<u>\$ 40,825,968</u>
<u>Accumulated amortization and impairment</u>					
Balance at January 1, 2022	\$ 3,713,649	\$ 4,271,971	\$ 7,584,837	\$ 70,902	\$ 15,641,359
Amortization expense	1,043,852	957,708	1,901,835	27,684	3,931,079
Impairment losses recognized	-	715	-	-	715
Disposals or derecognition	-	(31,456)	-	(8,553)	(40,009)
Effect of foreign currency exchange differences	<u>4,315</u>	<u>106,356</u>	<u>1,513</u>	<u>2,932</u>	<u>115,116</u>
Balance at December 31, 2022	<u>\$ 4,761,816</u>	<u>\$ 5,305,294</u>	<u>\$ 9,488,185</u>	<u>\$ 92,965</u>	<u>\$ 19,648,260</u>
(Concluded)					

For the year ended December 31, 2021

	Customer Relationships	Computer Software	Patents and Acquired Specific Technology	Others	Total
	NT\$	NT\$	NT\$	NT\$	NT\$
<u>Cost</u>					
Balance at January 1, 2021	\$ 11,890,283	\$ 6,966,449	\$ 21,319,179	\$ 179,860	\$ 40,355,771
Additions	-	1,193,060	2,000	37,959	1,233,019
Disposals or derecognition	(102,637)	(150,670)	-	(71,014)	(324,321)
Disposal of subsidiaries (Note 30)	-	(789,998)	(5,401)	(6,243)	(801,642)
Acquisitions through business combinations (Note 29)	-	622	-	-	622
Effect of foreign currency exchange differences	<u>(83,041)</u>	<u>(167,769)</u>	<u>(537)</u>	<u>(7,036)</u>	<u>(258,383)</u>
Balance at December 31, 2021	<u>\$ 11,704,605</u>	<u>\$ 7,051,694</u>	<u>\$ 21,315,241</u>	<u>\$ 133,526</u>	<u>\$ 40,205,066</u>
<u>Accumulated amortization</u>					
Balance at January 1, 2021	\$ 2,769,983	\$ 4,170,576	\$ 5,598,966	\$ 104,475	\$ 12,644,000
Amortization expense	1,049,759	971,190	1,991,641	41,530	4,054,120
(Continued)					

	Customer Relationships	Computer Software	Patents and Acquired Specific Technology	Others	Total
	NT\$	NT\$	NT\$	NT\$	NT\$
Disposals or derecognition	\$ (102,637)	\$ (139,907)	\$ -	\$ (67,741)	\$ (310,285)
Disposal of subsidiaries (Note 30)	-	(626,338)	(5,288)	(3,067)	(634,693)
Acquisitions through business combinations (Note 29)	-	222	-	-	222
Effect of foreign currency exchange differences	<u>(3,456)</u>	<u>(103,772)</u>	<u>(482)</u>	<u>(4,295)</u>	<u>(112,005)</u>
Balance at December 31, 2021	<u>\$ 3,713,649</u>	<u>\$ 4,271,971</u>	<u>\$ 7,584,837</u>	<u>\$ 70,902</u>	<u>\$ 15,641,359</u> (Concluded)

Each class of other intangible assets was amortized on the straight-line basis over the following useful lives:

Customer relationships	11-16 years
Computer software	2-10 years
Patents and acquired specific technology	5-17 years
Others	5-10 years

20. BORROWINGS

a. Short-term borrowings

Bank loans mainly represented unsecured revolving loans, letters of credit and bank overdrafts.

	December 31	
	2022	2021
	NT\$	NT\$
Secured bank loans, annual interest rates were 2.73%-3.63% and 0.90%-1.87% as of December 31, 2022 and 2021, respectively	\$ 772,896	\$ 203,127
Unsecured bank loans, annual interest rates were 1.42%-6.50% and 0.40%-3.75% as of December 31, 2022 and 2021, respectively	<u>45,958,234</u>	<u>40,833,302</u>
	46,731,130	41,036,429
Less: financial liabilities for hedging – current (Note 34)	<u>12,204,620</u>	<u>6,716,965</u>
	<u>\$ 34,526,510</u>	<u>\$ 34,319,464</u>

b. Long-term borrowings

1) Bank loans

	December 31	
	2022	2021
	NT\$	NT\$
Revolving bank loans		
Syndicated bank loans - redeemed in January 2022, annual interest rates was 1.08% as of December 31, 2021	\$ -	\$ 2,562,926
Others - repayable through January 2023 to July 2029, annual interest rates were 1.43%-5.26% and 0.40%-4.00% as of December 31, 2022 and 2021, respectively	79,657,893	107,383,417
Mortgage loans (Note 36)		
Repayable through January 2023 to December 2033, annual interest rates were 2.85%-4.40% and 2.32%-4.55% as of December 31, 2022 and 2021, respectively	<u>8,333,805</u>	<u>8,031,142</u>
	87,991,698	117,977,485
Less: unamortized discounts	<u>-</u>	<u>3,642</u>
	87,991,698	117,973,843
Less: current portion	5,041,841	4,526,683
financial liabilities for hedging – non-current (Note 34)	<u>-</u>	<u>4,780,931</u>
	<u>\$ 82,949,857</u>	<u>\$ 108,666,229</u>

Pursuant to some of the above revolving bank loans agreements, the Group’s subsidiaries should meet certain financial covenants which are calculated based on each of their annual audited consolidated financial statements or semi-annual reviewed consolidated financial statements. The Group’s subsidiaries were in compliance with all of the financial covenants.

2) Long-term bills payable

	December 31	
	2022	2021
	NT\$	NT\$
Ta Ching Bills Finance Corporation, repayable through January 2024 to March 2024, annual interest rates were 0.85%-0.94% and 0.65% as of December 31, 2022 and 2021, respectively	\$ 3,000,000	\$ 2,500,000
Cathay United Bank, repayable in April 2024, annual interest rate was 1.49%-1.56% as of December 31, 2022	9,000,000	-
China Bills Finance Corporation, redeemed in December 2022, annual interest rate was 0.65% as of December 31, 2021	-	2,500,000
Mega Bills Finance Corporation, redeemed in March 2022, annual interest rate was 0.65% as of December 31, 2021	-	2,000,000
		(Continued)

	December 31	
	2022	2021
	NT\$	NT\$
International Bills Finance Corporation, redeemed in March 2022, annual interest rate was 0.65% as of December 31, 2021	\$ - 12,000,000	\$ 1,500,000 8,500,000
Less: unamortized discounts	2,247	1,353
	<u>\$ 11,997,753</u>	<u>\$ 8,498,647</u> (Concluded)

21. BONDS PAYABLE

	December 31	
	2022	2021
	NT\$	NT\$
Unsecured domestic bonds		
Repayable at maturity in January 2023 and interest due annually with annual interest rate at 1.50%	\$ 2,000,000	\$ 2,000,000
Repayable at maturity in January 2024 and interest due annually with annual interest rate at 1.45%	4,300,000	4,300,000
Repayable at maturity in April 2024 and interest due annually with annual interest rate at 0.90%	6,500,000	6,500,000
Repayable at maturity in April 2026 and interest due annually with annual interest rate at 1.03%	3,500,000	3,500,000
Repayable at maturity in April 2025 and interest due annually with annual interest rate at 0.90%	10,000,000	10,000,000
Repayable at maturity in August 2023 and interest due annually with annual interest rate at 0.72%	3,000,000	3,000,000
Repayable at maturity in August 2025 and interest due annually with annual interest rate at 0.85%	5,000,000	5,000,000
Repayable at maturity in August 2027 and interest due annually with annual interest rate at 0.95%	2,000,000	2,000,000
Redeemed in January 2022 and interest due annually with annual interest rate at 1.25%	-	3,700,000
Unsecured overseas bonds		
US\$200,000 thousand (linked to New Taiwan dollar), redeemed in September 2022 and interest due quarterly with annual interest rate at 2.15%	-	6,204,800
US\$100,000 thousand (linked to New Taiwan dollar), repayable at maturity in October 2024 and interest due quarterly with annual interest rate at 2.50%	3,102,400	3,102,400
Unsecured overseas convertible bonds		
RMB2,005,324 thousand and RMB779,801 thousand as of December 31, 2022 and 2021, respectively, at maturity in March 2027 and interest due annually with annual interest rate at 0.10%, 0.20%, 0.60%, 1.30%, 1.80% and 2.00% for the first, second, third, fourth, fifth and sixth year, respectively.	<u>8,842,360</u> 48,244,760	<u>3,385,381</u> 52,692,581 (Continued)

	December 31	
	2022	2021
	NT\$	NT\$
Less: discounts on bonds payable	\$ 394,436	\$ 425,244
	47,850,324	52,267,337
Less: current portion of bonds payable	4,998,971	9,902,710
	<u>\$ 42,851,353</u>	<u>\$ 42,364,627</u>
		(Concluded)

- a. In March 2021, the subsidiary, USISH, offered an unsecured overseas convertible bonds (the “USISH Bonds”) in RMB3,450,000 thousand with a par value of RMB100. Within 5 trading days after maturity, USISH will redeem all the unconverted bonds at a price of 108% of the par value (including the interests of the last installation).

When the USISH Bonds were offered, the subsidiaries, USIE and ASE (Shanghai) Inc., subscribed for the USISH Bond at a total of RMB2,670,199 thousand. Since then, USIE and ASE (Shanghai) Inc. disposed separately the USISH Bonds totaled to RMB 1,197,194 thousand and RMB 28,397 thousand in the public market. As of December 31, 2022, the par value of the USISH Bonds held by USIE amounted to RMB 1,444,608 thousand. As the aforementioned contractual obligations assumed by USISH and the contractual rights entitled to USIE and ASE (Shanghai) Inc. were extinguished in economic substance, the assets and liabilities related to the USISH Bonds subscribed for by USIE and ASE (Shanghai) Inc. were eliminated upon the consolidation.

Each holder of the USISH Bonds has the right to convert the USISH Bonds into ordinary shares of USISH at the conversion price at any time from the first trading day after 9 months of the offering date to the maturity date (the “Conversion Period”). The initial conversion price was RMB20.25 per share at offering date and the conversion price will be subject to the adjustment in the event of the conversion provisions due to anti-dilution clause. As of December 31, 2022, the conversion price was RMB19.50 per share. As of December 31, 2022, the USISH Bonds with a par value totaled to RMB68 thousand were converted into 3,000 ordinary shares of USISH. Within the outstanding period of the USISH Bonds, if the closing price of USISH’s ordinary shares in Shanghai Stock Exchange is lower than 80% of the current conversion price for at least 15 trading days out of any 30 consecutive trading days, the board of directors of USISH has the right to propose a downward revision on conversion price and submit it to USISH’s shareholders’ meeting for approval.

During the Conversion Period, USISH’s board of directors has the right to redeem all or part of the unconverted bonds at the price of par value plus accrued interests in either of the following circumstances: (1) if the closing price of USISH’s ordinary shares in Shanghai Stock Exchange is not less than 130% (including 130%) of the current conversion price for at least 20 trading days out of any 30 consecutive trading days, or (2) the unconverted USISH Bonds falls below RMB30,000 thousand.

In the last two interest accrual years before the maturity, the holders of USISH Bonds have the right to sell back all or part of USISH Bonds to USISH at the price of par value plus accrued interest in either of the following circumstances: (1) if the closing price of USISH’s ordinary shares in Shanghai Stock Exchange is lower than 70% of the current conversion price in any 30 consecutive trading days, or (2) if USISH is deemed to change the use of the funds pursuant to the relevant regulations of the China Securities Regulatory Commission or USISH is identified by the China Securities Regulatory Commission as changing the use of funds before the maturity. In addition, after 3 years from the offering date, holders of USISH Bonds have the right to sell back all or part of USISH Bonds to USISH at 102% of the par value (including the interests accrued for the 3rd year).

At the offering date, USISH Bonds consisted of debt host contract (recognized under the line item of bonds payable), conversion right (recognized under the line item of non-controlling interests since it is an equity component of the bonds offered by the subsidiary), call option and put option (recognized under the line item of financial liabilities at FVTPL).

22. OTHER PAYABLES

	December 31	
	2022	2021
	NT\$	NT\$
Payables for property, plant and equipment	\$ 16,704,590	\$ 13,607,664
Accrued salary and bonus	14,759,907	12,217,011
Accrued employees’ compensation and remuneration to directors	10,012,636	7,711,445
Accrued employee insurance	1,325,330	1,204,387
Accrued utilities	847,905	581,662
Others	13,464,732	11,374,731
	<u>\$ 57,115,100</u>	<u>\$ 46,696,900</u>

23. RETIREMENT BENEFIT PLANS

- a. Defined contribution plans
 - 1) The pension plan under the R.O.C. Labor Pension Act (“LPA”) for the Group’s R.O.C. resident employees is a government-managed defined contribution plan. Based on the LPA, the Company and its subsidiaries in R.O.C. makes monthly contributions to employees’ individual pension accounts at 6% of their monthly salaries.
 - 2) The subsidiaries of the Group located in countries other than R.O.C. also make contributions at various ranges according to relevant local regulations.
- b. Defined benefit plans
 - 1) The Company and its subsidiaries in R.O.C. joined the defined benefit pension plan under the R.O.C. Labor Standards Law operated by the government. Pension benefits are calculated on the basis of the length of service and average monthly salaries of the last six months before retirement. The Company and its subsidiaries in R.O.C. make contributions based on a certain percentage of their domestic employees’ monthly salaries to a pension fund administered by the pension fund monitoring committee. Before the end of each year, the Company and its subsidiaries in R.O.C. assess the balance in the pension fund. If the balance in the pension fund is inadequate to pay retirement benefits for employees who conform to retirement requirements in the next year, the Company and its subsidiaries in R.O.C. are required to fund the difference in one appropriation that should be made by the end of March in the next year. Pension contributions are deposited in the Bank of Taiwan in the committee’s name and are managed by the Bureau of Labor Funds, Ministry of Labor (“the Bureau”); the Company and its subsidiaries in Taiwan have no right to influence the investment policy and strategy.
 - 2) Pension plans for certain subsidiaries of the Group stipulate that employees with service years exceeding agreed years are entitled to receive a lump-sum payment based on their length of service and the agreed salaries at the time of termination of employment.

- 3) ASE, SPIL, ASE Test, Inc. and ASEE have pension plans for executive managers. Pension costs under the plans were NT\$7,735 thousand and NT\$32,836 thousand, and remeasurement losses were NT\$3,778 thousand and NT\$17,292 thousand, which recognized under the line item of net defined benefit liabilities, for the years ended December 31, 2022 and 2021, respectively. Pension payments were NT\$26,144 thousand for the year ended December 31, 2021. As of December 31, 2022 and 2021, accrued pension liabilities for executive managers were NT\$381,512 thousand and NT\$369,999 thousand, respectively.
- 4) The amounts included in the consolidated balance sheets arising from the Group's obligation in respect of its defined benefit plans excluding those for executive managers were as follows:

	December 31	
	2022	2021
	NT\$	NT\$
Present value of the defined benefit obligation	\$ 10,261,997	\$ 11,424,860
Fair value of the plan assets	<u>(6,477,877)</u>	<u>(5,863,264)</u>
Present value of unfunded defined benefit obligation	3,784,120	5,561,596
Recorded under other payables	(88,983)	(67,524)
Recorded under other non-current assets	<u>248,843</u>	<u>-</u>
Net defined benefit liabilities	<u>\$ 3,943,980</u>	<u>\$ 5,494,072</u>

Movements in net defined benefit liabilities were as follows:

	Present Value of the Defined Benefit Obligation	Fair Value of the Plan Assets	Net Defined Benefit Liabilities (Assets)
	NT\$	NT\$	NT\$
Balance at January 1, 2022	\$ 11,424,860	\$ (5,863,264)	\$ 5,561,596
Service cost			
Current service cost	141,458	-	141,458
Past service cost and gain on settlements	(100)	-	(100)
Net interest expense (income)	<u>118,489</u>	<u>(79,441)</u>	<u>39,048</u>
Recognized in profit or loss	<u>259,847</u>	<u>(79,441)</u>	<u>180,406</u>
Remeasurement			
Return on plan assets (excluding amounts included in net interest)	-	(324,510)	(324,510)
Actuarial (gain) loss			
Changes in financial assumptions	(1,053,680)	-	(1,053,680)
Experience adjustments	217,658	-	217,658
Changes in demographic assumptions	<u>(507)</u>	<u>-</u>	<u>(507)</u>
Recognized in other comprehensive income	<u>(836,529)</u>	<u>(324,510)</u>	<u>(1,161,039)</u>
Contributions from the employer	-	(736,508)	(736,508)
Benefits paid from the pension fund	(571,930)	571,930	-
Benefits paid from the Group	(115,695)	-	(115,695)

(Continued)

	Present Value of the Defined Benefit Obligation	Fair Value of the Plan Assets	Net Defined Benefit Liabilities (Assets)
	NT\$	NT\$	NT\$
Liabilities extinguished on settlements	\$ (2,920)	\$ -	\$ (2,920)
Exchange differences on foreign plans	<u>104,364</u>	<u>(46,084)</u>	<u>58,280</u>
Balance at December 31, 2022	<u>\$ 10,261,997</u>	<u>\$ (6,477,877)</u>	<u>\$ 3,784,120</u>
Balance at January 1, 2021	\$ 12,159,145	\$ (5,962,305)	\$ 6,196,840
Service cost			
Current service cost	173,307	-	173,307
Past service cost and gain on settlements	(10,284)	-	(10,284)
Net interest expense (income)	<u>78,501</u>	<u>(59,761)</u>	<u>18,740</u>
Recognized in profit or loss	<u>241,524</u>	<u>(59,761)</u>	<u>181,763</u>
Remeasurement			
Return on plan assets (excluding amounts included in net interest)	-	(42,636)	(42,636)
Actuarial (gain) loss			
Changes in financial assumptions	(418,542)	-	(418,542)
Experience adjustments	242,896	-	242,896
Changes in demographic assumptions	<u>160,156</u>	<u>-</u>	<u>160,156</u>
Recognized in other comprehensive income	<u>(15,490)</u>	<u>(42,636)</u>	<u>(58,126)</u>
Contributions from the employer	-	(542,584)	(542,584)
Benefits paid from			
the pension fund	(556,419)	562,442	6,023
the Group	(80,603)	-	(80,603)
Business combinations	46,291	-	46,291
Exchange differences on foreign plans	<u>(369,588)</u>	<u>181,580</u>	<u>(188,008)</u>
Balance at December 31, 2021	<u>\$ 11,424,860</u>	<u>\$ (5,863,264)</u>	<u>\$ 5,561,596</u> (Concluded)

5) The fair value of the plan assets by major categories at each balance sheet date was as follows:

	December 31	
	2022	2021
	NT\$	NT\$
Cash	\$ 2,351,189	\$ 2,267,223
Equity instruments	2,839,966	2,334,180
Debt instruments	1,079,917	1,039,412
Others	<u>206,805</u>	<u>222,449</u>
Total	<u>\$ 6,477,877</u>	<u>\$ 5,863,264</u>

6) Through the defined benefit plans under the Labor Standards Law of the R.O.C., the Group in R.O.C. are exposed to the following risks:

a) Investment risk

The plan assets are invested in equity and debt securities, bank deposits, etc. The investment is conducted at the discretion of the Bureau or under the mandated management. However, in accordance with relevant regulations, the return generated by plan assets should not be below the interest rate for a 2-year time deposit with local banks.

b) Interest risk

A decrease in the government bond interest rate will increase the present value of the defined benefit obligation; however, this will be partially offset by an increase in the return on the plan's debt investments.

c) Salary risk

The present value of the defined benefit obligation is calculated by reference to the future salaries of plan participants. As such, an increase in the salary of the plan participants will increase the present value of the defined benefit obligation.

7) The management of ASE Korea is responsible for the administration of the fund and determination of the investment strategies according to related local regulations. ASE Korea is responsible for the shortfall between the fund and the defined benefit obligation. The plan assets are investment in the certificates of deposits.

8) The present value of the defined benefit obligation and the related current service cost and past service cost were measured using the Projected Unit Credit Method. Except the pension plans for executive managers, the key assumptions used for the actuarial valuations were as follow:

	December 31	
	2022	2021
Discount rates (%)	0.05-5.63	0.05-3.31
Expected rates of salary increase (%)	1.00-3.96	1.00-4.02

The sensitivity analysis below has been determined based on reasonably possible changes of the respective assumptions occurring at each balance sheet date, while holding all other assumptions constant.

	December 31	
	2022 NT\$	2021 NT\$
Discount rate		
0.5% higher	\$ (437,529)	\$ (548,265)
0.5% lower	\$ 472,595	\$ 593,980
Expected rates of salary increase		
0.5% higher	\$ 444,815	\$ 538,689
0.5% lower	\$ (416,488)	\$ (503,700)

The sensitivity analysis presented above may not be representative of the actual change in the defined benefit obligation as it is unlikely that the change in assumptions would occur in isolation of one another as some of the assumptions may be correlated.

9) Maturity analysis of undiscounted pension benefit

	December 31	
	2022	2021
	NT\$	NT\$
No later than 1 year	\$ 646,243	\$ 561,812
Later than 1 year but not later than 5 years	2,760,990	2,593,560
Later than 5 years	<u>9,930,085</u>	<u>12,600,192</u>
	<u>\$ 13,337,318</u>	<u>\$ 15,755,564</u>

The Group expected to make contributions of NT\$547,179 thousand and NT\$595,871 thousand to the defined benefit plans in the next year starting from January 1, 2023 and 2022, respectively.

As of December 31, 2022 and 2021, the average duration of the defined benefit obligation excluding those for executive managers of the Group was 6 to 13 years and 9 to 16 years, respectively.

24. EQUITY

a. Share capital

Ordinary shares

	December 31	
	2022	2021
Numbers of shares authorized (in thousands)	<u>5,500,000</u>	<u>5,500,000</u>
Numbers of shares reserved (in thousands)		
Employee share options	<u>400,000</u>	<u>400,000</u>
Shares capital authorized	<u>\$ 55,000,000</u>	<u>\$ 55,000,000</u>
Shares capital reserved		
Employee share options	<u>\$ 4,000,000</u>	<u>\$ 4,000,000</u>
Number of shares issued and fully paid (in thousands)	<u>4,367,984</u>	<u>4,408,650</u>

American Depositary Receipts

The Company's ADS represents 2 ordinary shares of the Company. As of both December 31, 2022 and 2021, 157,164 thousand ADSs were outstanding and represented approximately 314,328 thousand ordinary shares of the Company.

b. Capital surplus

	December 31	
	2022	2021
	NT\$	NT\$
<u>May be used to offset a deficit, distributed as cash dividends, or transferred to share capital (1)</u>		
Issuance of ordinary shares	\$ 15,072,129	\$ 16,049,286
Merger by share exchange	117,693,658	117,693,658
Difference between consideration and the carrying amount of the subsidiaries' net assets during actual disposal or acquisition	3,240,987	3,240,987
Exercised employee share options	2,943,447	2,362,951
Treasury share transactions	38,404	816,186
Donations from shareholders	471,894	-
Expired share options (Note 28)	646,447	645,903
	<u>140,106,966</u>	<u>140,808,971</u>
<u>May be used to offset a deficit only</u>		
Changes in percentage of ownership interest in subsidiaries (2)	116,086	-
Share of changes in capital surplus of associates accounted for using the equity method	98,646	10,706
Dividends that the claim period has elapsed and unclaimed by shareholders	6,043	5183
Exercised disgorgement	326	-
	<u>221,101</u>	<u>15,889</u>
<u>May not be used for any purpose</u>		
Employee share options	1,425,171	1,442,132
Restricted stocks for employees	778,387	1,193,782
Others (3)	154,731	230,943
	<u>2,358,289</u>	<u>2,866,857</u>
	<u>\$ 142,686,356</u>	<u>\$ 143,691,717</u>

- 1) Such capital surplus may be used to offset a deficit; in addition, when the Company has no deficit, such capital surplus may be distributed as cash dividends or transferred to share capital (limited to a certain percentage of the Company's capital surplus and once a year).
- 2) Such capital surplus arises from the effects of changes in ownership interests in subsidiaries resulting from equity transactions other than actual disposals or acquisitions, or from changes in capital surplus of subsidiaries accounted for using the equity method.
- 3) Such capital surplus represents the excess of the carrying amount of related accounts over the par value due to employee share options exercised and the Company has not completed registration formalities.

c. Retained earnings and dividend policy

The Articles of Incorporation of the Company (the "Articles") provides that annual net income shall be distributed in the following order:

- 1) Replenishment of deficits;
- 2) 10.0% as legal reserve;
- 3) Special reserve appropriated or reversed in accordance with laws or regulations set forth by the authorities concerned;
- 4) If annual net income remains, a proposal for the distribution of such amount together with a part or all of the accumulated undistributed profits from previous years shall be prepared by the board of directors and submit to the shareholders' meeting for resolution. However, the distributable dividends may be paid in cash after a resolution has been adopted by a majority vote at a meeting of the board of directors attended by two-thirds of the total number of directors; and, in addition, a report of such distribution shall be submitted to the shareholders' meeting.

For the policies on the distribution of employees' compensation and remuneration of directors, refer to employees' compensation and remuneration of directors in Note 25(g).

The Company is currently in the mature growth stage. To meet the capital needs for business development now and in the future and satisfy the shareholders' demand for cash inflows, the Company shall use residual dividend policy to distribute dividends, of which the cash dividend is not lower than 30% of the total dividend distribution, with the remainder to be distributed in shares. A distribution plan is also to be made by the board of directors and submitted for resolution in the shareholders' meeting.

Appropriation of earnings to legal reserve shall be made until the legal reserve equals the Company's share capital. Legal reserve may be used to offset deficits. If the Company has no deficit and the legal reserve has exceeded 25% of the Company's share capital, the excess may be transferred to capital or distributed in cash.

Items referred to under Rule No. 1090150022 issued by the FSC and in the directive titled "Questions and Answers for Special Reserves Appropriated Following Adoption of IFRSs" should be appropriated to or reversed from a special reserve by the Company.

The appropriation of earnings for 2021 and 2020 were as follows:

	Appropriation of Earnings		Dividends Per Share	
	For Year 2021	For Year 2020	For Year 2021	For Year 2020
	NT\$	NT\$	NT\$	NT\$
			(in dollars)	(in dollars)
Legal reserve	\$ 6,282,762	\$ 2,398,814		
Special reserve (reversed)	798,025	(1,278,670)		
Cash dividends	<u>30,501,981</u>	<u>18,389,856</u>	\$ 7.0	\$ 4.2
	<u>\$ 37,582,768</u>	<u>\$ 19,510,000</u>		

The above 2021 appropriations of earnings for cash dividends had been resolved by the Company's board of directors in March 2022; the other proposed appropriations items for 2021 had been resolved by the shareholders in the meeting held in June 2022. The proposed appropriations of earnings for 2020 had been resolved in the Company's annual shareholders' meeting in August 2021.

d. Others equity items

1) Exchange differences on translating foreign operations

	For the Year Ended December 31	
	2022	2021
	NT\$	NT\$
Balance at January 1	\$ (15,392,747)	\$ (11,641,040)
Recognized for the year		
Exchange differences arising on translating foreign operations	9,981,949	(3,203,730)
Share from associates and joint venture accounted for using the equity method	(117,691)	21,307
Reclassified adjustments		
Disposal of foreign operations	-	(569,284)
Balance at December 31	<u>\$ (5,528,489)</u>	<u>\$ (15,392,747)</u>

2) Unrealized gain (loss) on financial assets at FVTOCI

	For the Year Ended December 31	
	2022	2021
	NT\$	NT\$
Balance at January 1	<u>\$ 4,903,863</u>	<u>\$ 2,501,278</u>
Unrealized gain (loss) recognized during the year		
Debt instruments	(16,746)	63,722
Equity instruments	(378,451)	151,413
Share from associates and joint ventures accounted for using the equity method	<u>(3,060,430)</u>	<u>3,679,745</u>
Other comprehensive income for the year	<u>(3,455,627)</u>	<u>3,894,880</u>
Cumulative unrealized loss of equity instruments transferred to retained earnings due to disposal	190,500	33,258
Cumulative unrealized gain transferred to retained earnings due to disposal of equity instruments in relation to associates and joint venture accounted for using the equity method	<u>(152,077)</u>	<u>(1,525,553)</u>
Balance at December 31	<u>\$ 1,486,659</u>	<u>\$ 4,903,863</u>

3) Gain (loss) on hedging instruments - hedges of net investments of foreign operations

	For the Year Ended December 31	
	2022	2021
	NT\$	NT\$
Balance at January 1	\$ 121,833	\$ (429,265)
Recognized during the year		
Foreign currency risk – loans denominated in foreign currency	<u>398,448</u>	<u>551,098</u>
Balance at December 31	<u>\$ 520,281</u>	<u>\$ 121,833</u>

4) Unearned employee compensation

In August 2021, the shareholders' meeting resolved to issue restricted stock awards to employees. Refer to Note 28 for the information.

	For the Year Ended December 31	
	2022	2021
	NT\$	NT\$
Balance at January 1	\$ (1,164,991)	\$ -
Issuance of employee restricted stock awards	-	(1,343,782)
Share-based payment expenses	728,748	178,791
Valuation adjustments	<u>3,396</u>	<u>-</u>
Balance at December 31	<u>\$ (432,847)</u>	<u>\$ (1,164,991)</u>

e. Treasury shares (in thousand shares)

Purpose of Repurchase	Shares repurchased for cancellation (in thousand shares)	Shares held by subsidiaries (in thousand shares)	Total (in thousand shares)
Balance at January 1, 2022	53,067	72,941	126,008
Increase during the year	1,933	-	1,933
Decrease during the year	<u>(55,000)</u>	<u>-</u>	<u>(55,000)</u>
Balance at December 31, 2022	<u>-</u>	<u>72,941</u>	<u>72,941</u>
Balance at January 1, 2021	-	72,941	72,941
Increase during the year	<u>53,067</u>	<u>-</u>	<u>53,067</u>
Balance at December 31, 2021	<u>53,067</u>	<u>72,941</u>	<u>126,008</u>

In order to maintain the Company's credit and shareholders' rights and interests, the Company's board of directors resolved in November 2021 to repurchase up to 55,000 thousand of the Company's ordinary shares for cancellation at prices between NT\$90 to NT\$150 per share during November 8, 2021 to January 7, 2022. The Company has repurchased 55,000 thousand shares at an average price of NT\$104.3. In February 2022, the Company's board of directors resolved that February 25, 2022 was the record date for capital reduction and completed the cancellation of those repurchased ordinary shares.

In order to align with the Group's financial strategy to simplify its investment management, ASE Test and J&R Holding reduced capital in the fourth quarter of 2022 by remitting 44,100 thousand and 23,352 thousand common shares of the Company, respectively, to their shareholder, ASE.

The Company's shares held by its subsidiaries at each balance sheet date were as follows:

	Shares Held by Subsidiaries (in thousand shares)	Carrying Amount NT\$	Fair Value NT\$
December 31, 2022			
ASE	67,452	\$ 1,762,430	\$ 6,333,754
ASE Test, Inc.	<u>5,489</u>	<u>196,677</u>	<u>515,454</u>
	<u>72,941</u>	<u>\$ 1,959,107</u>	<u>\$ 6,849,208</u>
December 31, 2021			
ASE Test	44,100	\$ 1,380,721	\$ 4,696,675
J&R Holding	23,352	381,709	2,486,975
ASE Test, Inc.	<u>5,489</u>	<u>196,677</u>	<u>584,620</u>
	<u>72,941</u>	<u>\$ 1,959,107</u>	<u>\$ 7,768,270</u>

Fair value (Level 1) of the Company's shares held by subsidiaries is based on the closing price from an available published price quotation.

Under the Securities and Exchange Act, the Company shall neither pledge treasury shares nor exercise shareholders' rights on these shares, such as the rights to dividends and voting. The subsidiaries holding the aforementioned treasury shares are bestowed shareholders' rights except the rights to participate in any share issuance for cash and voting.

f. Non-controlling interests

	For the Year Ended December 31	
	2022	2021
	NT\$	NT\$
Balance at January 1	\$ 14,556,011	\$ 15,627,534
Share of profit for the year	3,136,644	2,105,901
Other comprehensive income (loss) for the year		
Exchange difference on translating foreign operations	344,780	(321,551)
Unrealized gain (loss) on equity instruments at FVTOCI	(44,852)	50,679
Gain from hedging	110,781	187,502
Remeasurement on defined benefit plans	51,582	1,497
Share in other comprehensive income from associates accounted for using the equity method	(35,142)	7,902
Subsidiaries' buy back of their own outstanding ordinary shares (Note 31)	(312,775)	(2,748,521)
Equity component of convertible bonds issued by subsidiaries	1,092,004	393,199
Non-controlling interest relating to outstanding vested employee share options granted by subsidiaries	315,871	314,398
Cash dividends distributed to non-controlling interests	<u>(575,089)</u>	<u>(1,062,529)</u>
Balance at December 31	<u>\$ 18,639,815</u>	<u>\$ 14,556,011</u>

25. PROFIT BEFORE INCOME TAX

a. Other income

	For the Year Ended December 31	
	2022	2021
	NT\$	NT\$
Interest income		
Bank deposits	\$ 646,407	\$ 529,132
Contracts with customers	8,340	13,197
Government subsidies	797,612	767,918
Dividends income	278,381	289,852
Royalty income	638,867	135,400
Rental income	<u>656,745</u>	<u>175,373</u>
	<u>\$ 3,026,352</u>	<u>\$ 1,910,872</u>

b. Other gains and losses

	For the Year Ended December 31	
	2022	2021
	NT\$	NT\$
Net gains on financial assets mandatorily at FVTPL	\$ 10,244,928	\$ 1,199,065
Net losses arising on financial instruments held for trading	(6,137,183)	(2,689,070)
Gain on disposal of subsidiaries (Note 30)	-	17,340,418
Foreign exchange gains (losses), net	(2,495,474)	1,395,054
Impairment losses (Notes 14,15 and 19)	(388,775)	(126,766)
Gain recognized in bargain purchase transaction (Notes 29)	-	33,114
Gains on disposal of property, plant and equipment	113,356	71,770
Others	<u>(67,071)</u>	<u>934,052</u>
	<u>\$ 1,305,781</u>	<u>\$ 18,157,637</u>

c. Finance costs

	For the Year Ended December 31	
	2022	2021
	NT\$	NT\$
Interest on lease liabilities	\$ 134,871	\$ 105,159
Interest on borrowings and bonds payable	<u>3,912,526</u>	<u>2,790,368</u>
Total interest expense for financial liabilities measured at amortized cost	4,047,397	2,895,527
Less: Amounts included in the cost of qualifying assets		
Inventories related to real estate business	-	(71,011)
Property, plant and equipment	<u>(58,263)</u>	<u>(25,581)</u>
	3,989,134	2,798,935
Other finance costs	<u>20,648</u>	<u>32,372</u>
	<u>\$ 4,009,782</u>	<u>\$ 2,831,307</u>

Information relating to the capitalized borrowing costs was as follows:

		For the Year Ended December 31	
		2022	2021
Annual interest capitalization rates			
Inventories related to real estate business (%)		-	4.20-4.35
Property, plant and equipment (%)		0.59-4.22	0.48-1.08
d. Depreciation and amortization			
		For the Year Ended December 31	
		2022	2021
		NT\$	NT\$
Property, plant and equipment		\$ 48,945,756	\$ 48,604,160
Right-of-use assets		1,468,040	1,114,950
Investment properties		1,107,014	751,047
Other intangible assets		<u>3,931,079</u>	<u>4,054,120</u>
		<u>\$ 55,451,889</u>	<u>\$ 54,524,277</u>
Summary of depreciation by function			
Operating costs		\$ 47,894,701	\$ 46,880,267
Operating expenses		<u>3,626,109</u>	<u>3,589,890</u>
		<u>\$ 51,520,810</u>	<u>\$ 50,470,157</u>
Summary of amortization by function			
Operating costs		\$ 2,465,837	\$ 2,443,870
Operating expenses		<u>1,465,242</u>	<u>1,610,250</u>
		<u>\$ 3,931,079</u>	<u>\$ 4,054,120</u>
e. Operating expenses directly related to investment properties			
		For the Year Ended December 31	
		2022	2021
		NT\$	NT\$
Direct operating expenses of investment properties that generated rental income		<u>\$ 1,616,197</u>	<u>\$ 1,422,463</u>
f. Employee benefits expense			
		For the Year Ended December 31	
		2022	2021
		NT\$	NT\$
Post-employment benefits			
Defined contribution plans		\$ 3,590,439	\$ 3,489,642
Defined benefit plans		<u>188,141</u>	<u>214,599</u>
		3,778,580	3,704,241
Equity-settled share-based payments		989,843	699,210
Other employee benefits		<u>98,404,937</u>	<u>90,412,118</u>
		<u>\$ 103,173,360</u>	<u>\$ 94,815,569</u>

(Continued)

	For the Year Ended December 31	
	2022	2021
	NT\$	NT\$
Summary of employee benefits expense by function		
Operating costs	\$ 65,063,705	\$ 61,555,562
Operating expenses	<u>38,109,655</u>	<u>33,260,007</u>
	<u>\$ 103,173,360</u>	<u>\$ 94,815,569</u>
		(Concluded)

g. Employees' compensation and the remuneration to directors

The Articles stipulates to distribute employees' compensation and remuneration to directors at the rates of 0.01%-1.00% and no higher than 0.75%, respectively, of net profit before income tax, employees' compensation and remuneration to directors.

	For the Year Ended December 31, 2022		For the Year Ended December 31, 2021	
	Accrual rate	Accrual amount NT\$	Accrual rate	Accrual amount NT\$
Employees' compensation	0.25%	\$ 155,398	0.19%	\$ 121,935
Remuneration to directors	0.40%	248,637	0.30%	195,095

If there is a change in the proposed amounts after the consolidated financial statement authorized for issue, the differences are recorded as a change in accounting estimate and will be adjusted in the following year.

In March 2022 and 2021, the board of directors resolved the appropriations of employees' compensation and remuneration to directors in cash for 2021 and 2020, respectively. The differences between the resolved amounts and the accrued amounts reflected in the annual consolidated financial statements for the years ended December 31, 2021 and 2020 were deemed changes in estimates. The differences were NT\$1,030 thousand and NT\$818 thousand and were adjusted in net profit for each of the years ended December 31, 2022 and 2021, respectively.

	For Year 2021		For Year 2020	
	Employees' compensation NT\$	Remuneration to directors NT\$	Employees' compensation NT\$	Remuneration to directors NT\$
Resolved by the board of directors	<u>\$ 122,000</u>	<u>\$ 194,000</u>	<u>\$ 54,909</u>	<u>\$ 109,000</u>
Recognized in the consolidated financial statements	<u>\$ 121,935</u>	<u>\$ 195,095</u>	<u>\$ 54,909</u>	<u>\$ 109,818</u>

Information on the employees' compensation and the remuneration to directors resolved by the board of directors is available at the Market Observation Post System website of the Taiwan Stock Exchange (the "TWSE").

26. INCOME TAX

The Company and its subsidiaries, ASE, SPIL and USIINC, have filed a consolidated tax return for corporate income tax and for unappropriated earnings.

a. Income tax recognized in profit or loss

The major components of income tax were as follows:

	For the Year Ended December 31	
	2022	2021
	NT\$	NT\$
Current income tax		
In respect of the current year	\$ 16,251,844	\$ 14,533,570
Income tax on unappropriated earnings	97,896	62,192
Changes in estimate for prior years	<u>(211,631)</u>	<u>(129,152)</u>
	<u>16,138,109</u>	<u>14,466,610</u>
Deferred income tax		
In respect of the current year	(185,726)	(95,906)
Changes in tax rates	(4,425)	18,337
Changes in estimate for prior years	2,481	16,625
Effect of foreign currency exchange differences	<u>76,684</u>	<u>(83,840)</u>
	<u>260,466</u>	<u>(144,784)</u>
	<u>\$ 16,398,575</u>	<u>\$ 14,321,826</u>

A reconciliation of income tax expense calculated at the statutory rates and income tax expense recognized in profit or loss was as follows:

	For the Year Ended December 31	
	2022	2021
	NT\$	NT\$
Profit before income tax	<u>\$ 81,625,713</u>	<u>\$ 80,335,407</u>
Income tax expense calculated at the statutory rates	\$ 35,879,136	\$ 33,726,064
Nontaxable expense (income) in determining taxable income	(150,151)	329,608
Tax-exempt income	(14,789,999)	(14,578,355)
Additional income tax on unappropriated earnings	97,896	62,192
Income tax credits	(2,514,002)	(1,654,821)
The origination and reversal of temporary differences	1,304,931	78,544
Income tax adjustments on prior years	(209,150)	(112,527)
Unrecognized deferred tax liability for temporary differences associated with investments	(3,523,716)	(6,135,120)
Unrecognized loss carryforwards	271,730	288,025
Withholding tax	31,900	87,175
Land value increment tax	-	117,341
Capital gains tax	<u>-</u>	<u>2,113,700</u>
	<u>\$ 16,398,575</u>	<u>\$ 14,321,826</u>

b. Income tax recognized directly in equity

	For the Year Ended December 31	
	2022	2021
	NT\$	NT\$
Deferred income tax		
Related to employee share options	\$ -	\$ (9)

c. Income tax recognized in other comprehensive income

	For the Year Ended December 31	
	2022	2021
	NT\$	NT\$
Deferred income tax		
Related to remeasurement of defined benefit plans	<u>\$(208,482)</u>	<u>\$ (19,319)</u>

d. Current tax assets and liabilities

	December 31	
	2022	2021
	NT\$	NT\$
Current tax assets		
Tax refund receivable	\$ 623,470	\$ 207,272
Prepaid income tax	<u>125,049</u>	<u>334,908</u>
	<u>\$ 748,519</u>	<u>\$ 542,180</u>
Current tax liabilities		
Income tax payable	<u>\$ 11,296,222</u>	<u>\$ 10,044,739</u>

e. Deferred tax assets and liabilities

The Group offset certain deferred tax assets and deferred tax liabilities which met the offset criteria.

The movements of deferred tax assets and deferred tax liabilities were as follows:

For the year ended December 31, 2022

	Balance at January 1	Recognized in Profit or Loss	Recognized in Other Comprehensive Income	Exchange Differences	Balance at December 31
	NT\$	NT\$	NT\$	NT\$	NT\$
Deferred tax assets					
Temporary differences					
Property, plant and equipment	\$ 90,977	\$ 40,498	\$ -	\$ 16,953	\$ 148,428
Defined benefit obligation	1,188,153	(123,878)	(208,482)	6,641	862,434
FVTPL financial instruments	189,350	18,192	-	252	207,794
Others	<u>2,870,714</u>	<u>718,909</u>	<u>-</u>	<u>179,881</u>	<u>3,769,504</u>
	4,339,194	653,721	(208,482)	203,727	4,988,160
Loss carry-forward	638,782	(166,121)	-	22,824	495,485
Investment credits	<u>391,034</u>	<u>452,656</u>	<u>-</u>	<u>14,437</u>	<u>858,127</u>
	<u>\$ 5,369,010</u>	<u>\$ 940,256</u>	<u>\$ (208,482)</u>	<u>\$ 240,988</u>	<u>\$ 6,341,772</u>

(Continued)

	Balance at January 1	Recognized in Profit or Loss	Recognized in Other Comprehensive Income	Exchange Differences	Balance at December 31
	NT\$	NT\$	NT\$	NT\$	NT\$
<u>Deferred tax liabilities</u>					
Temporary differences					
Property, plant and equipment	\$ 5,916,744	\$ 63,813	\$ -	\$ 57,701	\$ 6,038,258
FVTPL financial instruments	12,580	519,142	-	89	531,811
Others	<u>1,185,205</u>	<u>617,767</u>	<u>-</u>	<u>106,514</u>	<u>1,909,486</u>
	<u>\$ 7,114,529</u>	<u>\$ 1,200,722</u>	<u>\$ -</u>	<u>\$ 164,304</u>	<u>\$ 8,479,555</u>

For the year ended December 31, 2021

	Balance at January 1 (retrospectively adjusted)	Recognized in Profit or Loss	Recognized in Other Comprehensive Income	Recognized in Equity	Exchange Differences	Disposal of Subsidiaries	Balance at December 31
	NT\$	NT\$	NT\$	NT\$	NT\$	NT\$	NT\$
<u>Deferred tax assets</u>							
Temporary differences							
Property, plant and equipment	\$ 629,702	\$ (186,443)	\$ -	\$ -	\$ (7,178)	\$ (345,104)	\$ 90,977
Defined benefit obligation	1,370,455	(115,707)	(19,319)	-	(47,276)	-	1,188,153
FVTPL financial instruments	112,259	77,593	-	-	(502)	-	189,350
Others	<u>2,407,910</u>	<u>679,492</u>	<u>-</u>	<u>(7)</u>	<u>52,399</u>	<u>(269,080)</u>	<u>2,870,714</u>
	4,520,326	454,935	(19,319)	(7)	(2,557)	(614,184)	4,339,194
Loss carry-forward	527,666	187,981	-	-	(31,077)	(45,788)	638,782
Investment credits	<u>429,381</u>	<u>(15,549)</u>	<u>-</u>	<u>-</u>	<u>(22,798)</u>	<u>-</u>	<u>391,034</u>
	<u>\$ 5,477,373</u>	<u>\$ 627,367</u>	<u>\$ (19,319)</u>	<u>\$ (7)</u>	<u>\$ (56,432)</u>	<u>\$ (659,972)</u>	<u>\$ 5,369,010</u>
<u>Deferred tax liabilities</u>							
Temporary differences							
Property, plant and equipment	\$ 5,980,387	\$ 165,628	\$ -	\$ -	\$ (42,437)	\$ (186,834)	\$ 5,916,744
FVTPL financial instruments	6,317	6,274	-	-	(11)	-	12,580
Others	<u>818,739</u>	<u>310,681</u>	<u>-</u>	<u>2</u>	<u>69,848</u>	<u>(14,065)</u>	<u>1,185,205</u>
	<u>\$ 6,805,443</u>	<u>\$ 482,583</u>	<u>\$ -</u>	<u>\$ 2</u>	<u>\$ 27,400</u>	<u>\$ (200,899)</u>	<u>\$ 7,114,529</u>

- f. Items for which no deferred tax assets have been recognized for loss carry-forward, investment credits and deductible temporary differences

	December 31	
	2022	2021
	NT\$	NT\$
Loss carry-forward	\$ 1,549,286	\$ 1,340,849
Investment credits	94,932	44,244
Deductible temporary differences	<u>273,290</u>	<u>241,249</u>
	<u>\$ 1,917,508</u>	<u>\$ 1,626,342</u>

The unrecognized loss carry-forward will expire through 2030.

- g. Information about unused loss carry-forward, investment credits, tax-exemption and other tax relief

As of December 31, 2022, the unused loss carry-forward comprised:

Expiry Year	NT\$
2023	\$ 195,332
2024	172,926
2025	182,921
2026	279,553
2027 and thereafter	<u>1, 214,039</u>
	<u>\$ 2, 044,771</u>

As of December 31, 2022, unused investment credits comprised :

Tax Credit Source	Remaining Creditable Amount NT\$	Expiry Year
Purchase of machinery and equipment	\$ 841,658	2023 and thereafter
Others	<u>111,401</u>	2024 and thereafter
	<u>\$ 953,059</u>	

Some China subsidiaries qualified as high technology enterprises were entitled to a reduced income tax rate of 15% and were eligible to deduct certain times of research and development expenses from their taxable income.

h. Unrecognized deferred tax liabilities associated with investments

As of December 31, 2022 and 2021, the taxable temporary differences associated with the investments in subsidiaries for which no deferred tax liabilities have been recognized were NT\$48,035,856 thousand and NT\$39,480,927 thousand, respectively.

i. Income tax assessments

The tax authorities have examined income tax returns of the Company and its R.O.C. subsidiaries through 2019 and 2020.

27. EARNINGS PER SHARE

The earnings and weighted average number of ordinary shares outstanding in the computation of earnings per share were as follows:

Net profit for the year

	For the Year Ended December 31	
	2022	2021
	NT\$	NT\$
Profit for the year attributable to owners of the Company	\$ 62,090,494	\$ 63,907,680
Effect of potentially dilutive ordinary shares:		
Employee share options issued by subsidiaries	<u>(1,811,449)</u>	<u>(1,056,778)</u>
Earnings used in the computation of diluted earnings per share	<u>\$ 60,279,045</u>	<u>\$ 62,850,902</u>

Weighted average number of ordinary shares outstanding (in thousand shares):

	For the Year Ended December 31	
	2022	2021
Weighted average number of ordinary shares in the computation of basic earnings per share	4,274,687	4,305,348
Effect of potentially dilutive ordinary shares:		
Employee share options	40,351	58,113
Employees' compensation	1,940	1,264
Employee restricted stock awards	<u>6,445</u>	<u>943</u>
Weighted average number of ordinary shares in the computation of diluted earnings per share	<u>4,323,423</u>	<u>4,365,668</u>

The Group is able to settle the employees' compensation by cash or shares. The Group assumed that the entire amount of the compensation would be settled in shares and the resulting potential shares were included in the weighted average number of ordinary shares outstanding used in the computation of diluted earnings per share if the effect is dilutive. Such dilutive effect of the potential shares was included in the computation of diluted earnings per share until the board of directors approve the number of shares to be distributed to employees at their meeting in the following year.

28. SHARE-BASED PAYMENT ARRANGEMENTS

a. Employee share option plans of the Company

In order to attract, retain and reward employees, the Company and its subsidiary, ASE, have their employee share option plans for the Group's full-time employees. As disclosed in Note 1, the Company assumed ASE's obligations of outstanding employee share option plans starting from April 30, 2018 and each share option represents the right to purchase 0.5 ordinary share of the Company when exercised. The right of those share options granted under the plan is valid for 10 years, non-transferable and exercisable at certain percentages subsequent to the second anniversary of the grant date. For any subsequent changes in the Company's capital structure or when cash dividend per ordinary share exceeds 1.5% of the market price per ordinary share, the exercise price is accordingly adjusted.

Information about the share option plans that the Company granted and assumed for the years ended December 31, 2022 and 2021 was as follows:

	For the Year Ended December 31			
	2022		2021	
	Number of Options (In Thousands)	Weighted Average Exercise Price Per Share (NT\$)	Number of Options (In Thousands)	Weighted Average Exercise Price Per Share (NT\$)
Balance at January 1	96,802	\$ 53.3	144,767	\$ 56.9
Options forfeited	(1,206)	51.1	(5,907)	52.3
Options exercised	<u>(14,334)</u>	51.5	<u>(42,058)</u>	61.4
Balance at December 31	<u>81,262</u>	50.2	<u>96,802</u>	53.3
Options exercisable, end of year	<u>58,216</u>	51.3	<u>49,696</u>	55.5

The weighted average share prices at exercise dates of share options for the years ended December 31,

2022 and 2021 were NT\$92.4 and NT\$108.8, respectively.

Information about the outstanding share options at each balance sheet date was as follows:

	Range of Exercise Price Per Share (NT\$)	Weighted Average Remaining Contractual Life (Years)
<hr/> December 31, 2022 <hr/>		
ASE 5 th share options	\$ 73.0	2.7
The Company 1 st share options	47.5	5.9
<hr/> December 31, 2021 <hr/>		
ASE 5 th share options	73.0	3.7
The Company 1 st share options	51.0	6.9

The Company’s board of directors resolved in February 2023 to issue the Company’s second share options plan and granted 150,000 thousand share units. Each unit represents the right to purchase one newly issued ordinary share of the Company when exercised, which amounted to 150,000 thousand shares

b. Employee restricted stock awards plan of the Company

To attract and retain talents as well as motivate and engage employees, the Company’s annual shareholders’ meetings resolved the 2021 employee restricted stock awards plan in August 2021 and granted 15,000 thousand ordinary shares on the record date of October 1, 2021. The par value and the exercise price was NT\$10 and NT\$0 per share, respectively. The fair value at the grant day was NT\$92.4 per share.

The vested shares are settled and released on an annual basis during a three-year period starting from October 1, 2021. Up to one-thirds of the total shares granted will be vested only after the Company reaching specific performance targets before the end of each year-period. Except for inheritance, those shares shall not be sold, pledged, transferred, gifted, conditioned, or otherwise dispose of before vest, while the rights of attending, proposing, speaking, voting and election at shareholders meeting and other rights, including but not limited to, stock dividend, cash dividend, distribution from legal reserve and capital surplus, share options at cash capital increase are identical with the Company’s ordinary shares issued and outstanding. All the shares under this plan should be deposited in a trust account before vest.

After the grant date, the Company has the right to revoke and cancel those unvested shares. The dividends (including cash dividends, stock dividends, and the cash or the shares distributed from legal reserve or capital surplus) entitled to those unvested shares and interests derived therefrom shall be returned to the Company from the trust account at the same time.

Information about employee restricted stock was as follows:

	For the Year Ended December 31	
	2022	2021
	(in thousand shares)	(in thousand shares)
Balance at January 1	15,000	-
Stocks granted	-	15,000
Stocks unrestricted	<u>(5,000)</u>	<u>-</u>
Balance at December 31	<u>\$ 10,000</u>	<u>\$ 15,000</u>

c. Employee share option plans of subsidiaries

USISH

Under the share option plan issued in 2015 (“2015 share options”), each unit represents the right to purchase one ordinary share of USISH when exercised. The options are valid for 10 years, non-transferable and exercisable at certain percentages subsequent to the second anniversary of the grant date incorporated with certain performance conditions. For any subsequent changes in USISH’s capital structure, the exercise price is accordingly adjusted.

In November 2019, USISH adopted the first share option plan (“2019 share options”) and granted 17,167 thousand share options to its employees. Each unit represents the right to purchase one ordinary share of USISH when exercised. The options are valid for 3.0 years, 4.0 years and 5.0 years, respectively, and are exercisable at certain percentages within 12 months subsequent to the second, the third and the fourth anniversary of the grant date under the satisfaction of certain performance conditions within each respective vesting period. In the event that USISH increases share capital by capital surplus or by cash, or distributes share dividends or cash dividends, the exercisable share option units and the exercise price are accordingly adjusted.

In September 2020, USISH adopted the second share option plan (“2020 share options”) and granted 1,140 thousand share options to its employees. The conditions of issued 2020 share options are the same as 2019 share options plan, except that the options are valid for 2.2 years, 3.2 years and 4.2 years, respectively, and with each respective vesting period of 1.2 years, 2.2 years and 3.2 years.

Information about share options was as follows:

	For the Year Ended December			
	2022		2021	
	Number of Options (In Thousands)	Exercise Price Per Share (RMB)	Number of Options (In Thousands)	Exercise Price Per Share (RMB)
Balance at January 1	29,486	\$ 14.2	31,266	\$ 14.6
Options expired	(2,312)	13.9	-	-
Options forfeited	(942)	13.0	(952)	14.5
Options exercised	<u>(5,986)</u>	12.8	<u>(828)</u>	13.8
Balance at December 31	<u>20,246</u>	14.5	<u>29,486</u>	14.2
Options exercisable, end of year	<u>15,518</u>	15.0	<u>19,249</u>	14.8

Information about USISH's outstanding share options at each balance sheet date was as follows:

	Range of Exercise Price Per Share (RMB)	Remaining Contractual Life (Years)
<hr/> December 31, 2022 <hr/>		
2015 share options	\$ 15.5	2.9
2019 share options	12.4	1.9
2020 share options	20.9	1.9
<hr/> December 31, 2021 <hr/>		
2015 share options	\$ 15.5	3.9
2019 share options	12.7	2.9
2020 share options	21.2	2.9

AMPI

In May 2021, the authority approved AMPI's employee share options plan with the issuance up to 10,000 thousand units. The options are valid for 10 years, non-transferable and exercisable at certain percentages subsequent to the second anniversary of the grant date. For any subsequent changes in AMPI's capital structure, the exercise price will be adjusted accordingly. AMPI's board of directors resolved a capital reduction which record date was determined at July 25, 2022, and the exercise price of its share options was adjusted from NT\$7.5 to NT\$30 accordingly.

Information about share options was as follows:

	2022	
	For the Year Ended December 31	
	Number of Options (In Thousands)	Exercise Price Per Share
Balance at January 1	-	\$ -
Options granted	<u>3,100</u>	30.0
Balance at December 31	<u><u>3,100</u></u>	30.0
Options exercisable, end of year	<u><u>-</u></u>	-
Weighted-average fair value of options granted (\$)	<u><u>18.0-18.8</u></u>	

Information about AMPI's outstanding share options at each balance sheet date was as follows:

	Range of Exercise Price Per Share	Remaining Contractual Life (Years)
<hr/> December 31, 2022 <hr/>		
2022 share options	\$ 30.0	9.3

d. Employee restricted share plans of subsidiaries

In November 2019, USISH adopted the first restricted share plan (“2019 restricted stocks”) and granted 6,156 thousand ordinary shares to its directors (excluding independent directors), supervisors and employees. In April 2020, the board of directors further resolved to grant 6,403 thousand ordinary shares instead, while other terms remain constant. The plan was of 3 phases starting from 2019 and each phase lasts for 1 year with a valid period of 4.5 years, 3.5 years and 2.5 years, respectively. Upon satisfaction of certain performance conditions in each phase, participants are entitled to subscribe a certain percentage of the total USISH’s ordinary shares issued under the plan with a lock-up period of 1 year. The valid period may be early terminated or extended prior to one month of the expiration date depending on the conditions of ordinary shares granted. In the event that USISH increases share capital by capital surplus or by cash, or distributes share dividends or cash dividends, the exercise price is accordingly adjusted.

In September 2020, USISH adopted the second restricted share plan (“2020 restricted stocks”) and granted 425 thousand ordinary shares to its employees. The conditions of issued 2020 restricted stocks are the same as 2019 restricted stocks plan, except that the restricted stocks are valid for 2 years and the ordinary shares that USISH would issue to participants for free are with a lock-up period of 1.3 year.

In September 2021, USISH adopted the third restricted share plan (“2021 restricted stocks”) and granted 281 thousand ordinary shares to its expatriate staff. The conditions of issued 2021 restricted stocks are the same as 2020 restricted stocks plan.

Information about restricted stocks was as follows:

	For the Year Ended December			
	2022		2021	
	Number of Options (In Thousands)	Exercise Price Per Share (RMB)	Number of Options (In Thousands)	Exercise Price Per Share (RMB)
Balance at January 1	3,565	\$ 10.2	5,547	\$ 12.2
Options granted	-	-	281	-
Options expired	(4)	-	-	-
Options exercised	(395)	-	(1,780)	12.7
Options forfeited	<u>(1,182)</u>	12.2	<u>(483)</u>	12.1
Balance at December 31	<u>1,984</u>	10.7	<u>3,565</u>	10.2
Options exercisable, end of year	<u>1,715</u>	12.4	<u>-</u>	-
Fair value of options granted (RMB)	\$ <u>-</u>		\$ <u>11.78</u>	

Information about USISH’s outstanding restricted stocks at each balance sheet date was as follows:

	Range of Exercise Price Per Share (RMB)	Remaining Contractual Life (Years)
December 31, 2022		
2019 restricted stocks	\$ 12.4	1.3
2021 restricted stocks	-	0.7

(Continued)

	Range of Exercise Price Per Share (RMB)	Remaining Contractual Life (Years)
December 31, 2021		
2019 restricted stocks	\$ 12.7	2.3
2020 restricted stocks	-	0.7
2021 restricted stocks	-	1.7
		(Concluded)

The Group's shareholdings in USISH decreased because the abovementioned share option plans and restricted share plan were exercised in 2022 and 2021. The transaction was accounted for as an equity transaction since the Group did not cease to have control over USISH and, as a result, capital surplus increased by NT\$125,049 thousand in 2022 and NT\$58,448 thousand in 2021.

e. Fair value information

The fair values at the grant date and the record date of capital reduction of AMPI's 2022 share options plan were measured by using the trinomial tree model. The fair values at the grant date of USISH's 2021 restricted stocks plan were measured by using the Black-Scholes Option Pricing Model incorporating the effect of the lock-up period. The inputs to the models were as follows:

AMPI's 2022 share options plan

	2022 share options plan	2022 share options plan after capital reduction
Share price at the grant date	NT\$7.5 per share	NT\$30.2 per share
Exercise price	NT\$7.5 per share	NT\$30.0 per share
Expected volatility (%)	65.35-67.78	65.85-67.29
Expected lives (years)	6.0-7.0	5.8-6.8
Expected dividend yield	-	-
Risk free interest rate (%)	1.15-1.19	1.11-1.15

USISH's 2021 restricted stocks plan

	2021 restricted stocks plan
Share price at the grant date	RMB14.65 per share
Exercise price	(Note)
Expected volatility (%)	47.15
Lock-up periods (years)	1.3
Expected dividend yield	-
Risk free interest rate (%)	2.34

Note: The restricted stocks plan is to transfer ordinary shares for free upon satisfaction of certain performance conditions prior to the expiration.

Expected volatilities were based on the annualized volatilities of AMPI's and USISH's historical share prices.

For the years ended December 31, 2022 and 2021, employee benefits expense recognized on the aforementioned employee share options plans and the restricted shares/stocks plans were NT\$989,843 thousand and NT\$699,210 thousand, respectively.

29. BUSINESS COMBINATIONS

a. Subsidiaries acquired

Subsidiary	Principal Activity	Date of Acquisition	Proportion of Voting Equity Interests Acquired (%)	Consideration Transferred
ITGEU	Trading company	October 21, 2021	100.00	\$ 50,368
SER	Engaged in the design and manufacturing of electronic components	November 2, 2021	100.00	\$ 217,919

b. Consideration Transferred

	ITGEU NT\$	SER NT\$
Cash	\$ 50,368	\$ 217,919

In November 2021, the Group’s subsidiary, ASTEELFLASH FRANCE, acquired 100% shareholdings of SER and obtained control over SER. In November 2021, the board of directors of ASTEELFLASH FRANCE further resolved to merge SER. December 28, 2021 was the record date for the merger and such merger was completed.

c. Assets acquired and liabilities assumed at the date of acquisition

	ITGEU NT\$	SER NT\$
Assets		
Cash and cash equivalents	\$ 68,719	\$ 18,850
Trade and other receivables	41,832	40,671
Inventories	-	375,912
Property, plant and equipment	94	37,672
Intangible assets	32	368
Others	2,828	186,377
Liabilities		
Trade and other payables	(29,165)	(214,883)
Others	(858)	(227,048)
Fair value of identifiable net assets acquired	\$ 83,482	\$ 217,919

d. Goodwill recognized on acquisitions or gain recognized in bargain purchase transaction

	<u>ITGEU</u> NT\$	<u>SER</u> NT\$
Consideration transferred	\$ 50,368	\$ 217,919
Less: Fair value of identifiable net assets acquired	<u>(83,482)</u>	<u>(217,919)</u>
Goodwill recognized on acquisition (gain recognized in bargain purchase transaction)	<u>\$ (33,114)</u>	<u>\$ -</u>

e. Net cash outflow (inflow) on acquisition of subsidiaries

	<u>ITGEU</u> NT\$	<u>SER</u> NT\$
Consideration paid in cash	\$ 50,368	\$ 217,919
Less: Cash and cash equivalent acquired	<u>(68,719)</u>	<u>(18,850)</u>
Net cash outflow (inflow) on acquisition of subsidiaries	<u>\$ (18,351)</u>	<u>\$ 199,069</u>

f. Impact of acquisitions on the results of the Group

The results of operations since the acquisition date were included in the consolidated statements of comprehensive income and were as follows:

	<u>ITGEU (For the Period from October 21, 2021 through December 31, 2021) NT\$</u>	<u>SER (For the Period from November 2, 2021 through December 31, 2021) NT\$</u>
Operating revenue	<u>\$ 75,221</u>	<u>\$ 225,017</u>
Net profit (loss)	<u>\$ (4,593)</u>	<u>\$ (508)</u>

Had the abovementioned business combinations been in effect at the beginning of each annual reporting period and the investments originally accounted for using the equity method been remeasured to their fair value as of January 1 of each respective annual reporting period, the Group's operating revenues and profit for the year ended December 31, 2021 would have been NT\$570,363,380 thousand and NT\$66,041,297 thousand, respectively. This pro-forma information is for illustrative purposes only and is not necessarily an indication of the operating revenue and results of operations of the Group that actually would have been achieved had the acquisition been completed at the beginning of each annual reporting period, nor is it intended to be a projection of future results.

In determining the pro-forma operating revenue and profit for the period had each subsidiary been acquired at the beginning of each respective annual reporting period, the Group has calculated the depreciation of property, plant and equipment and the amortization of intangible assets acquired on the basis of the fair values at the initial accounting for the business combination rather than the carrying amounts recognized in the respective pre-acquisition financial statements.

30. DISPOSAL OF SUBSIDIARIES

The board of directors of the Company resolved in December 2021 to dispose its 100% shareholdings in GAPT Holding Limited (including its subsidiaries) and ASEKS (collectively, “GAPT Holding and ASEKS”). The disposal was completed in December 2021 and the control over GAPT Holding and ASEKS was transferred to the acquirer.

a. Analysis of assets and liabilities on the date control was lost

	2021 GAPT Holding and ASEKS NT\$
Current Assets	
Cash and cash equivalent	\$ 2,625,715
Trade and other receivables	4,505,531
Inventories	2,284,880
Other current assets	1,215,992
Non-Current Assets	
Property, plant and equipment	16,693,129
Right-of-use assets	181,855
Investment property	787,250
Goodwill	310,711
Deferred tax assets	659,972
Other non-current assets	308,500
Current Liabilities	
Short-term borrowings	(2,443,005)
Trade and other payables	(5,949,592)
Other current liabilities	(647,027)
Non-Current Liabilities	
Deferred tax liabilities	(200,899)
Lease liabilities – non-current	(8,150)
Other non-current liabilities	<u>(156,863)</u>
Net assets disposed of	<u>\$ 20,167,999</u>

b. Gain on disposal of subsidiaries

	2021 GAPT Holding and ASEKS NT\$
Total consideration (paid in cash)	\$ 36,939,133
Net assets disposed of	(20,167,999)
Reclassification of accumulated exchange difference from equity to profit or loss due to the loss of control	<u>569,284</u>
Gain on disposals	<u>\$ 17,340,418</u>

c. Net cash inflow on disposals of subsidiaries

	<u>2021</u> <u>GAPT Holding</u> <u>and ASEKS</u> <u>NT\$</u>
Consideration received in cash and cash equivalents	\$ 36,939,133
Less: Cash and cash equivalent balances disposed of	(2,625,715)
Other receivables (Note) (the outstanding receivables of consideration, net of relevant expenditure)	<u>(10,533,600)</u>
	<u>\$ 23,779,818</u>

The due date of the abovementioned other receivables in relation with GAPT Holding and ASEKS, originally scheduled to be the business day following the expiration of 6 months from the settlement date, was postponed to the business day following the expiration of 15 months from the settlement date, which was March 17, 2023, by the resolution of the board of directors and the agreement with the counterparty.

31. EQUITY TRANSACTION WITH NON-CONTROLLING INTERESTS

a. USISH

In September 2022 and 2021, USISH repurchased its own 9,356 thousand and 16,042 thousand outstanding ordinary shares, respectively, and made the Group's shareholdings of USISH increased. The transaction was accounted for as an equity transaction since the transaction did not change the Group's control over USISH and, as a result, the Group's capital surplus was then decreased by NT\$8,963 thousand and NT\$11,277 thousand, respectively, and retained earnings was then decreased by NT\$211,184 thousand and NT\$436,927 thousand, respectively.

b. USIE

In December 2021, the shareholders' meeting of USIE resolved to repurchase its own 9,137 thousand outstanding ordinary shares at US\$17.20 per share, and made the Group's shareholdings of USIE increased from 95.85% to 100.00%. The transaction was accounted for as an equity transaction since the transaction did not change the Group's control over USIE and, then, capital surplus and retained earnings were decreased by NT\$47,171 thousand and NT\$2,093,787 thousand, respectively, in the fourth quarter of 2021. In December 2021, the board of directors of USIE resolved that December 22, 2021 was the record date for capital reduction and the repurchased ordinary shares were subsequently cancelled.

32. CASH FLOW INFORMATION

a. Non-cash investing activities

In addition to other notes, the Group entered into the following investing activities which include both cash and non-cash items for the years ended December 31, 2022 and 2021:

	<u>For the Year Ended December 31</u>	
	<u>2022</u>	<u>2021</u>
	<u>NT\$</u>	<u>NT\$</u>
Payments for property, plant and equipment		
Purchase of property, plant and equipment	\$ 75,800,574	\$ 74,417,541
		(Continued)

	For the Year Ended December 31	
	2022	2021
	NT\$	NT\$
Increase (decrease) in other non-current assets	\$ (5,480)	\$ 1,184,927
increase in other payables	(3,096,926)	\$ (4,671,228)
Capitalized borrowing costs	<u>(58,263)</u>	<u>(25,581)</u>
	<u>\$ 72,639,905</u>	<u>\$ 70,905,659</u>
Proceeds from disposal of property, plant and equipment		
Consideration from disposal of property, plant and equipment	\$ 612,213	\$ 1,128,850
Increase (decrease) in other non-current assets	134,760	(134,760)
Increase in other receivables	<u>2,784</u>	<u>610,912</u>
	<u>\$ 749,757</u>	<u>\$ 1,605,002</u>
		(Concluded)

b. Changes in liabilities arising from financing activities

For the year ended December 31, 2022

	Short-term borrowings (including financial liabilities for hedging)	Bonds payable	Long-term borrowings (including financial liabilities for hedging)	Lease liabilities	Total
	NT\$	NT\$	NT\$	NT\$	NT\$
Balance at January 1, 2022	\$ 41,036,429	\$ 52,267,337	\$ 126,472,490	\$ 7,399,884	\$ 227,176,140
Net financing cash flows	1,866,253	(3,539,423)	(29,516,421)	(1,035,019)	(32,224,610)
Interest under operating activities	-	-	-	1,394	1,394
Rent expense under operating activities	-	-	-	(1,904)	(1,904)
Equity components of convertible bonds and embedded derivative liability	-	(1,092,004)	-	-	(1,092,004)
Non-cash changes					
Additions to lease liabilities	-	-	-	1,379,342	1,379,342
Amortization of issuance cost	-	182,759	114,687	-	297,446
Convertible bonds issued by subsidiaries and converted to ordinary shares	-	(171)	-	-	(171)
Lease modifications	-	-	-	(117,549)	(117,549)
Adjustments for government subsidy	-	-	(46,672)	-	(46,672)
Long-term borrowings transferred to short-term borrowings	1,522,294	-	(1,522,294)	-	-
Effects of foreign currency exchange	<u>2,306,154</u>	<u>31,826</u>	<u>4,487,661</u>	<u>82,339</u>	<u>6,907,980</u>
Balance at December 31, 2022	<u>\$ 46,731,130</u>	<u>\$ 47,850,324</u>	<u>\$ 99,989,451</u>	<u>\$ 7,708,487</u>	<u>\$ 202,279,392</u>

For the year ended December 31, 2021

	Short-term borrowings (including financial liabilities for hedging)	Bonds payable	Long-term borrowings (including financial liabilities for hedging)	Lease liabilities	Total
	NT\$	NT\$	NT\$	NT\$	NT\$
Balance at January 1, 2021	\$ 34,597,858	\$ 56,253,554	\$ 112,390,724	\$ 5,875,830	\$ 209,117,966
Net financing cash flows	10,043,398	(3,719,057)	16,018,825	(907,403)	21,435,763
Interest under operating activities	-	-	-	800	800
Rent expense under operating activities	-	-	-	(184)	(184)
Equity components of convertible bonds and embedded derivative liability	-	(399,955)	-	-	(399,955)
Non-cash changes					
Additions to lease liabilities	-	-	-	2,037,665	2,037,665
Amortization of issuance cost	-	126,283	224,979	-	351,262
Convertible bonds issued by subsidiaries and converted to ordinary shares	-	(102)	-	-	(102)

(Continued)

	Short-term borrowings (including financial liabilities for hedging)	Bonds payable	Long-term borrowings (including financial liabilities for hedging)	Lease liabilities	Total
	NT\$	NT\$	NT\$	NT\$	NT\$
Lease modifications	\$ -	\$ -	\$ -	\$ (58,799)	\$ (58,799)
Acquisition of subsidiaries (Note 29)	-	-	-	180,745	180,745
Disposal of subsidiaries (Note 30)	(2,443,005)	-	-	(32,655)	(2,475,660)
Reclassification	-	-	-	380,292	380,292
Effects of foreign currency exchange	(1,161,822)	6,614	(2,162,038)	(76,407)	(3,393,653)
Balance at December 31, 2021	<u>\$ 41,036,429</u>	<u>\$ 52,267,337</u>	<u>\$ 126,472,490</u>	<u>\$ 7,399,884</u>	<u>\$ 227,176,140</u> (Concluded)

c. Total taxes paid

	For the Year Ended December 31	
	2022	2021
	NT\$	NT\$
Operating activities	\$ 14,250,527	\$ 7,423,947
Investing activities	<u>842,440</u>	<u>570,700</u>
	<u>\$ 15,092,967</u>	<u>\$ 7,994,647</u>

33. CAPITAL MANAGEMENT

The capital structure of the Group consists of debt and equity. The Group manages its capital to ensure that entities in the Group will be able to continue as going concerns while maximizing the return to shareholders through the optimization of the debt and equity balance. Key management personnel of the Group periodically reviews the cost of capital and the risks associated with each class of capital. In order to balance the overall capital structure, the Group may adjust the amount of dividends paid to shareholders, the number of new shares issued or repurchased, and the amount of new debt issued or existing debt redeemed.

The Group is not subject to any externally imposed capital requirements except those discussed in Note 20.

34. FINANCIAL INSTRUMENTS

a. Fair value of financial instruments that are not measured at fair value

1) Fair value of financial instruments not measured at fair value but for which fair value is disclosed

Except bonds payable measured at amortized cost, the management considered that the carrying amounts of financial assets and financial liabilities not measured at fair value approximate their fair values. The carrying amounts and fair value of bonds payable as of December 31, 2022 and 2021, respectively, were as follows:

	Carrying Amount	Fair Value
	NT\$	NT\$
December 31, 2022	\$ 47,850,324	\$ 47,027,018
December 31, 2021	\$ 52,267,337	\$ 52,429,758

2) Fair value hierarchy

The aforementioned fair value hierarchy of bonds payable was Level 3 which was determined based on discounted cash flow analysis with the applicable yield curve for the duration. The significant unobservable inputs is discount rates that reflected the credit risk.

b. Fair value of financial instruments that are measured at fair value on a recurring basis

1) Fair value hierarchy

	Level 1 NT\$	Level 2 NT\$	Level 3 NT\$	Total NT\$
<u>December 31, 2022</u>				
Financial assets at FVTPL				
Derivative financial assets				
Swap contracts	\$ -	\$ 3,205,828	\$ -	\$ 3,205,828
Forward exchange contracts	-	246,710	-	246,710
Non-derivative financial assets				
Quoted ordinary shares	2,521,964	-	-	2,521,964
Private-placement funds	-	-	1,599,932	1,599,932
Unquoted preferred shares	-	-	628,156	628,156
Contingent considerations	-	-	438,176	438,176
Open-end mutual funds	<u>293,385</u>	<u>-</u>	<u>-</u>	<u>293,385</u>
	<u>\$ 2,815,349</u>	<u>\$ 3,452,538</u>	<u>\$ 2,666,264</u>	<u>\$ 8,934,151</u>
Financial assets at FVTOCI				
Investments in equity instruments				
Unquoted ordinary shares	\$ -	\$ -	\$ 419,491	\$ 419,491
Quoted ordinary shares	45,683	-	-	45,683
Unquoted preferred shares	-	-	13,883	13,883
Limited partnership	-	-	3,502	3,502
Investments in debt instruments				
Unsecured subordinate corporate bonds	-	-	1,059,712	1,059,712
Trade receivables, net	<u>-</u>	<u>-</u>	<u>5,402,714</u>	<u>5,402,714</u>
	<u>\$ 45,683</u>	<u>\$ -</u>	<u>\$ 6,899,302</u>	<u>\$ 6,944,985</u>
Financial liabilities at FVTPL				
Derivative financial liabilities				
Swap contracts	\$ -	\$ 543,547	\$ -	\$ 543,547
Forward exchange contracts	<u>-</u>	<u>83,213</u>	<u>-</u>	<u>83,213</u>
	<u>\$ -</u>	<u>\$ 626,760</u>	<u>\$ -</u>	<u>\$ 626,760</u>

(Continued)

	Level 1 NT\$	Level 2 NT\$	Level 3 NT\$	Total NT\$
December 31, 2021				
Financial assets at FVTPL				
Derivative financial assets				
Swap contracts	\$ -	\$ 85,629	\$ -	\$ 85,629
Forward exchange contracts	-	23,373	-	23,373
Call option and put option of convertible bonds	-	8,463	-	8,463
Target redemption forward contracts	-	500	-	500
Non-derivative financial assets				
Quoted ordinary shares	2,683,193	-	-	2,683,193
Private-placement funds	-	-	1,322,686	1,322,686
Unquoted preferred shares	-	-	583,270	583,270
Contingent considerations	-	-	394,943	394,943
Open-end mutual funds	<u>334,223</u>	<u>-</u>	<u>-</u>	<u>334,223</u>
	<u>\$ 3,017,416</u>	<u>\$ 117,965</u>	<u>\$ 2,300,899</u>	<u>\$ 5,436,280</u>
Financial assets at FVTOCI				
Investments in equity instruments				
Unquoted ordinary shares	\$ -	\$ -	\$ 820,779	\$ 820,779
Quoted ordinary shares	102,124	-	-	102,124
Unquoted preferred shares	-	-	11,245	11,245
Limited partnership	-	-	9,206	9,206
Investments in debt instruments				
Unsecured subordinate corporate bonds	-	-	1,076,458	1,076,458
Trade receivables, net	<u>-</u>	<u>-</u>	<u>6,092,462</u>	<u>6,092,462</u>
	<u>\$ 102,124</u>	<u>\$ -</u>	<u>\$ 8,010,150</u>	<u>\$ 8,112,274</u>
Financial liabilities at FVTPL				
Derivative financial liabilities				
Swap contracts	\$ -	\$ 360,797	\$ -	\$ 360,797
Forward exchange contracts	<u>-</u>	<u>56,863</u>	<u>-</u>	<u>56,863</u>
	<u>\$ -</u>	<u>\$ 417,660</u>	<u>\$ -</u>	<u>\$ 417,660</u>
				(Concluded)

For the financial assets and liabilities that were measured at fair value on a recurring basis, there were no transfers between Level 1 and Level 2 of the fair value hierarchy during the years ended December 31, 2022 and 2021.

2) Reconciliation of Level 3 fair value measurements of financial assets

For the year ended December 31, 2022

Financial Assets	Financial Assets at FVTPL		Financial Assets at FVTOCI		Total
	Equity Instruments	Debt Instruments	Equity Instruments	Debt Instruments	
	NT\$	NT\$	NT\$	NT\$	NT\$
Balance at January 1	\$2,300,899	\$ -	\$ 841,231	\$ 7,168,920	\$ 10,311,050
Recognized in profit or loss	100,134	605	-	-	100,739
Recognized in other comprehensive income					
Included in unrealized losses on financial assets at FVTOCI	-	-	(366,862)	(16,746)	(383,608)
Effects of foreign currency exchange	195,415	-	5,558	-	200,973
Net increase (decrease) in trade receivables	-	4,330,075	-	(674,112)	3,655,963
Trade receivables factoring	-	(4,330,075)	-	(15,636)	(4,345,711)
Purchases	338,016	14,325	20,000	-	372,341
Disposals	(268,200)	(14,930)	(63,051)	-	(346,181)
Balance at December 31	<u>\$ 2,666,264</u>	<u>\$ -</u>	<u>\$ 436,876</u>	<u>\$ 6,462,426</u>	<u>\$ 9,565,566</u>

For the year ended December 31, 2021

Financial Assets	Financial Assets at FVTPL		Financial Assets at FVTOCI		Total
	Equity Instruments	Debt Instruments	Equity Instruments	Debt Instruments	
	NT\$	NT\$	NT\$	NT\$	NT\$
Balance at January 1 (retrospectively adjusted)	\$ 1,897,984	\$ -	\$ 728,398	\$ 1,639,149	\$ 4,265,531
Recognized in profit or loss	131,276	-	-	-	131,276
Recognized in other comprehensive income					
Included in unrealized losses on financial assets at FVTOCI	-	-	129,726	63,722	193,448
Effects of foreign currency exchange	(79,614)	-	(4,508)	-	(84,122)
Net increase in trade receivables	-	3,269,782	-	14,940,539	18,210,321
Trade receivables factoring	-	(3,269,782)	-	(9,474,490)	(12,744,272)
Purchases	459,046	-	32,246	-	491,292
Disposals	(107,793)	-	(14,873)	-	(122,666)
Reclassify	-	-	(29,758)	-	(29,758)
Balance at December 31	<u>\$2,300,899</u>	<u>\$ -</u>	<u>\$ 841,231</u>	<u>\$ 7,168,920</u>	<u>\$ 10,311,050</u>

3) Valuation techniques and assumptions applied for the purpose of measuring fair value

a) Valuation techniques and inputs applied for the purpose of measuring Level 2 fair value measurement

Financial Instruments	Valuation Techniques and Inputs
Derivatives - swap contracts and forward exchange contracts	Discounted cash flows - Future cash flows are estimated based on observable forward exchange rates at balance sheet dates and contract forward exchange rates, discounted at rates that reflected the credit risk of various counterparties.
Derivatives - redemption option and put option of convertible bonds	Option pricing models - Use of present value techniques and reflect the time value and intrinsic value of redemption option and put option.
Target redemption forward contracts	Valuation based on the spot exchange rate on the valuation date, the exercise price, the volatility in exchange rate, the contract period and the quoted risk free interest rate during the contract period.

b) Valuation techniques and inputs applied for the purpose of measuring Level 3 fair value measurement

The fair value of unquoted ordinary shares, unquoted preferred shares, limited partnership and private-placement funds were determined by using market approach and asset-based approach. The significant unobservable inputs were the discount rates for lack of marketability of 10% to 20%. If the discount rates for lack of marketability to the valuation model increased by 1% to reflect reasonably possible alternative assumptions while all other variables held constant, the fair value of the abovementioned investments would have decreased approximately by NT\$6,600 thousand and NT\$19,300 thousand as of December 31, 2022 and 2021, respectively.

The fair values of the unsecured subordinate corporate bonds were determined using income approach based on a discounted cash flow analysis. The significant unobservable input was the discount rate that reflects the credit risk of the counterparty. If the discount rate increased by 0.1% while all other variables held constant, the fair value of the bonds would have decreased approximately by NT\$3,000 thousand and NT\$4,000 thousand as of December 31, 2022 and 2021, respectively.

The fair value of accounts receivables measured at FVTOCI are determined based on the present value of future cash flows that reflect the credit risk of counterparties. Since the discount effect was not significant, the Group measured its fair value by using the nominal values.

The fair value of the contingent considerations were determined by using the Monte Carlo Simulation method. If the estimated net profit margin fails to reach the performance specified in the agreement, the Group could receive the contingent considerations according to the agreement.

c. Categories of financial instruments

	December 31	
	2022	2021
	NT\$	NT\$
<hr/>		
Financial assets		
FVTPL		
Mandatorily at FVTPL	\$ 8,934,151	\$ 5,436,280
Measured at amortized cost (Note 1)	188,733,772	200,732,680
FVTOCI		
Equity instruments	482,559	943,354
Debt instruments	1,059,712	1,076,458
Trade receivables, net	5,402,714	6,092,462
<hr/>		
Financial liabilities		
FVTPL		
Held for trading	626,760	417,660
Financial liabilities for hedging	12,204,620	11,497,896
Measured at amortized cost (Note 2)	318,478,685	339,445,544

Note 1: The balances included financial assets measured at amortized cost which comprised cash and cash equivalents, trade and other receivables and other financial assets.

Note 2: The balances included financial liabilities measured at amortized cost which comprised short-term borrowings, trade and other payables, bonds payable and long-term borrowings.

d. Financial risk management objectives and policies

The derivative instruments used by the Group were to mitigate risks arising from ordinary business operations. All derivative transactions entered into by the Group were designated as either hedging or trading. Derivative transactions entered into for hedging purposes must hedge risk against fluctuations in foreign exchange rates and interest rates arising from operating activities. The currencies and the amount of derivative instruments held by the Group must match its hedged assets and liabilities denominated in foreign currencies.

The Group's risk management department monitored risks to mitigate risk exposures, reported unsettled position, transaction balances and related gains or losses to the Group's chief financial officer on monthly basis.

1) Market risk

The Group's activities exposed it primarily to the financial risks of changes in foreign currency exchange rates and interest rates. Gains or losses arising from fluctuations in foreign currency exchange rates of a variety of derivative financial instruments were approximately offset by those of hedged items. Interest rate risk was not significant due to the cost of capital was expected to be fixed.

There had been no change to the Group's exposure to market risks or the manner in which these risks were managed and measured.

a) Foreign currency exchange rate risk

The Group had sales and purchases as well as financing activities denominated in foreign currency which exposed the Group to foreign currency exchange rate risk. The Group entered into a variety of derivative financial instruments to hedge foreign currency exchange rate risk to minimize the fluctuations of assets and liabilities denominated in foreign currencies.

The carrying amounts of the Group's foreign currency denominated monetary assets and liabilities (including those eliminated upon consolidation) as well as derivative instruments which exposed the Group to foreign currency exchange rate risk at each balance sheet date are presented in Note 39.

The Group was mainly subject to the impact from the exchange rate fluctuation in US\$ and JPY against NT\$, RMB or EUR. 1% fluctuation is used when reporting foreign currency exchange rate risk internally to key management personnel and represents management's assessment of the reasonably possible change in foreign currency exchange rates. The sensitivity analysis included financial assets and liabilities and inter-company receivables and payables within the Group. The changes in profit before income tax due to a 1% change in US\$ and JPY against NT\$, RMB and EUR would be NT\$60,000 thousand and NT\$38,000 thousand for the years ended December 31, 2022 and 2021, respectively. Hedging contracts and hedged items have been taken into account while measuring the changes in profit before income tax. The abovementioned sensitivity analysis mainly focused on the foreign currency monetary items at each balance sheet date. As the year-end exposure did not reflect the exposure for the years ended December 31, 2022 and 2021, the abovementioned sensitivity analysis was unrepresentative of those respective years.

Hedge accounting

The Group's hedging strategy was to lift borrowings denominated in foreign currencies to avoid exchange rate exposure from its investments in equity instruments denominated in foreign currencies (recognized under the line item of financial assets at FVTPL) and net investment in foreign subsidiary, USIFR, which has EUR as its functional currency. Those transactions were

designated as fair value hedges and a hedge of net investment in foreign operation, respectively. Hedge adjustments were made to totally offset the foreign exchange gains or losses from those equity instruments denominated in foreign currencies and foreign operations when they were evaluated based on the exchange rates on each balance sheet date.

The source of hedge ineffectiveness in these hedging relationships arose from the material difference between the notional amounts of borrowings denominated in foreign currencies and the fair value of investments in equity instruments denominated in foreign currencies and net investment in foreign operations. No other sources of ineffectiveness is expected to emerge from these hedging relationships.

December 31, 2022

Hedging Instrument/ Hedged Items	Line item in Balance sheet	Carrying Amount	
		Asset	Liability
		NT\$	NT\$
Fair value hedge			
Borrowings denominated in foreign currencies/ Financial assets at FVTPL	Financial liabilities for hedging – current	\$ -	\$ 3,278,805
Hedge of net investment in foreign operation	Financial liabilities for hedging – current	-	8,925,815

Hedging Instrument / Hedged Item	Change in Value Used for Calculating Hedge Ineffectiveness		Accumulated Gains or Losses in Other Equity		Carrying Amount of Hedged Item in Fair Value Hedge	Accumulated Amount of Fair Value Hedge Adjustments on Hedged Item
	Hedging Instrument	Hedged Item	Continuing Hedges	Hedge Accounting No Longer Applied		
	NT\$	NT\$	NT\$	NT\$	Asset NT\$	Asset NT\$
Fair value hedge						
Borrowings denominated in foreign currencies/ Financial assets at FVTPL	\$ (323,884)	\$ 323,884	\$ -	\$ -	\$ 2,282,343	\$ 87,522
Hedge of net investment in foreign operation	(509,229)	509,229	673,005	-	-	-

December 31, 2021

Hedging Instrument/ Hedged Items	Line item in Balance sheet	Carrying Amount	
		Asset	Liability
		NT\$	NT\$
Fair value hedge			
Borrowings denominated in foreign currencies/ Financial assets at FVTPL	Financial liabilities for hedging – current	\$ -	\$ 2,954,921
Hedge of net investment in foreign operation	Financial liabilities for hedging – current	-	3,762,044
Hedge of net investment in foreign operation	Financial liabilities for hedging – non-current	-	4,780,931

Hedging Instrument/ Hedged Item	Change in Value Used for Calculating Hedge Ineffectiveness		Accumulated Gains or Losses in Other Equity		Carrying Amount of Hedged Item in Fair Value Hedge	Accumulated Amount of Fair Value Hedge Adjustments on Hedged Item
	Hedging Instrument	Hedged Item	Continuing Hedges	Accounting No Longer Applied	Asset	Asset
	NT\$	NT\$	NT\$	NT\$	NT\$	NT\$
Fair value hedge						
Borrowings denominated in foreign currencies/ Financial assets at FVTPL	\$ 94,145	\$ (94,145)	\$ -	\$ -	\$ 2,318,517	\$ (236,362)
Hedge of net investment in foreign operation	(738,600)	738,600	163,776	-	-	-

b) Interest rate risk

Except a portion of long-term borrowings and bonds payable at fixed interest rates, the Group was exposed to interest rate risk because group entities borrowed funds at floating interest rates. Changes in market interest rates led to variances in effective interest rates of borrowings from which the future cash flow fluctuations arise. The Group utilized financing instruments with low interest rates and favorable terms to maintain low financing cost, adequate banking facilities, as well as to hedge interest rate risk.

The carrying amounts of the Group's financial assets and financial liabilities with exposure to interest rates at each balance sheet date were as follows:

	December 31	
	2022	2021
	NT\$	NT\$
Fair value interest rate risk		
Financial assets	\$ 16,434,562	\$ 5,474,105
Financial liabilities	91,152,265	76,206,394
Cash flow interest rate risk		
Financial assets	41,964,775	69,654,969
Financial liabilities	121,370,564	165,557,225

For assets and liabilities with floating interest rates, a 100 basis point increase or decrease was used when reporting interest rate risk internally to key management personnel. If interest rates had been 100 basis points (1%) higher or lower and all other variables held constant, the Group's profit before income tax for the years ended December 31, 2022 and 2021 would have decreased or increased approximately by NT\$794,000 thousand and NT\$959,000 thousand, respectively.

c) Other price risk

The Group was exposed to equity price risk through its investments in financial assets at FVTPL and financial assets at FVTOCI. If equity price was 1% higher or lower, profit before income tax for the years ended December 31, 2022 and 2021 would have increased or decreased approximately by NT\$50,000 thousand and NT\$49,000 thousand, respectively, and other comprehensive income before income tax for the years ended December 31, 2022 and 2021 would have increased or decreased approximately by NT\$5,000 thousand and NT\$9,000 thousand, respectively.

2) Credit risk

Credit risk refers to the risk that counterparty will default on its contractual obligations resulting in financial loss to the Group. The Group's credit risk arises from cash and cash equivalents, contract assets trade and other receivables and other financial assets. The Group's maximum exposure to credit risk was the carrying amounts of financial assets in the consolidated balance sheets.

As of December 31, 2022 and 2021, the Group's five largest customers accounted for 30% and 33% of trade receivables, respectively. The Group transacts with a large number of unrelated customers and, thus, no concentration of credit risk was observed.

3) Liquidity risk

The Group manages liquidity risk by maintaining adequate working capital and banking facilities to fulfill the demand for cash flow used in the Group's operation and capital expenditure. The Group also monitors its compliance with all the loan covenants. Liquidity risk is not considered to be significant.

In the table below, financial liabilities with a repayment on demand clause were included in the earliest time band regardless of the probability of counter-parties choosing to exercise their rights. The maturity dates for other non-derivative financial liabilities were based on the agreed repayment dates.

To the extent that interest flows are floating rate, the undiscounted amounts were derived from the interest rates at each balance sheet date.

December 31, 2022

	On Demand or Less than 1 Month NT\$	1 to 3 Months NT\$	3 Months to 1 Year NT\$	1 to 5 Years NT\$	More than 5 Years NT\$
<u>Non-derivative financial liabilities</u>					
Non-interest bearing	\$ 65,356,106	\$ 33,887,460	\$ 11,145,612	\$ 20,498	\$ 74,643
Obligation under leases	120,733	201,686	790,427	2,685,977	5,147,266
Floating interest rate liabilities	9,251,237	10,982,036	9,652,804	93,837,521	5,648,699
Fixed interest rate liabilities	<u>12,530,681</u>	<u>9,209,134</u>	<u>9,055,918</u>	<u>44,756,570</u>	<u>29,280</u>
	<u>\$ 87,258,757</u>	<u>\$ 54,280,316</u>	<u>\$ 30,644,761</u>	<u>\$141,300,566</u>	<u>\$ 10,899,888</u>

Further information for maturity analysis of obligation under leases was as follows:

	Less than 1 Year NT\$	1 to 5 Years NT\$	5 to 10 Years NT\$	10 to 15 Years NT\$	15 to 20 Years NT\$	More than 20 Years NT\$
Obligation under leases	<u>\$ 1,112,846</u>	<u>\$ 2,685,977</u>	<u>\$ 1,536,779</u>	<u>\$ 939,751</u>	<u>\$ 881,803</u>	<u>\$ 1,788,933</u>

December 31, 2021

	On Demand or Less than 1 Month NT\$	1 to 3 Months NT\$	3 Months to 1 Year NT\$	1 to 5 Years NT\$	More than 5 Years NT\$
<u>Non-derivative financial liabilities</u>					
Non-interest bearing	\$ 52,353,176	\$ 48,140,652	\$ 10,216,253	\$ 291,480	\$ 114,201
Obligation under leases	84,978	157,710	687,144	2,585,624	4,929,602
Floating interest rate liabilities	12,565,548	5,180,527	13,416,893	112,493,242	7,494,670
Fixed interest rate liabilities	<u>10,262,781</u>	<u>3,093,668</u>	<u>12,978,593</u>	<u>43,555,458</u>	<u>5,479,867</u>
	<u>\$ 75,266,483</u>	<u>\$ 56,572,557</u>	<u>\$ 37,298,883</u>	<u>\$158,925,804</u>	<u>\$ 18,018,340</u>

Further information for maturity analysis of obligation under leases was as follows:

	Less than 1 Year	1 to 5 Years	5 to 10 Years	10 to 15 Years	15 to 20 Years	More than 20 Years
	NT\$	NT\$	NT\$	NT\$	NT\$	NT\$
Obligation under leases	\$ <u>929,832</u>	\$ <u>2,585,625</u>	\$ <u>1,731,995</u>	\$ <u>883,335</u>	\$ <u>802,765</u>	\$ <u>1,511,507</u>

The amounts included above for floating interest rate instruments for non-derivative financial liabilities were subject to change if changes in floating interest rates differ from those estimates of interest rates determined at each balance sheet date.

The following table detailed the Group's liquidity analysis for its derivative financial instruments. The table was based on the undiscounted contractual net cash inflows and outflows on derivative instruments settled on a net basis, and the undiscounted gross cash inflows and outflows on those derivatives that require gross settlement. When the amounts payable or receivable are not fixed, the amounts disclosed have been determined by reference to the projected interest rates as illustrated by the yield curves at each balance sheet date.

	On Demand or Less than 1 Month	1 to 3 Months	3 Months to 1 Year
	NT\$	NT\$	NT\$
<hr/> December 31, 2022 <hr/>			
Net settled			
Forward exchange contracts	\$ <u>(11,136)</u>	\$ <u>11,994</u>	\$ <u>-</u>
Gross settled			
Forward exchange contracts			
Inflows	\$ 13,398,921	\$ 4,688,786	\$ 599,796
Outflows	<u>(13,310,433)</u>	<u>(4,687,958)</u>	<u>(534,354)</u>
	<u>88,488</u>	<u>828</u>	<u>65,442</u>
Swap contracts			
Inflows	32,274,691	16,429,850	62,187,750
Outflows	<u>(31,891,439)</u>	<u>(15,016,775)</u>	<u>(59,838,031)</u>
	<u>383,252</u>	<u>1,413,075</u>	<u>2,349,719</u>
	\$ <u>471,740</u>	\$ <u>1,413,903</u>	\$ <u>2,415,161</u>
<hr/> December 31, 2021 <hr/>			
Net settled			
Forward exchange contracts	\$ <u>(21,379)</u>	\$ <u>(1,410)</u>	\$ <u>-</u>
Gross settled			
Forward exchange contracts			
Inflows	\$ 2,382,315	\$ 6,817,411	\$ 531,596
Outflows	<u>(2,380,359)</u>	<u>(6,784,689)</u>	<u>(525,920)</u>
	<u>1,956</u>	<u>32,722</u>	<u>5,676</u>

(Continued)

	On Demand or Less than 1 Month NT\$	1 to 3 Months NT\$	3 Months to 1 Year NT\$
Swap contracts			
Inflows	\$ 23,759,435	\$ 21,272,450	\$ 37,841,805
Outflows	<u>(23,814,701)</u>	<u>(21,314,442)</u>	<u>(37,965,438)</u>
	<u>(55,266)</u>	<u>(41,992)</u>	<u>(123,633)</u>
Target redemption forward contracts			
Inflows	19,376	43,596	33,216
Outflows	<u>(18,845)</u>	<u>(42,401)</u>	<u>(32,243)</u>
	<u>531</u>	<u>1,195</u>	<u>973</u>
	<u>\$ (52,779)</u>	<u>\$ (8,075)</u>	<u>\$ (116,984)</u>
			(Concluded)

35. RELATED PARTY TRANSACTIONS

Balances and transactions within the Group had been eliminated upon consolidation. Details of transactions between the Group and other related parties were disclosed as follows:

a. Related parties

In addition to those disclosed in Note 14, the related parties were as follows:

Related Parties	Relationship with the Group
ASE Cultural and Educational Foundation	Substantial related party
ASE Environmental Protection and Sustainability Foundation	Substantial related party

b. Contribution of related party

Relationship and Name of Related Party	For the Year Ended December 31	
	2022 NT\$	2021 NT\$
Substantial related party		
ASE Environmental Protection and Sustainability Foundation	\$ 100,000	\$ 100,000
ASE Cultural and Educational Foundation	<u>20,000</u>	<u>10,000</u>
	<u>\$ 120,000</u>	<u>\$ 110,000</u>

- c. ASE and ASEE entered into a joint construction and allocation of housing units agreement with HC, respectively, in August 2021. The agreement stipulates that ASE and ASEE will provide land and leasehold land and HC will provide fund for joint construction of plant and consult with professional appraisal firm to evaluate the allocation ratio of the value under joint construction. After the completion of the plant construction, ASE, ASEE and its affiliates will have the priority to purchase the property, which obtained by HC based on the agreed proportion of joint construction. Since the joint construction agreement between ASEE and HC has not yet started, therefore, the joint construction agreement was terminated by mutual consent of both parties, and the board of directors of ASEE decided to terminate the joint construction agreement in May 2022.

- d. In the third quarter of 2021, ASE purchased real estate properties from HC with an amount of NT\$2,362,000 thousand (tax excluded) which was primarily based on the independent professional appraisal reports and had been fully paid.
- e. ASE entered into a joint construction and allocation of housing units agreement with HC in April 2022. The agreement stipulates that ASE and HC will provide a part of land and fund, respectively, for joint construction of plant and consult with professional appraisal firm to evaluate the allocation ratio of the value under joint construction. After the completion of the plant construction, ASE will have the priority to purchase the property, which obtained by HC based on the agreed proportion of joint construction.
- f. Compensation to key management personnel

	For the Year Ended December 31	
	2022	2021
	NT\$	NT\$
Short-term employee benefits	\$ 1,962,298	\$ 1,744,903
Post-employment benefits	4,344	3,505
Share-based payments	<u>445,287</u>	<u>163,697</u>
	<u><u>\$ 2,411,929</u></u>	<u><u>\$ 1,912,105</u></u>

The compensation to the Group's key management personnel was determined according to personal performance and market trends.

36. ASSETS PLEDGED AS COLLATERAL OR FOR SECURITY

The following assets were provided as collateral for bank borrowings, tariff guarantees of imported raw materials or collateral:

	December 31	
	2022	2021
	NT\$	NT\$
Inventories related to real estate business	\$ 2,627,606	\$ 2,587,110
Property, plant and equipment	105,237	114,390
Investment properties	20,196,582	20,796,862
Other financial assets (including current and non-current)	<u>454,122</u>	<u>444,358</u>
	<u><u>\$ 23,383,547</u></u>	<u><u>\$ 23,942,720</u></u>

37. SIGNIFICANT CONTINGENT LIABILITIES AND UNRECOGNIZED COMMITMENTS

In addition to those disclosed in other notes, significant commitments and contingencies of the Group as of each balance sheet date were as follows:

- a. As of December 31, 2022 and 2021, unused letters of credit of the Group were approximately NT\$579,000 thousand and NT\$74,000 thousand, respectively.
- b. As of December 31, 2022 and 2021, letters of bank guarantee provided to customs for the import and export of goods with bank facilities granted to the Group were approximately NT\$622,539 thousand and NT\$738,628 thousand, respectively.

- c. As of December 31, 2022 and 2021, the Group’s commitments to purchase property, plant and equipment were approximately NT\$59,675,567 thousand and NT\$52,678,554 thousand, respectively, of which NT\$3,689,863 thousand and NT\$3,761,120 thousand had been prepaid, respectively. As of December 31, 2022 and 2021, the commitment that the Group has contracted for the construction related to real estate business were NT\$0 thousand and NT\$59 thousand, respectively.
- d. The Group entered into long-term purchase agreements of materials and supplies with multiple suppliers. The relative minimum purchase quantity is specified in the agreements.
- e. The Group entered into long-term agreements with multiple customers. The relative minimum order quantity from customers and minimum purchase quantity of materials from suppliers are specified in the agreements.
- f. In December 2022, in consideration of corporate social responsibility, the board of directors of ASE resolved the disbursements of NT\$20,000 thousand to ASE Cultural and Educational Foundation for promoting the cultural and educational activities to fulfill the Group’s social responsibilities.
- g. In December 2013, in consideration of corporate social responsibility for environmental protection, the board of directors of ASE, approved the contributions of at least NT\$100,000 thousand annually to be made in the next 30 years, with a total amount of at least NT\$3,000,000 thousand, for promoting environmental protection efforts in Taiwan.

38. OTHERS

On December 20, 2013, the Kaohsiung Environmental Protection Bureau (the “KEPB”) imposed an administrative fine of NT\$102,014 thousand (the “Original Fine”) upon ASE for violation of the Water Pollution Control Act. After ASE sought administrative remedies against the Original Fine, the Original Fine has been revoked by final judgment of Supreme Administrative Court on June 8, 2017, and KEPB is ordered to refund the Original Fine to ASE. On December 27, 2019, KEPB has refunded NT\$55,062 thousand to ASE. On February 10, 2020, KEPB re-imposed an administrative fine of NT\$46,952 thousand (the “New Fine”) upon ASE and offset the New Fine by the remaining amount which shall be refunded to ASE. Therefore, no additional payment that ASE should make for the New Fine. After ASE filed an administrative appeal against the New Fine, the Administrative Appeal Review Committee of Kaohsiung City Government has revoked the New Fine on December 15, 2020 and remanded to KEPB for another legitimate administrative action.

39. SIGNIFICANT ASSETS AND LIABILITIES DENOMINATED IN FOREIGN CURRENCIES

The following information was aggregated by the foreign currencies other than functional currencies of the group entities and the exchange rates between foreign currencies and respective functional currencies were disclosed. The significant financial assets and liabilities denominated in foreign currencies were as follows:

	Foreign Currencies (In Thousand)	Exchange Rate	Carrying Amount (In Thousand)
December 31, 2022			
Monetary financial assets			
US\$	\$ 5,602,783	US\$1=NT\$30.71	\$ 172,061,459
US\$	1,517,342	US\$1=RMB6.9646	46,597,573
US\$	24,066	US\$1=EUR0.9376	739,064
			(Continued)

	Foreign Currencies (In Thousand)	Exchange Rate	Carrying Amount (In Thousand)
JPY	\$ 8,599,044	JPY1=NT\$0.2324	\$ 1,998,417
JPY	410,433	JPY1=US\$0.0076	95,385
Monetary financial liabilities			
US\$	5,539,862	US\$1=NT\$30.71	170,129,161
US\$	1,361,060	US\$1=RMB6.9646	41,798,164
US\$	56,203	US\$1=EUR0.9376	1,725,989
JPY	10,093,229	JPY1=NT\$0.2324	2,345,666
JPY	343,989	JPY1=US\$0.0076	79,943
December 31, 2021			
Monetary financial assets			
US\$	4,885,163	US\$1=NT\$27.68	135,221,324
US\$	1,718,314	US\$1=RMB6.3757	47,562,940
US\$	42,250	US\$1=EUR0.8829	1,169,492
JPY	12,584,942	JPY1=NT\$0.2405	3,026,677
JPY	551,496	JPY1=US\$0.0087	132,635
Monetary financial liabilities			
US\$	\$ 4,899,633	US\$1=NT\$27.68	\$ 135,621,853
US\$	1,503,606	US\$1=RMB6.3757	41,619,803
US\$	88,741	US\$1=EUR0.8829	2,456,363
JPY	14,078,075	JPY1=NT\$0.2405	3,385,776
JPY	990,667	JPY1=US\$0.0087	238,255

The significant realized and unrealized foreign exchange gain (loss) were as follows:

For the Year Ended December 31				
Functional Currencies	2022		2021	
	Exchange Rate	Net Foreign Exchange Gain (Loss)	Exchange Rate	Net Foreign Exchange Gain (Loss)
		NT\$		NT\$
US\$	US\$1=NT\$30.71	\$ (347,044)	US\$1=NT\$27.68	\$ 132,582
NT\$		(2,985,318)		1,413,969
RMB	RMB1=NT\$4.4094	921,898	RMB1=NT\$4.3415	(85,675)
		<u>\$ (2,410,464)</u>		<u>\$ 1,460,876</u>

40. ADDITIONAL DISCLOSURES

Following are the additional disclosures required by the Securities and Futures Bureau for the Group:

- Financial provided: Please see Table 1 attached;
- Endorsement/guarantee provided: Please see Table 2 attached;
- Marketable securities held (excluding investments in subsidiaries, associates and joint venture): Please see Table 3 attached;

- d. Marketable securities acquired and disposed of at costs or prices of at least NT\$300 million or 20% of the paid-in capital: Please see Table 4 attached;
- e. Acquisition of individual real estate properties at costs of at least NT\$300 million or 20% of the paid-in capital: Please see Table 5 attached;
- f. Disposal of individual real estate properties at prices of at least NT\$300 million or 20% of the paid-in capital: None;
- g. Total purchase from or sales to related parties of at least NT\$100 million or 20% of the paid-in capital: Please see Table 6 attached;
- h. Receivables from related parties amounting to at least NT\$100 million or 20% of the paid-in capital: Please see Table 7 attached;
- i. Information about the derivative financial instruments transaction: Please see Note 7;
- j. Others: The business relationship between the parent and the subsidiaries and significant transactions between them: Please see Table 10 attached;
- k. Names, locations, and related information of investees over which the Group exercises significant influence (excluding information on investment in Mainland China): Please see Table 8 attached;
- l. Information of major shareholders: List all shareholders with ownership of 5% or greater showing the name of the shareholder, the number of shares owned, and percentage of ownership of each shareholder: Please see Table 11 attached;
- m. Information on investment in Mainland China
 - 1) The name of the investee in Mainland China, the main businesses and products, its issued capital, method of investment, information on inflow or outflow of capital, percentage of ownership, income (losses) of the investee, share of profits/losses of investee, ending balance, amount received as dividends from the investee, and the limitation on investee: Please see Table 9 attached;
 - 2) Any of the following significant transactions with investee companies in mainland China, either directly or indirectly through a third party, and their prices, payment terms, and unrealized gains or losses:
 - a) The amount and percentage of purchases and the balance and percentage of the related payables at the end of the period: Please see Table 6 attached;
 - b) The amount and percentage of sales and the balance and percentage of the related receivables at the end of the period: Please see Table 6 attached;
 - c) The amount of property transactions and the amount of the resultant gains or losses: No significant transactions;
 - d) The balance of negotiable instrument endorsements or guarantees or pledges of collateral at the end of the period and the purposes: None;
 - e) The highest balance, the end of period balance, the interest rate range, and total current period interest with respect to financing of funds: Please see Table 1 attached;
 - f) Other transactions that have a material effect on the profit or loss for the period or on the financial position, such as the rendering or receiving of services: None.

41. OPERATING SEGMENTS INFORMATION

The Group has the following reportable segments: Packaging, Testing and EMS. The Group packages bare semiconductors into finished semiconductors with enhanced electrical and thermal characteristics; provides testing services, including front-end engineering testing, wafer probing and final testing services; engages in the designing, assembling, manufacturing and sale of electronic components and telecommunications equipment motherboards. Information about other business activities and operating segments that are not reportable are combined and disclosed in “Others.” The Group engages in other activities such as substrate production as well as sale and leasing of real estate properties.

The accounting policies for segments are the same as those described in Note 4. The measurement basis for resources allocation and performance evaluation is based on profit before income tax.

a. Segment revenues and operation results

	Packaging NTS	Testing NTS	EMS NTS	Others NTS	Adjustments and Eliminations NTS	Total NTS
<u>For the year ended December 31, 2022</u>						
Revenue from external customers	\$ 303,947,502	\$ 55,960,182	\$ 301,966,818	\$ 8,998,141	\$ -	\$ 670,872,643
Inter-group revenues (Note 1)	6,940,878	524,387	35,533,226	9,080,132	(52,078,623)	-
Segment revenues	310,888,380	56,484,569	337,500,044	18,078,273	-	722,951,266
Interest income	109,148	84,562	418,507	42,530	-	654,747
Interest expense	(2,150,382)	(463,043)	(1,029,128)	(346,581)	-	(3,989,134)
Depreciation and amortization	(33,509,358)	(14,901,939)	(4,654,383)	(2,386,209)	-	(55,451,889)
Share of the profit or loss of associates and joint ventures	727,843	75,660	324,276	-	-	1,127,779
Impairment loss	(64,257)	(105,169)	(219,349)	-	-	(388,775)
Segment profit before income tax	51,703,165	14,609,515	14,368,179	944,855	-	81,625,714
Expenditures for segment assets	45,936,563	21,765,965	6,188,401	1,909,645	-	75,800,574
<u>December 31, 2022</u>						
Investments accounted for using the equity method	10,453,606	1,665,873	2,694,203	-	-	14,813,682
Contract assets	4,869,541	861,632	-	-	-	5,731,173
<u>For the year ended December 31, 2021</u>						
Revenue from external customers	\$ 272,543,899	\$ 49,978,736	\$ 239,488,267	\$ 7,986,231	\$ -	\$ 569,997,133
Inter-group revenue (Note 1)	7,244,889	339,619	27,825,073	7,527,260	(42,936,841)	-
Segment revenues	279,788,788	50,318,355	267,313,340	15,513,491	-	612,933,974
Interest income	61,141	88,874	301,072	91,242	-	542,329
Interest expense	(1,604,107)	(405,648)	(629,584)	(159,596)	-	(2,798,935)
Depreciation and amortization	(34,384,500)	(13,819,080)	(4,336,266)	(1,984,431)	-	(54,524,277)
Share of the profit or loss of associates and joint ventures	803,510	74,403	95,943	-	-	973,856
Impairment loss	(86,997)	(39,769)	-	-	-	(126,766)
Segment profit before income tax	41,704,042	12,017,660	8,528,675	18,085,030	-	80,335,407
Expenditures for segment assets	48,531,368	16,773,513	7,654,560	1,458,100	-	74,417,541
<u>December 31, 2021</u>						
Investments accounted for using the equity method	13,021,206	1,944,113	2,355,472	-	-	17,320,791
Contract assets	4,735,181	872,028	-	-	-	5,607,209

Note 1: Inter-group revenues were eliminated upon consolidation.

Note 2: The disaggregated product and service type from the Group's contract with customer is the same as those disclosed in above reportable segment.

b. Revenue from major products and services

	For the Year Ended December 31	
	2022	2021
	NT\$	NT\$
Packaging service	\$ 303,947,502	\$ 272,543,899
Testing service	55,960,182	49,978,736
EMS	301,966,818	239,488,267
Others	<u>8,998,141</u>	<u>7,986,231</u>
	<u>\$ 670,872,643</u>	<u>\$ 569,997,133</u>

c. Geographical information

The Group's revenue from external customers by location of headquarter and information about its non-current assets by location of assets are detailed below.

1) Net revenues from external customers

	For the Year Ended December 31	
	2022	2021
	NT\$	NT\$
United States	\$ 446,484,639	\$ 353,500,361
Taiwan	83,655,142	94,598,067
Asia	75,991,902	62,523,167
Europe	63,542,468	57,910,641
Others	<u>1,198,492</u>	<u>1,464,897</u>
	<u>\$ 670,872,643</u>	<u>\$ 569,997,133</u>

2) Non-current assets

	December 31	
	2022	2021
	NT\$	NT\$
Taiwan	\$ 267,380,440	\$ 251,869,571
China	69,283,739	65,375,423
Others	<u>40,537,349</u>	<u>34,702,992</u>
	<u>\$ 377,201,528</u>	<u>\$ 351,947,986</u>

Non-current assets exclude financial instruments, post-employment benefit assets, and deferred tax assets.

d. Major customers

Except one customer from which the operating revenues generated from packaging and EMS segments were NT\$198,858,465 thousand and NT\$158,624,032 thousand in 2022 and 2021, respectively, there was no other operating revenues from a single customer accounting for more than 10% of the Group's operating revenues for the years ended December 31, 2022 and 2021.

ASE TECHNOLOGY HOLDING CO., LTD. AND SUBSIDIARIES

FINANCINGS PROVIDED
FOR THE YEAR ENDED DECEMBER 31, 2022
(Amounts In Thousands of New Taiwan Dollars)

TABLE 1

No.	Financing Company	Counter-party	Financial Statement Account	Related Party	Maximum Balance for the Period	Ending Balance	Amount Actual Drawn	Interest Rate (%)	Nature for Financing	Transaction Amounts	Reason for Financing	Allowance for Bad Debt	Collateral		Financing Limits for Each Borrowing Company	Financing Company's Total Financing Amount Limits
													Item	Value		
1	ASE	The Company	Other receivables from related parties	Yes	\$ 10,000,000	\$ -	\$ -	-	The need for short-term financing	\$ -	Operating capital	\$ -	-	\$ -	\$ 59,862,249 (Note 1)	\$ 59,862,249 (Note 2)
2	ASE Test, Inc.	The Company	Other receivables from related parties	Yes	4,680,000	4,500,000	1,550,000	0.59-1.45	The need for short-term financing	-	Operating capital	-	-	-	12,249,494 (Note 1)	12,249,494 (Note 2)
3	ASE Electronics Inc.	The Company	Other receivables from related parties	Yes	1,710,000	1,710,000	1,530,000	0.59-1.45	The need for short-term financing	-	Operating capital	-	-	-	1,807,756 (Note 1)	1,807,756 (Note 2)
4	A.S.E. Holding Limited	ASE Test Limited	Long-term receivables from related parties	Yes	1,600,493	-	-	-	The need for short-term financing	-	Operating capital	-	-	-	20,287,809 (Note 3)	20,287,809 (Note 3)
		Alto Enterprises Limited	Other receivables from related parties	Yes	3,222	3,071	-	-	The need for short-term financing	-	Operating capital	-	-	-	20,287,809 (Note 3)	20,287,809 (Note 3)
		USI Enterprise Limited	Long-term receivables from related parties	Yes	1,739,610	1,658,340	-	-	The need for short-term financing	-	Operating capital	-	-	-	20,287,809 (Note 3)	20,287,809 (Note 3)
		J&R Holding Limited	Long-term receivables from related parties	Yes	1,739,610	1,658,340	1,566,210	-	The need for short-term financing	-	Operating capital	-	-	-	20,287,809 (Note 3)	20,287,809 (Note 3)
5	ASE Test Limited	ASE	Other receivables from related parties/ Long-term receivables from related parties	Yes	6,489,023	6,489,023	4,821,470	5.91	The need for short-term financing	-	Operating capital	-	-	-	29,652,453 (Note 3)	29,652,453 (Note 3)
		J&R Holding Limited	Long-term receivables from related parties	Yes	5,466,380	5,466,380	4,818,399	0.50-4.73	The need for short-term financing	-	Operating capital	-	-	-	29,652,453 (Note 3)	29,652,453 (Note 3)
		USI Enterprise Limited	Long-term receivables from related parties	Yes	4,993,325	4,760,050	4,176,560	0.50-4.54	The need for short-term financing	-	Operating capital	-	-	-	29,652,453 (Note 3)	29,652,453 (Note 3)
		ASE Japan Co., Ltd.	Long-term receivables from related parties	Yes	483,225	460,650	122,840	4.80-5.91	The need for short-term financing	-	Operating capital	-	-	-	29,652,453 (Note 3)	29,652,453 (Note 3)
6	ASE Holding (Singapore) Pte Ltd.	ASE	Long-term receivables from related parties	Yes	5,681,350	5,681,350	5,681,350	5.91	The need for short-term financing	-	Operating capital	-	-	-	5,783,195 (Note 3)	5,783,195 (Note 3)
7	Global Advanced Packaging Technology Limited	ASE	Long-term receivables from related parties	Yes	30,024,380	28,621,720	26,932,670	-	The need for short-term financing	-	Operating capital	-	-	-	49,181,550 (Note 3)	49,181,550 (Note 3)
		USI Enterprise Limited	Other receivables from related parties	Yes	2,994,000	829,170	829,170	-	The need for short-term financing	-	Operating capital	-	-	-	49,181,550 (Note 3)	49,181,550 (Note 3)
8	Alto Enterprises Limited	ASE	Long-term receivables from related parties	Yes	1,191,955	1,136,270	1,136,270	-	The need for short-term financing	-	Operating capital	-	-	-	4,813,455 (Note 3)	4,813,455 (Note 3)
9	ASE Mauritius Inc.	ASE	Long-term receivables from related parties	Yes	1,449,675	1,381,950	1,381,950	-	The need for short-term financing	-	Operating capital	-	-	-	14,115,223 (Note 3)	14,115,223 (Note 3)
10	ASE Corporation	Synergy Link Limited	Other receivables	No	101,689	48,560	48,560	5.00-5.50	The need for short-term financing	-	Strategic purpose	-	Synergy Link Limited 1,000 shares	112,504	7,509,307 (Note 1)	7,509,307 (Note 2)
		J&R Holding Limited	Long-term receivables from related parties	Yes	112,753	107,485	67,562	-	The need for short-term financing	-	Operating capital	-	-	-	18,773,267 (Note 3)	18,773,267 (Note 3)
		ASE	Other receivables from related parties	Yes	966,450	921,300	921,300	0.63-5.68	The need for short-term financing	-	Operating capital	-	-	-	2,745,223 (Note 3)	2,745,223 (Note 3)
11	ISE Labs, Inc.	ASE Test Limited	Other receivables from related parties/ Long-term receivables from related parties	Yes	353,700	-	-	0.59-1.42	The need for short-term financing	-	Operating capital	-	-	-	2,745,223 (Note 3)	2,745,223 (Note 3)
		J&R Holding Limited	Long-term receivables from related parties	Yes	386,580	368,520	368,520	1.24-4.54	The need for short-term financing	-	Operating capital	-	-	-	2,745,223 (Note 3)	2,745,223 (Note 3)
12	ASE (Korea) Inc.	ASE	Other receivables from related parties	Yes	9,503,425	9,213,000	9,213,000	2.10-6.39	The need for short-term financing	-	Operating capital	-	-	-	21,511,283 (Note 3)	21,511,283 (Note 3)
13	ASE Japan Co., Ltd.	ASE	Other receivables from related parties	Yes	481,400	-	-	0.53-0.54	The need for short-term financing	-	Operating capital	-	-	-	1,514,170 (Note 3)	1,514,170 (Note 3)
		ASE Marketing & Service Japan Co., Ltd.	Other receivables from related parties	Yes	48,640	-	-	0.46-0.49	The need for short-term financing	-	Operating capital	-	-	-	1,514,170 (Note 3)	1,514,170 (Note 3)
14	ASE Singapore Pte. Ltd.	ASE Test Limited	Long-term receivables from related parties	Yes	500,850	-	-	0.50-0.64	The need for short-term financing	-	Operating capital	-	-	-	6,200,044 (Note 3)	6,200,044 (Note 3)
		J&R Holding Limited	Long-term receivables from related parties	Yes	1,437,120	-	-	0.50-2.76	The need for short-term financing	-	Operating capital	-	-	-	6,200,044 (Note 3)	6,200,044 (Note 3)
15	ASE (U.S.) Inc.	ASE	Other receivables from related parties	Yes	444,500	214,970	214,970	0.63-5.68	The need for short-term financing	-	Operating capital	-	-	-	717,970 (Note 3)	717,970 (Note 3)

(Continued)

No.	Financing Company	Counter-party	Financial Statement	Related Party	Maximum Balance for the Period	Ending Balance	Amount Actual Drawn	Interest Rate (%)	Nature for Financing	Transaction Amounts	Reason for Financing	Allowance for Bad Debt	Collateral		Financing Limits for Each Borrowing Company	Financing Company's Total Financing Amount Limits
													Item	Value		
16	Shanghai Ding Hui Real Estate Development Co., Ltd.	Shanghai Ding Yu Real Estate Development Co., Ltd.	Other receivables from related parties	Yes	\$ 420,915	\$ 440,944	\$ 440,944	4.35	The need for short-term financing	\$ -	Operating capital	\$ -	-	\$ -	\$ 18,988,336 (Note 3)	\$ 18,988,336 (Note 3)
		Shanghai Ding Wei Real Estate Development Co., Ltd.	Other receivables from related parties	Yes	2,029,118	1,984,249	1,984,249	4.35	The need for short-term financing	-	Operating capital	-	-	-	18,988,336 (Note 3)	18,988,336 (Note 3)
		Shanghai Dingyao Real Estate Development Co., Ltd.	Other receivables from related parties	Yes	448,877	440,944	440,944	4.35	The need for short-term financing	-	Operating capital	-	-	-	18,988,336 (Note 3)	18,988,336 (Note 3)
		Kun Shan Ding Hong Real Estate Development Co., Ltd	Other receivables from related parties	Yes	360,732	352,755	352,755	4.35	The need for short-term financing	-	Operating capital	-	-	-	18,988,336 (Note 3)	18,988,336 (Note 3)
		ASE Assembly & Test (Shanghai) Limited	Other receivables from related parties	Yes	1,352,746	881,888	-	4.90	The need for short-term financing	-	Operating capital	-	-	-	18,988,336 (Note 3)	18,988,336 (Note 3)
		ISE Labs, China, Ltd.	Other receivables from related parties	Yes	1,322,833	1,322,833	485,039	4.90	The need for short-term financing	-	Operating capital	-	-	-	18,988,336 (Note 3)	18,988,336 (Note 3)
17	Advanced Semiconductor Engineering (China) Ltd.	Siliconware Technology (Suzhou) Limited	Other receivables from related parties	Yes	1,063,095	1,013,430	1,013,430	0.54-2.15	The need for short-term financing	-	Operating capital	-	-	-	3,167,531 (Note 3)	3,167,531 (Note 3)
		ASE Investment (Kun Shan) Limited	Other receivables from related parties	Yes	2,052	-	-	3.00	The need for short-term financing	-	Operating capital	-	-	-	3,167,531 (Note 3)	3,167,531 (Note 3)
		ASE Assembly & Test (Shanghai) Limited	Other receivables from related parties	Yes	1,352,746	1,322,833	1,234,644	2.40-3.41	The need for short-term financing	-	Operating capital	-	-	-	3,167,531 (Note 3)	3,167,531 (Note 3)
18	Wuxi Tongzhi Microelectronics Co., Ltd.	ASE Assembly & Test (Shanghai) Limited	Other receivables from related parties	Yes	225,458	220,472	88,189	3.44-3.69	The need for short-term financing	-	Operating capital	-	-	-	467,550 (Note 3)	467,550 (Note 3)
19	ASE Investment (Kun Shan) Limited	ASE Assembly & Test (Shanghai) Limited	Other receivables from related parties	Yes	1,009,973	992,124	132,283	2.40-3.25	The need for short-term financing	-	Operating capital	-	-	-	3,083,294 (Note 3)	3,083,294 (Note 3)
		ASE (Shanghai) Inc.	Other receivables from related parties	Yes	538,652	529,133	220,472	2.40-3.10	The need for short-term financing	-	Operating capital	-	-	-	3,083,294 (Note 3)	3,083,294 (Note 3)
		Siliconware Technology (Suzhou) Limited	Other receivables from related parties	Yes	1,571,069	1,543,305	1,543,305	2.40	The need for short-term financing	-	Operating capital	-	-	-	3,083,294 (Note 3)	3,083,294 (Note 3)
20	USI Enterprise Limited	ISE Labs, China, Ltd.	Other receivables from related parties	Yes	440,944	440,944	88,189	2.40	The need for short-term financing	-	Operating capital	-	-	-	3,083,294 (Note 3)	3,083,294 (Note 3)
		ASE	Other receivables from related parties	Yes	2,899,350	-	-	4.31-4.43	The need for short-term financing	-	Operating capital	-	-	-	23,958,136 (Note 1)	23,958,136 (Note 2)
		USIINC	Other receivables from related parties	Yes	3,865,800	1,842,600	1,842,600	0.63-5.68	The need for short-term financing	-	Operating capital	-	-	-	23,958,136 (Note 1)	23,958,136 (Note 2)
21	Real Tech Holdings Limited	USI Enterprise Limited	Long-term receivables from related parties	Yes	1,256,385	1,197,690	1,197,690	-	The need for short-term financing	-	Operating capital	-	-	-	61,302,710 (Note 3)	61,302,710 (Note 3)
		Huntington Holdings International Co. Ltd.	Long-term receivables from related parties	Yes	154,450	153,550	92,130	-	The need for short-term financing	-	Operating capital	-	-	-	61,302,710 (Note 3)	61,302,710 (Note 3)
22	USI Electronics (Shenzhen) Co., Ltd.	Universal Scientific Industrial (Shanghai) Co., Ltd.	Other receivables from related parties	Yes	2,244,385	2,204,721	-	-	The need for short-term financing	-	Operating capital	-	-	-	2,780,454 (Note 1)	2,780,454 (Note 2)
		Universal Global Technology (Huizhou) Co., Ltd	Other receivables from related parties	Yes	450,915	440,944	440,944	1.75-2.40	The need for short-term financing	-	Operating capital	-	-	-	6,951,136 (Note 3)	6,951,136 (Note 3)
		Universal Global Technology (Shanghai) Co., Ltd.	Other receivables from related parties	Yes	448,877	440,944	-	-	The need for short-term financing	-	Operating capital	-	-	-	6,951,136 (Note 3)	6,951,136 (Note 3)
		Universal Global Technology (Kunshan) Co., Ltd.	Other receivables from related parties	Yes	897,754	881,888	-	-	The need for short-term financing	-	Operating capital	-	-	-	6,951,136 (Note 3)	6,951,136 (Note 3)
23	Universal Global Technology Co., Limited	Universal Scientific Industrial De Mexico S.A.De C.V.	Long-term receivables from related parties	Yes	2,577,200	2,456,800	1,842,600	0.56-5.05	The need for short-term financing	-	Operating capital	-	-	-	30,616,321 (Note 3)	30,616,321 (Note 3)
		Universal Global Scientific Industrial Co., Ltd.	Other receivables from related parties	Yes	589,500	-	-	0.63-1.50	The need for short-term financing	-	Operating capital	-	-	-	12,246,528 (Note 1)	12,246,528 (Note 2)
		Universal Scientific Industrial Co., Ltd.	Other receivables from related parties	Yes	1,574,375	-	-	0.63-1.07	The need for short-term financing	-	Operating capital	-	-	-	12,246,528 (Note 1)	12,246,528 (Note 2)
		Universal Scientific Industrial (France)	Long-term receivables from related parties	Yes	1,684,160	1,293,834	966,281	0.60-2.47	The need for short-term financing	-	Operating capital	-	-	-	30,616,321 (Note 3)	30,616,321 (Note 3)
		ASTELFLASH USA CORP.	Long-term receivables from related parties	Yes	322,150	307,100	214,970	0.72-6.49	The need for short-term financing	-	Operating capital	-	-	-	30,616,321 (Note 3)	30,616,321 (Note 3)
		FINANCIERE AFG(Note 5)	Long-term receivables from related parties	Yes	2,491,784	1,572,254	1,572,254	1.00-2.47	The need for short-term financing	-	Operating capital	-	-	-	30,616,321 (Note 3)	30,616,321 (Note 3)
		Universal Global Electronics Co., Ltd.	Long-term receivables from related parties	Yes	322,150	307,100	15,355	2.05-4.54	The need for short-term financing	-	Operating capital	-	-	-	30,616,321 (Note 3)	30,616,321 (Note 3)
		ASTELFLASH FRANCE	Other receivables from related parties	Yes	769,749	769,749	769,749	1.50-2.48	The need for short-term financing	-	Operating capital	-	-	-	12,246,528 (Note 1)	12,246,528 (Note 2)
24	Universal Scientific Industrial Co., Ltd.	Universal Global Scientific Industrial Co., Ltd.	Other receivables from related parties	Yes	1,344,300	1,314,200	1,314,200	0.59-5.05	The need for short-term financing	-	Operating capital	-	-	-	1,566,867 (Note 1)	1,566,867 (Note 2)
25	Universal Global Technology (Shanghai) Co., Ltd.	Universal Scientific Industrial (Shanghai) Co., Ltd.	Other receivables from related parties	Yes	1,270,000	-	-	-	The need for short-term financing	-	Operating capital	-	-	-	3,599,722 (Note 1)	3,599,722 (Note 2)

(Continued)

No.	Financing Company	Counter-party	Financial Statement Account	Related Party	Maximum Balance for the Period	Ending Balance	Amount Actual Drawn	Interest Rate (%)	Nature for Financing	Transaction Amounts	Reason for Financing	Allowance for Bad Debt	Collateral		Financing Limits for Each Borrowing Company (Note 1)	Financing Company's Total Financing Amount Limits (Note 2)
													Item	Value		
26	Universal Scientific Industrial (Shanghai) Co., Ltd.	Universal Global Technology (Kunshan) Co., Ltd.	Long-term receivables from related parties	Yes	\$ 1,346,631	\$ 1,322,833	\$ 1,322,833	1.75-2.40	The need for short-term financing	\$ -	Operating capital	\$ -	-	-	\$ 8,999,306 (Note 3)	\$ 8,999,306 (Note 3)
		Universal Scientific Industrial De Mexico S.A.De C.V.	Other receivables from related parties	Yes	3,043,500	1,535,500	921,300	0.56-5.05	The need for short-term financing	-	Operating capital	-	-	-	27,792,842 (Note 1)	27,792,842 (Note 2)
		Universal Scientific Industrial Vietnam Company Limited	Other receivables from related parties	Yes	3,892,200	1,535,500	1,381,950	0.53-4.78	The need for short-term financing	-	Operating capital	-	-	-	27,792,842 (Note 1)	27,792,842 (Note 2)
		Universal Global Technology (Haizhou) Co., Ltd	Other receivables from related parties	Yes	3,366,577	3,307,082	2,204,721	1.75-2.40	The need for short-term financing	-	Operating capital	-	-	-	27,792,842 (Note 1)	27,792,842 (Note 2)
27	USI America Inc.	Universal Global Technology (Kunshan) Co., Ltd.	Other receivables from related parties	Yes	448,877	440,944	-	-	The need for short-term financing	-	Operating capital	-	-	-	27,792,842 (Note 1)	27,792,842 (Note 2)
		ASTEELFLASH USA CORP.	Other receivables from related parties	Yes	177,183	168,905	122,840	1.85-5.89	The need for short-term financing	-	Operating capital	-	-	-	226,499 (Note 3)	226,499 (Note 3)
		ASTEELFLASH HERSFELD GmbH	Long-term receivables from related parties	Yes	327,553	327,553	298,073	1.00-2.47	The need for short-term financing	-	Operating capital	-	-	-	12,148,587 (Note 3)	12,148,587 (Note 3)
		ASTEELFLASH FRANCE	Other receivables from related parties	Yes	746,750	-	-	1.00-2.47	The need for short-term financing	-	Operating capital	-	-	-	4,859,435 (Note 1)	4,859,435 (Note 2)
28	Universal Scientific Industrial (France)	ASTEELFLASH TUNISIE S.A.	Long-term receivables from related parties	Yes	458,574	458,574	415,992	1.00-2.81	The need for short-term financing	-	Operating capital	-	-	-	12,148,587 (Note 3)	12,148,587 (Note 3)
		ASTEELFLASH PLZEN S.R.O.	Long-term receivables from related parties	Yes	98,266	98,266	98,266	1.00-2.47	The need for short-term financing	-	Operating capital	-	-	-	12,148,587 (Note 3)	12,148,587 (Note 3)
		ASTEELFLASH (BEDFORD) LIMITED	Long-term receivables from related parties	Yes	134,297	134,297	131,786	1.25-3.00	The need for short-term financing	-	Operating capital	-	-	-	5,417,729 (Note 3)	5,417,729 (Note 3)
		ASTEELFLASH TUNISIE S.A.	Long-term receivables from related parties	Yes	949,903	949,903	610,322	1.25-3.41	The need for short-term financing	-	Operating capital	-	-	-	5,417,729 (Note 3)	5,417,729 (Note 3)
29	FINANCIERE AFG(Note 5)	ASTEELFLASH GERMANY GmbH	Long-term receivables from related parties	Yes	29,480	29,480	29,480	1.00-3.00	The need for short-term financing	-	Operating capital	-	-	-	5,417,729 (Note 3)	5,417,729 (Note 3)
		ASTEELFLASH PLZEN S.R.O.	Long-term receivables from related parties	Yes	193,837	134,297	134,297	1.00-3.00	The need for short-term financing	-	Operating capital	-	-	-	5,417,729 (Note 3)	5,417,729 (Note 3)
		ASTEELFLASH EBERBACH GmbH	Other receivables from related parties	Yes	111,218	65,511	65,511	1.00-3.00	The need for short-term financing	-	Operating capital	-	-	-	5,417,729 (Note 3)	5,417,729 (Note 3)
		ASTEELFLASH BONN GmbH	Other receivables from related parties	Yes	47,665	-	-	1.00	The need for short-term financing	-	Operating capital	-	-	-	5,417,729 (Note 3)	5,417,729 (Note 3)
30	ASTEELFLASH FRANCE	ASTEELFLASH HERSFELD GmbH	Long-term receivables from related parties	Yes	65,511	65,511	-	-	The need for short-term financing	-	Operating capital	-	-	-	5,417,729 (Note 3)	5,417,729 (Note 3)
		FINANCIERE AFG(Note 5)	Other receivables from related parties	Yes	252,644	-	-	1.25	The need for short-term financing	-	Operating capital	-	-	-	833,195 (Note 1)	833,195 (Note 2)
		ASTEELFLASH PLZEN S.R.O.	Other receivables from related parties	Yes	65,511	65,511	65,511	1.00-3.00	The need for short-term financing	-	Operating capital	-	-	-	833,195 (Note 1)	833,195 (Note 2)
		ASTEELFLASH (BEDFORD) LIMITED	Other receivables from related parties	Yes	65,511	65,511	65,511	1.00-3.00	The need for short-term financing	-	Operating capital	-	-	-	833,195 (Note 1)	833,195 (Note 2)
31	ASTEELFLASH SUZHOU CO., LTD.	Universal Global Technology Co., Limited	Long-term receivables from related parties	Yes	1,707,395	1,627,630	1,627,630	1.00-4.51	The need for short-term financing	-	Operating capital	-	-	-	5,685,436 (Note 3)	5,685,436 (Note 3)
		ASTEELFLASH TUNISIE S.A.	Other receivables from related parties	Yes	386,580	368,520	368,520	2.73-5.02	The need for short-term financing	-	Operating capital	-	-	-	5,685,436 (Note 3)	5,685,436 (Note 3)
32	ASTEELFLASH HongKong CO., LTD.	Universal Global Technology Co., Limited	Other receivables from related parties	Yes	161,075	-	-	1.00	The need for short-term financing	-	Operating capital	-	-	-	582,688 (Note 3)	582,688 (Note 3)
33	ASTEELFLASH GERMANY GmbH	ASTEELFLASH EBERBACH GmbH	Long-term receivables from related parties	Yes	75,337	75,337	75,337	1.25-3.00	The need for short-term financing	-	Operating capital	-	-	-	376,037 (Note 3)	376,037 (Note 3)
		ASTEELFLASH DESIGN SOLUTIONS HAMBOURG GmbH	Long-term receivables from related parties	Yes	29,480	29,480	29,480	1.25-3.00	The need for short-term financing	-	Operating capital	-	-	-	376,037 (Note 3)	376,037 (Note 3)
34	SPIL	Siliconware Technology (Suzhou) Limited	Other receivables from related parties	Yes	4,565,250	3,071,000	1,535,500	0.64-4.53	The need for short-term financing	-	Operating capital	-	-	-	39,321,988 (Note 1)	39,321,988 (Note 2)
		The Company	Other receivables from related parties	Yes	10,000,000	9,000,000	1,000,000	0.59-1.45	The need for short-term financing	-	Operating capital	-	-	-	39,321,988 (Note 1)	39,321,988 (Note 2)

(Concluded)

Note 1: A subsidiary’s limit amount of lending to a company shall not exceed 40% of the lender’s net worth.

Note 2: Where an inter-company or inter-firm short-term financing facility is necessary, the total amount of such financing facility shall not exceed 40% of the lender’s net worth.

Note 3: Foreign subsidiaries whose voting shares are 100% owned, directly or indirectly, by the Company as a lender, the aggregate lending amount and the amount lending to a single company shall not exceed 15% and 10%, respectively, of the Company’s net worth as stated in its latest financial statement.

Note 4: Except No.10 its counter-party Synergy Link Limited, The transactions had been eliminated when preparing consolidated financial statements.

Note 5: No.23, 30 its counter-party and No.29 financing company ASTEELFLASH GROUP were merged by parent company FINANCIERE AFG in January, 2022, the debt for related parties of ASTEELFLASH GROUP had transferred to FINANCIERE AFG..

ASE TECHNOLOGY HOLDING CO., LTD. AND SUBSIDIARIES

TABLE 2

ENDORSEMENTS/GUARANTEES PROVIDED
FOR THE YEAR ENDED DECEMBER 31, 2022
(Amounts In Thousands of New Taiwan Dollars, Unless Specified Otherwise)

No.	Endorsement/ Guarantee Provider	Guaranteed Party		Limits on Endorsement /Guarantee Amount Provided to Each Guaranteed Party (Note 1)	Maximum Balance for the Year	Ending Balance	Amount Actually Drawn	Amount of Endorsement/ Guarantee Collateralized by Properties	Ratio of Accumulated Endorsement/Guarantee to Net Equity per Latest Financial Statement (%)	Maximum Endorsement /Guarantee Amount Allowable (Note 2)	Guarantee Provided by Parent Company	Guarantee Provided by A Subsidiary	Guarantee Provided to Subsidiaries in Mainland
	Name	Name	Nature of Relationship										
1	USI Enterprise Limited	Universal Scientific Industrial (France)	More than 50% voting shares indirectly owned by the company	\$ 83,853,476	\$ 1,378,949	\$ 1,314,528	\$ 1,314,528	-	2.19	\$ 89,843,010	Yes	No	No
2	FINANCIERE AFG(Note 3)	ASTEELFLASH USA CORP.	More than 50% voting shares indirectly owned by the company	7,584,821	140,125	-	-	-	-	8,126,594	Yes	No	No
		ASTEELFLASH GERMANY GmbH	More than 50% voting shares directly owned by the company	7,584,821	327,553	327,553	327,553	-	6.05	8,126,594	Yes	No	No
		ASTEELFLASH HERSFELD GmbH	More than 50% voting shares indirectly owned by the company	7,584,821	327,553	327,553	327,553	-	6.05	8,126,594	Yes	No	No
		ASTEELFLASH BONN GmbH	More than 50% voting shares indirectly owned by the company	7,584,821	327,553	327,553	327,553	-	6.05	8,126,594	Yes	No	No
		ASTEELFLASH EBERBACH GmbH	More than 50% voting shares indirectly owned by the company	7,584,821	327,553	327,553	327,553	-	6.05	8,126,594	Yes	No	No
		ASTEELFLASH DESIGN SOLUTIONS HAMBOURG GmbH	More than 50% voting shares indirectly owned by the company	7,584,821	327,553	327,553	327,553	-	6.05	8,126,594	Yes	No	No
		ASTEELFLASH TUNISIE S.A.	More than 50% voting shares directly owned by the company	7,584,821	549,591	491,329	131,021	-	15.11	8,126,594	Yes	No	No
		ASTEELFLASH PLZEN S.R.O.	More than 50% voting shares directly owned by the company	7,584,821	98,266	98,266	98,266	-	16.93	8,126,594	Yes	No	No
		ASTEELFLASH FRANCE	More than 50% voting shares directly owned by the company	7,584,821	229,287	229,287	131,021	-	21.16	8,126,594	Yes	No	No
		ASTEELFLASH HERSFELD GmbH	More than 50% voting shares indirectly owned by the company	7,584,821	222,436	98,266	98,266	-	22.97	8,126,594	Yes	No	No
		ASTEELFLASH EBERBACH GmbH	More than 50% voting shares indirectly owned by the company	7,584,821	222,436	65,511	65,511	-	24.18	8,126,594	Yes	No	No
		ASTEELFLASH DESIGN SOLUTIONS HAMBOURG GmbH	More than 50% voting shares indirectly owned by the company	7,584,821	222,436	65,511	65,511	-	25.39	8,126,594	Yes	No	No

Note 1: The ceilings on the amounts a subsidiary permitted to make endorsements/guarantees for any single entity shall not exceed 140% of the subsidiary’s net worth as stated in its latest financial statement according to “The Process of make in endorsements/guarantees” of the Company.

Note 2: The ceilings on the aggregate amounts a subsidiary permitted to make endorsements/guarantees shall not exceed 150% of the subsidiary’s net worth as stated in its latest financial statement according to “The Process of make in endorsements/guarantees” of the Company.

Note 3: No.2 the subsidiary ASTEELFLASH GROUP were merged by parent company FINANCIERE AFG in January, 2022, the debt for related parties of ASTEELFLASH GROUP had transferred to FINANCIERE AFG.

ASE TECHNOLOGY HOLDING CO., LTD. AND SUBSIDIARIES

TABLE 3

MARKETABLE SECURITIES HELD
DECEMBER 31, 2022
(Amounts In Thousands of New Taiwan Dollars, Unless Specified Otherwise)

Held Company Name	Marketable Securities Type and Name	Relationship with the Company	Financial Statement Account	December 31, 2022				Note
				Shares/ Units	Carrying Value	Percentage of Ownership (%)	Fair Value	
ASE	Stock							
	The Company	Ultimate parent company	Financial assets at fair value through other comprehensive income - non current	67,452,117	\$ 6,333,754		\$ 6,333,754	
	MiTAC Information Technology Corp	-	Financial assets at fair value through other comprehensive income - non current	2,521	16	-	16	
	Asia Pacific Emerging Industry Venture Capital Co, Ltd.	-	Financial assets at fair value through other comprehensive income - non current	3,509,064	23,911	7	23,911	
	StarChips Technology Inc.	-	Financial assets at fair value through other comprehensive income - non current	333,334	-	6	-	
	Limited Liability Partnership							
	Ripley Cable Holdings I, L.P.	-	Financial assets at fair value through other comprehensive income - non current	-	-	4	-	
ASE Test, Inc.	Stock							
	The Company	Ultimate parent company	Financial assets at fair value through other comprehensive income - non current	5,489,388	515,454	-	515,454	
	Powtec ElectroChemical Corporation	-	Financial assets at fair value through other comprehensive income - non current	33,560,184	0	2	-	
	MiTAC Information Technology Corp.	-	Financial assets at fair value through other comprehensive income - non current	680,017	4,383	-	4,383	
	Aimos Inc.	-	Financial assets at fair value through other comprehensive income - non current	100,000,000	38,861	21	38,861	
	Neolink Capital Corp.	-	Financial assets at fair value through other comprehensive income - non current	14,000,000	87,272	17	87,272	
	Hongkong & Shanghai Banking Corp.	-	Financial assets at fair value through profit or loss - current	400,000	76,476	-	76,476	
	Tencent Holdings Ltd	-	Financial assets at fair value through profit or loss - current	194,000	255,167	-	255,167	
	JD.com Inc	-	Financial assets at fair value through profit or loss - current	9,238	8,011	-	8,011	
	Industrial and Commercial Bank of China Limited	-	Financial assets at fair value through profit or loss - current	11,000,000	174,138	-	174,138	
	Ping An Insurance (Group) Company of China, Ltd.	-	Financial assets at fair value through profit or loss - current	1,000,000	203,398	-	203,398	
	China Construction Bank Corporation	-	Financial assets at fair value through profit or loss - current	10,402,000	200,309	-	200,309	
	ALA Group Limited	-	Financial assets at fair value through profit or loss - current	300,000	102,546	-	102,546	
	China Merchants Bank Co., Ltd.	-	Financial assets at fair value through profit or loss - current	2,200,000	378,166	-	378,166	
	China Life Insurance Co., Ltd.	-	Financial assets at fair value through profit or loss - current	1,000,000	52,769	-	52,769	
	BOC Hong Kong (Holdings) Ltd.	-	Financial assets at fair value through profit or loss - current	1,900,000	199,027	-	199,027	
	China Mobile Communications Corporation	-	Financial assets at fair value through profit or loss - current	600,000	122,275	-	122,275	
	CK Hutchison Holdings Limited	-	Financial assets at fair value through profit or loss - current	200,000	36,899	-	36,899	
	Agricultural Bank of China Limited	-	Financial assets at fair value through profit or loss - current	16,300,000	172,028	-	172,028	

(Continued)

Held Company Name	Marketable Securities Type and Name	Relationship with the Company	Financial Statement Account	December 31, 2022				Note
				Shares/ Units	Carrying Value	Percentage of Ownership (%)	Fair Value	
Luchu Development Corporation	Bank of China Ltd.	-	Financial assets at fair value through profit or loss - current	16,700,000	\$ 186,771	-	\$ 186,771	
	Alibaba Group Holding Ltd.	-	Financial assets at fair value through profit or loss - current	360,000	122,275	-	122,275	
	AIMD Ainos Inc	-	Financial assets at fair value through profit or loss - current	147,058	2,800	-	2,800	
	Preferred share HanTech Venture Capital Corporation	-	Financial assets at fair value through profit or loss - non current	25,000,000	287,500	25	287,500	
	Corporate bond Nan Shan Life Insurance Co., Ltd. 1st Perpetual Unsecured Subordinate Corporate Bond Issue in 2016	-	Financial assets at fair value through other comprehensive income - non current	1,000	1,059,712	-	1,059,712	
	Fund Yuanta Taiwan High-yield Leading Company Fund	-	Financial assets at fair value through profit or loss - current	5,000,000	39,400	-	39,400	
	Stock Powerchip Investment Holding Corporation	-	Financial assets at fair value through other comprehensive income - non current	1,016,060	23,688	-	23,688	
AMPI	Powerchip Semiconductor Manufacturing Corporation	-	Financial assets at fair value through other comprehensive income - non current	1,434,320	45,683	-	45,683	
	Stock United Microelectronics Corp.	-	Financial assets at fair value through profit or loss - current	89,659	3,649	-	3,649	
A.S.E. Holding Limited	Winbond Electronics Corporation	-	Financial assets at fair value through profit or loss - current	5,893	116	-	116	
	Stock SiPhoton, Inc.	-	Financial assets at fair value through other comprehensive income - non current	544,800	-	4	-	
	Amphastar Pharmaceuticals, Inc.	-	Financial assets at fair value through profit or loss - current	37,766	US\$ 1,058 thousand	-	US\$ 1,058 thousand	
J & R Holding Limited	Limited Liability Partnership Crimson Velocity Fund, L.P.	-	Financial assets at fair value through other comprehensive income - non current	-	US\$ 114 thousand	-	US\$ 114 thousand	
	Beneficiary Certificate SMART Growth Fund, L.P	-	Financial assets at fair value through profit or loss - non current	-	US\$ 25,739 thousand	6	US\$ 25,739 thousand	
Advanced Semiconductor Engineering (China) Ltd.	Beneficiary Certificate Taiwan Business Cross-Straits Industry Investment Fund	-	Financial assets at fair value through profit or loss - non current	-	RMB 9,000 thousand	8	RMB 9,000 thousand	

(Continued)

Held Company Name	Marketable Securities Type and Name	Relationship with the Company	Financial Statement Account	December 31, 2022				Note
				Shares/ Units	Carrying Value	Percentage of Ownership (%)	Fair Value	
USIINC	Stock							
	Universal Venture Capital Investment Corporation	-	Financial assets at fair value through other comprehensive income - non current	6,200,000	\$ 36,215	5	\$ 36,215	
	Gapertise Inc.	-	Financial assets at fair value through other comprehensive income - non current	275,000	210	4	210	
	WellySun Inc.	-	Financial assets at fair value through other comprehensive income - non current	500,744	8,060	1	8,060	
	Plasmag Technology Inc.	-	Financial assets at fair value through other comprehensive income - non current	733,000	-	2	-	
	ZEPT Inc.	-	Financial assets at fair value through other comprehensive income - non current	1,333,333	1,763	4	1,763	
	Preferred Stock iWEECARE Co., Ltd.	-	Financial assets at fair value through other comprehensive income - non current	180,000	-	1	-	
Huntington Holdings International Co. Ltd.	Stock							
	Superactive Group Company Limited	-	Financial assets at fair value through profit or loss - current	5,140,800	US\$ 22 thousand	-	US\$ 22 thousand	
	Cadence Design SYS Inc.	-	Financial assets at fair value through profit or loss - current	4,633	US\$ 744 thousand	-	US\$ 744 thousand	
	Solid Gain Investments Ltd.	-	Financial assets at fair value through other comprehensive income - non current	1,291,400	US\$ 422 thousand	20	US\$ 422 thousand	
	Preferred Stock							
	Techgains I Corporation	-	Financial assets at fair value through other comprehensive income - non current	518,316	US\$ 169 thousand	10	US\$ 169 thousand	
	Techgains II Corporation	-	Financial assets at fair value through other comprehensive income - non current	653,998	US\$ 115 thousand	4	US\$ 115 thousand	
Unitech Holdings International Co., Ltd.	Famous City ventures Limited	-	Financial assets at fair value through profit or loss - non-current	14,725	US\$ 2,797 thousand	29	US\$ 2,797 thousand	
	Stock							
	Superactive Group Company Limited	-	Financial assets at fair value through profit or loss - current	5,213,600	US\$ 23 thousand	-	US\$ 23 thousand	
	WacomCo., Ltd.	-	Financial assets at fair value through profit or loss - non-current	1,200,000	US\$ 5,303 thousand	1	US\$ 5,303 thousand	
	Sequans Communications SA	-	Financial assets at fair value through profit or loss - non-current	54,333	US\$ 180 thousand	-	US\$ 180 thousand	
	Asia Global Venture Co., Ltd.	-	Financial assets at fair value through other comprehensive income - non current	445,740	US\$ 415 thousand	10	US\$ 415 thousand	
	Preferred Stock MoBagel, Inc.	-	Financial assets at fair value through other comprehensive income - non current	391,318	US\$ 168 thousand	2	US\$ 168 thousand	
USI Enterprise Limited	Beneficiary Certificate							
	All-Stars Investment Private Partners Fund L.P.	-	Financial assets at fair value through profit or loss - non-current	-	US\$ 8,935 thousand	2	US\$ 8,935 thousand	
	Fund							
	JPMorgan Funds-Income Fund	-	Financial assets at fair value through profit or loss - current	1,048,218	US\$ 8,270 thousand	-	US\$ 8,270 thousand	
	Bond							
	Unsecured convertible corporate bonds of Universal Scientific Industrial (Shanghai) Co., Ltd.	Subsidiary	Financial assets at fair value through profit or loss - current	14,446,080	US\$ 236,772 thousand	42	US\$ 236,772 thousand	

(Continued)

Held Company Name	Marketable Securities Type and Name	Relationship with the Company	Financial Statement Account	December 31, 2022				Note
				Shares/ Units	Carrying Value	Percentage of Ownership (%)	Fair Value	
Universal Scientific Industrial (Shanghai) Co., Ltd.	Beneficiary Certificate Suzhou Yaotu Equity Investment Partnership	-	Financial assets at fair value through profit or loss - non current	-	RMB 11,841 thousand	3	RMB 11,841 thousand	
	Stock Senscomm Semiconductor Co., Ltd.	-	Financial assets at fair value through profit or loss - non current	257,937	RMB 24,753 thousand	1	RMB 24,753 thousand	
Universal Global Electronics Co., Ltd.	Beneficiary Certificate PHI FUND, L.P.	-	Financial assets at fair value through profit or loss - non current	-	US\$ 14,432 thousand	29	US\$ 14,432 thousand	
Universal Global Scientific Industrial Co., Ltd.	Stock TriKnight Capital Corporation	-	Financial assets at fair value through other comprehensive income - non current	40,841,800	\$ 169,414	5	\$ 169,414	
Universal Global Technology Co., Limited	Preferred Stock GaN System Inc. Series	-	Financial assets at fair value through profit or loss - non current	589,622	US\$ 4,741 thousand	1	US\$ 4,741 thousand	

(Concluded)

ASE TECHNOLOGY HOLDING CO., LTD. AND SUBSIDIARIES

TABLE 4

MARKETABLE SECURITIES ACQUIRED AND DISPOSED OF AT COSTS OR PRICES OF AT LEAST NTS300 MILLION OR 20% OF THE PAID-IN CAPITAL
FOR THE YEAR ENDED DECEMBER 31, 2022
(Amounts In Thousands of New Taiwan Dollars)

Company Name	Marketable Securities Type and Name	Financial Statement Account	Counter-party	Nature of Relationship	Beginning Balance		Acquisition		Disposal				Ending Balance	
					Shares/Units	Amount (Note 1)	Shares/Units	Amount	Shares/Units	Amount	Carrying Value	Gain/Loss on Disposal	Shares/Units	Amount (Note 1)
ASE	Stock The Company	Financial assets at fair value through other comprehensive income - noncurrent	(Note 4)	-	-	\$ -	67,452,117	\$ 5,508,313	-	\$ -	\$ -	\$ -	67,452,117	\$ 6,333,754
	ASE Singapore Pte. Ltd.	Investments accounted for using the equity method	-	-	-	-	30,100,000	6,227,554	-	-	-	-	30,100,000	6,200,044
	ASE Electronics (M) Sdn. Bhd.	Investments accounted for using the equity method	-	-	-	-	159,715,000	5,996,420	-	-	-	-	159,715,000	6,297,312
J & R Holding Limited	Stock The Company	Financial assets at fair value through other comprehensive income - noncurrent	(Note 4)	-	23,351,881	US\$ 89,847 thousand	39,606,442	US\$ 103,695 thousand	62,958,323	US\$ 200,000 thousand	US\$ 119,970 thousand	(Note 5)	-	US\$ -
ASE Test Limited	Stock The Company	Financial assets at fair value through other comprehensive income - noncurrent	(Note 4)	-	44,100,236	US\$ 169,678 thousand	-	US\$ -	44,100,236	US\$ 117,991 thousand	US\$ 169,678 thousand	(Note 4)	-	US\$ -
	ASE Singapore Pte. Ltd.	Investments accounted for using the equity method	-	-	30,100,000	US\$ 226,325 thousand	-	US\$ -	30,100,000	US\$ 195,137 thousand	US\$ 200,181 thousand	(Note 5)	-	US\$ -
ASE Holding Limited	Stock The Company	Financial assets at fair value through other comprehensive income - noncurrent	(Note 4)	-	-	US\$ -	4,493,814	US\$ 11,765 thousand	4,493,814	US\$ 15,000 thousand	US\$ 11,828 thousand	(Note 5)	-	US\$ -
	ASE Holdings (Singapore) Pte. Ltd.	ASE Electronics (M) Sdn. Bhd.	-	-	159,715,000	US\$ 180,949 thousand	-	US\$ -	159,715,000	US\$ 187,894 thousand	US\$ 200,544 thousand	(Note 5)	-	US\$ -
Universal Scientific Industrial (Shanghai) Co., Ltd.	Stock Universal Global Technology Co., LIMITED	Investments accounted for using the equity method	(Note 2, 3)	-	2,549,748,125	RMB 5,116,197 thousand	1,194,862,860	RMB 1,057,858 thousand	556,950,000	RMB -	RMB 451,172 thousand	RMB -	3,187,660,985	RMB 6,943,204 thousand
	Universal Global Technology (Haizhou) Co., Ltd	Investments accounted for using the equity method	(Note 2)	-	460,000,000	RMB 446,215 thousand	340,000,000	RMB 340,000 thousand	-	RMB -	RMB -	RMB -	800,000,000	RMB 787,669 thousand
	USI Enterprise Limited	Unsecured convertible corporate bonds	-	-	26,418,020	US\$ 503,524 thousand	-	US\$ -	11,971,940	US\$ 201,688 thousand	US\$ 185,002 thousand	US\$ 16,686 thousand	14,446,080	US\$ 236,772 thousand
Universal Global Technology Co., Ltd.	Stock Universal Scientific Industrial Vietnam Company Limited	Investments accounted for using the equity method	(Note 2)	-	80,000,000	US\$ 72,748 thousand	20,000,000	US\$ 20,000 thousand	-	US\$ -	US\$ -	US\$ -	100,000,000	US\$ 99,414 thousand

Note 1: The balance of investment accounted for using the equity method includes share of profits/losses of investees and other adjustment related to equity. The balance of financial assets at fair value through profit or loss – non current includes valuation adjustment based on fair value measurement.

Note 2: Capital increase by cash.

Note 3: Capital decrease by cash.

Note 4: Capital decrease by physical capital.

Note 5: Organization structure adjusted.

ASE TECHNOLOGY HOLDING CO., LTD. AND SUBSIDIARIES

TABLE 5

ACQUISITION OF INDIVIDUAL REAL ESTATE PROPERTIES AT COSTS OF AT LEAST NT\$300 MILLION OR 20% OF THE PAID-IN CAPITAL
FOR THE YEAR ENDED DECEMBER 31, 2022
(Amounts In Thousands of New Taiwan Dollars)

Company Name	Types of Property	Transaction Date	Transaction Amount (Tax excluded)	Payment Term	Counter-party	Nature of Relationships	Prior Transaction of Related Counter-party				Price Reference	Purpose of Acquisition	Other Terms
							Owner	Relationships	Transfer Date	Amount			
ASE	The lands located at Neili land serial No. 3736, 3737, 3745-1 and 3736-1 for Chungli plant	February 9, 2022	\$ 1,257,203	Has been paid fully	Hsia Fah Industrial Co., Ltd.	None	-	-	-	\$ -	Request for quotation, price comparison and price negotiation	Facilities and equipment expansion	None
	Facilities and equipment engineering of ASE Kaohsiung plant and Chungli plant	January 1, 2022 - December 31, 2022	322,305	\$17,951 thousand will be paid after acceptance check	Hantech Engineering Co.,Ltd	None	-	-	-	-	Request for quotation, price comparison and price negotiation	Facilities and equipment expansion	None
	Facilities and equipment engineering of ASE Kaohsiung plant and Chungli plant	January 1, 2022 - December 31, 2022	436,919	\$510 thousand will be paid after acceptance check	Marketch International Corp.	None	-	-	-	-	Request for quotation, price comparison and price negotiation	Facilities and equipment expansion	None
	Facilities and equipment engineering of ASE Kaohsiung plant	January 1, 2022 - December 31, 2022	332,320	Has been paid fully	MTS Reliability Technology Co., Ltd.	None	-	-	-	-	Request for quotation, price comparison and price negotiation	Facilities and equipment expansion	None
	Facilities and equipment engineering of ASE Kaohsiung plant	January 1, 2022 - December 31, 2022	330,815	\$12,881 thousand will be paid after acceptance check	Kun Lin Engineering Co., Ltd.	None	-	-	-	-	Request for quotation, price comparison and price negotiation	Facilities and equipment expansion	None
Universal Global Technology (Huizhou) Co., Ltd	Facility engineering	January 1, 2022 - December 31, 2022	515,455	Based on the terms agreed upon by both parties	Longhai Engineering Group Corp. Ltd.	None	-	-	-	-	Bidding	For operating purpose	None
SPIL	Facility engineering	January 1, 2022 - December 31, 2022	4,606,546	Based on the terms agreed upon by both parties	Chung Yuang Electrical Consulting Co., Ltd.	None	-	-	-	-	Request for quotation, price comparison and price negotiation	For operating purpose	None
	Facility engineering	January 1, 2022 - December 31, 2022	4,294,093	Based on the terms agreed upon by both parties	Acter Group Corporation Limited	None	-	-	-	-	Request for quotation, price comparison and price negotiation	For operating purpose	None
	Facility engineering	January 1, 2022 - December 31, 2022	3,063,844	Based on the terms agreed upon by both parties	Sheng Yi Fa Construction Co., Ltd.	None	-	-	-	-	Request for quotation, price comparison and price negotiation	For operating purpose	None
	Facility engineering	January 1, 2022 - December 31, 2022	5,944,159	Based on the terms agreed upon by both parties	LeeMing Construction Co., Ltd.	None	-	-	-	-	Request for quotation, price comparison and price negotiation	For operating purpose	None
	Facility engineering	January 1, 2022 - December 31, 2022	390,732	Based on the terms agreed upon by both parties	Tai-Jin Engineering Technology Co., Ltd.	None	-	-	-	-	Request for quotation, price comparison and price negotiation	For operating purpose	None
	Facility engineering	January 1, 2022 - December 31, 2022	452,245	Based on the terms agreed upon by both parties	United Purification Technology Co., Ltd.	None	-	-	-	-	Request for quotation, price comparison and price negotiation	For operating purpose	None
	Facility engineering	January 1, 2022 - December 31, 2022	548,959	Based on the terms agreed upon by both parties	Kang Cheng Technology Engineering Co., Ltd.	None	-	-	-	-	Request for quotation, price comparison and price negotiation	For operating purpose	None

(Continued)

Company Name	Types of Property	Transaction Date	Transaction Amount (Tax excluded)	Payment Term	Counter-party	Nature of Relationships	Prior Transaction of Related Counter-party				Price Reference	Purpose of Acquisition	Other Terms
							Owner	Relationships	Transfer Date	Amount			
Siliconware Technology (Suzhou) Limited	Facilities and equipment engineering	September 15, 2022	\$ 641,513	Has been paid fully	BenQ Materials Corp.	None	-	-	-	\$ -	Based on professional appraisal report and the market data	For operating purpose and sublease for a portion	None
	Facility engineering	January 1, 2022 - December 31, 2022	340,639	Based on the terms agreed upon by both parties	Sheng Huci (Suzhou) Engineering Co., Ltd.	None	-	-	-	-	Request for quotation, price comparison and price negotiation	For operating purpose	None
	Facility engineering	January 1, 2022 - December 31, 2022	419,488	Based on the terms agreed upon by both parties	Jiangsu New Power Technology Co., Ltd.	None	-	-	-	-	Request for quotation, price comparison and price negotiation	For operating purpose	None

ASE TECHNOLOGY HOLDING CO., LTD. AND SUBSIDIARIES

TABLE 6

TOTAL PURCHASES FROM OR SALES TO RELATED PARTIES OF AT LEAST NTS100 MILLION OR 20% OF THE PAID-IN CAPITAL
FOR THE YEAR ENDED DECEMBER 31, 2022
(Amounts In Thousands of New Taiwan Dollars)

Buyer	Related Party	Relationships	Transaction Details				Abnormal Transaction		Notes/Accounts Payable or Receivable		Note
			Purchases/ Sales	Amount	% to Total	Payment Terms	Unit Price	Payment Terms	Ending Balance	% to Total	
ASE	ASE (Shanghai) Inc.	Subsidiary	Purchases	\$ 2,012,184	3	Net 60 days from the end of the month when invoice is issued	\$ -	-	\$ (651,361)	(4)	Note
	ASE Electronics Inc.	Subsidiary	Purchases	2,605,510	3	Net 60 days from the end of the month when invoice is issued	-	-	(589,605)	(4)	Note
	ASE Test Inc.	Subsidiary	Purchases	143,572	-	Net 60 days from the end of the month when invoice is issued	-	-	(5)	-	Note
	Universal Scientific Industrial Co., Ltd.	Consolidated subsidiary	Sales	(4,141,833)	(2)	Net 60 days from the end of the month when invoice is issued	-	-	1,186,213	4	Note
	Universal Global Scientific Industrial Co., Ltd.	Consolidated subsidiary	Sales	(2,024,856)	(1)	Net 60 days from the end of the month when invoice is issued	-	-	485,369	2	Note
	Integrated Solutions Enterprise Europe	Subsidiary	Sales	(325,095)	-	Net 60 days from the end of the month when invoice is issued	-	-	34,442	-	Note
	ISE Labs, Inc.	Subsidiary	Sales	(265,913)	-	Net 45 days from invoice date	-	-	5,795	-	Note
	ASE Electronics (M) Sdn. Bhd.	Subsidiary	Sales	(286,039)	-	Net 60 days from invoice date	-	-	82,876	-	Note
ASE Electronics (M) Sdn. Bhd.	ASE Electronics Inc.	Consolidated subsidiary	Purchases	582,984	19	Net 60 days from invoice date	-	-	(132,018)	(27)	Note
	ASE	Parent company	Purchases	286,039	9	Net 60 days from invoice date	-	-	(82,876)	(17)	Note
Advanced Semiconductor Engineering (HK) Limited	ASE (Shanghai) Inc.	Parent company	Purchases	311,384	100	Net 90 days from the end of the month when invoice is issued	-	-	(126,232)	(100)	Note
Integrated Solutions Enterprise Europe	ASE	Parent company	Purchases	325,095	69	Net 60 days from the end of the month when invoice is issued	-	-	(34,750)	(79)	Note
ISE Labs, Inc.	ASE	Parent company	Purchases	265,913	42	Net 45 days from invoice date	-	-	(5,795)	(4)	Note
ASE (Shanghai) Inc.	ASE	Parent company	Sales	(2,012,184)	(33)	Net 60 days from the end of the month when invoice is issued	-	-	652,954	41	Note
	Advanced Semiconductor Engineering (HK) Limited	Subsidiary	Sales	(311,384)	(5)	Net 90 days from the end of the month when invoice is issued	-	-	126,293	8	Note

(Continued)

Buyer	Related Party	Relationships	Transaction Details				Abnormal Transaction		Notes/Accounts Payable or Receivable		Note
			Purchases/ Sales	Amount	% to Total	Payment Terms	Unit Price	Payment Terms	Ending Balance	% to Total	
ASE Electronics Inc.	ASE	Parent company	Sales	\$ (2,605,510)	(46)	Net 60 days from the end of the month when invoice is issued	-	-	\$ 621,245	53	Note
	ASE Electronics (M) Sdn. Bhd.	Consolidated subsidiary	Sales	(582,984)	(10)	Net 60 days from invoice date	-	-	132,432	11	Note
	SPIL	Consolidated subsidiary	Sales	(438,264)	(8)	Net 60 days from the end of the month when invoice is issued	-	-	34,038	3	Note
	Universal Global Scientific Industrial Co., Ltd.	Consolidated subsidiary	Sales	(264,948)	(5)	Net 60 days from the end of the month when invoice is issued	-	-	36,978	3	Note
ASE Test Inc.	ASE	Parent company	Sales	(143,572)	(1)	Net 60 days from the end of the month when invoice is issued	-	-	3,089,638	69	Note
Universal Scientific Industrial Co., Ltd.	ASE	Consolidated subsidiary	Purchases	4,141,833	25	Net 60 days from the end of the month when invoice is issued	-	-	(1,186,151)	(42)	Note
Universal Scientific Industrial (Shanghai) Co., Ltd.	Universal Global Scientific Industrial Co., Ltd.	Subsidiary	Sales	(2,880,744)	(3)	T/T 75 days	-	-	247,602	2	Note
	Universal Global Technology (Shanghai) Co., Limited	Subsidiary	Sales	(523,497)	(1)	T/T 75 days	-	-	175,380	1	Note
Universal Global Technology (Kunshan) Co., Ltd.	Universal Global Scientific Industrial Co., Ltd.	Consolidated subsidiary	Sales	(18,402,448)	(63)	T/T 75 days	-	-	-	-	Note
			Purchases	186,578	1	T/T 75 days	-	-	-	-	Note
	Taitech Precision Electronic (Kunshan) Co., Ltd.	Investments in joint ventures accounted for using the equity method	Purchases	171,489	1	Net 120 days from the end of the month when invoice is issued	-	-	(87,850)	(2)	Note
Universal Global Technology (Shanghai) Co., Limited	Universal Scientific Industrial (Shanghai) Co., Ltd.	Parent company	Purchases	523,497	1	T/T 75 days	-	-	(175,355)	(3)	Note
USI Electronics (Shenzhen) Co., Ltd.	Universal Global Scientific Industrial Co., Ltd.	Consolidated subsidiary	Sales	(7,352,100)	(41)	T/T 75 days	-	-	-	-	Note
			Purchases	124,536	2	T/T 75 days	-	-	-	-	Note
	Universal Global Technology (Huizhou) Co., Ltd	Consolidated subsidiary	Sales	(3,324,515)	(19)	T/T 75 days	-	-	688,466	33	Note
			Purchases	348,965	3	T/T 75 days	-	-	(22,985)	(3)	Note
	Universal Scientific Industrial De Mexico S.A. De C.V.	Consolidated subsidiary	Sales	(610,970)	(3)	T/T 75 days	-	-	65,002	3	Note
Universal Global Technology (Huizhou) Co., Ltd	USI Electronics (Shenzhen) Co., Ltd.	Consolidated subsidiary	Sales	(348,965)	(5)	T/T 75 days	-	-	27,171	1	Note
			Purchases	3,324,515	42	T/T 75 days	-	-	(688,466)	(18)	Note
	Universal Global Scientific Industrial Co., Ltd.	Consolidated subsidiary	Sales	(3,742,148)	(52)	T/T 75 days	-	-	-	-	Note
Universal Global Scientific Industrial Co., Ltd.	Universal Global Technology (Kunshan) Co., Ltd.	Consolidated subsidiary	Sales	(186,578)	-	T/T 75 days	-	-	-	-	Note
			Purchases	18,402,448	27	T/T 75 days	-	-	-	-	Note
	USI Electronics (Shenzhen) Co., Ltd.	Consolidated subsidiary	Sales	(124,536)	-	T/T 75 days	-	-	-	-	Note
			Purchases	7,352,100	11	T/T 75 days	-	-	-	-	Note

(Continued)

Buyer	Related Party	Relationships	Transaction Details				Abnormal Transaction		Notes/Accounts Payable or Receivable		Note
			Purchases/ Sales	Amount	% to Total	Payment Terms	Unit Price	Payment Terms	Ending Balance	% to Total	
	Universal Global Technology (Huizhou) Co., Ltd	Consolidated subsidiary	Purchases	\$ 3,742,148	6	T/T 75 days	\$ -	-	\$ -	-	Note
	Universal Scientific Industrial (Shanghai) Co., Ltd.	Parent company	Purchases	2,880,744	4	T/T 75 days	-	-	-	-	Note
	Mentech Development (H.K.) Co., Limited	Investments in joint ventures accounted for using the equity method	Purchases	199,450	-	Net 120 days from the end of the month when invoice is issued	-	-	(73,918)	(1)	Note
	ASE	Consolidated subsidiary	Purchases	2,024,856	3	Net 60 days from the end of the month when invoice is issued	-	-	(485,369)	(5)	Note
	ASE Electronics Inc.	Consolidated subsidiary	Purchases	264,948	-	Net 60 days from the end of the month when invoice is issued	-	-	(36,978)	-	Note
Universal Scientific Industrial De Mexico S.A. De C.V.	USI Electronics (Shenzhen) Co., Ltd.	Consolidated subsidiary	Purchases	610,970	5	T/T 75 days	-	-	(65,002)	(4)	Note
ASTEELFLASH TUNISIE S.A.	ASTEELFLASH FRANCE	Consolidated subsidiary	Sales	(596,855)	(14)	Net 30 days from the end of the month when invoice is issued	-	-	148,270	15	Note
ASTEELFLASH FRANCE	ASTEELFLASH TUNISIE S.A.	Consolidated subsidiary	Purchases	596,855	14	Net 30 days from the end of the month when invoice is issued	-	-	(148,270)	(12)	Note
ASTEELFLASH PLZEN S.R.O.	ASTEELFLASH BONN GmbH	Consolidated subsidiary	Sales	(229,115)	(26)	Net 30 days from the end of the month when invoice is issued	-	-	25,923	16	Note
	ASTEELFLASH HERSFELD GmbH	Consolidated subsidiary	Sales	(181,062)	(21)	Net 30 days from the end of the month when invoice is issued	-	-	33,606	21	Note
	ASTEELFLASH EBERBACH GmbH	Consolidated subsidiary	Sales	(102,530)	(12)	Net 30 days from the end of the month when invoice is issued	-	-	23,568	15	Note
ASTEELFLASH BONN GmbH	ASTEELFLASH PLZEN S.R.O.	Consolidated subsidiary	Purchases	229,115	68	Net 30 days from the end of the month when invoice is issued	-	-	(25,923)	(34)	Note
ASTEELFLASH HERSFELD GmbH	ASTEELFLASH PLZEN S.R.O.	Consolidated subsidiary	Purchases	181,062	12	Net 30 days from the end of the month when invoice is issued	-	-	(33,606)	(9)	Note
ASTEELFLASH EBERBACH GmbH	ASTEELFLASH PLZEN S.R.O.	Consolidated subsidiary	Purchases	102,530	16	Net 30 days from the end of the month when invoice is issued	-	-	(23,568)	(20)	Note
ASTEELFLASH MEXICO S.A. de C.V.	ASTEELFLASH USA CORP.	Consolidated subsidiary	Sales	(241,669)	(100)	Net 30 days from the end of the month when invoice is issued	-	-	12,103	100	Note
ASTEELFLASH USA CORP.	ASTEELFLASH MEXICO S.A. de C.V.	Consolidated subsidiary	Purchases	241,669	14	Net 30 days from the end of the month when invoice is issued	-	-	(12,103)	(2)	Note
SPIIL	ASE Electronics Inc.	Consolidated subsidiary	Purchases	438,264	1	Net 60 days from the end of the month when invoice is issued	-	-	(32,181)	-	Note

Note : All the transactions had been eliminated when preparing consolidated financial statements.

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ASE TECHNOLOGY HOLDING CO., LTD. AND SUBSIDIARIES

TABLE 7

RECEIVABLES FROM RELATED PARTIES AMOUNTING TO AT LEAST NTS100 MILLION OR 20% OF THE PAID-IN CAPITAL
DECEMBER 31, 2022
(Amounts In Thousands of New Taiwan Dollars, Unless Specified Otherwise)

Company Name	Related Party	Relationships	Ending Balance (Note 1)	Turnover Rate (Note 2)	Overdue (Note 1)		Amounts Received in Subsequent Period	Allowance for Bad Debts
					Amount	Actions Taken		
The Company	ASE	Subsidiary	\$ 297,326 (Notes 5)	-	\$ -	-	\$ -	\$ -
ASE	Universal Scientific Industrial Co., Ltd.	Consolidated subsidiary	1,186,213 (Note 5)	4	107,889	Continued collection	415,941	-
	Universal Global Scientific Industrial Co., Ltd.	Consolidated subsidiary	485,369 (Note 5)	4	65,274	Continued collection	258,278	-
ASE Electronics Inc.	ASE	Parent company	621,792 (Note 5)	4	-	-	232,267	-
	ASE Electronics (M) Sdn. Bhd.	Consolidated subsidiary	132,432 (Note 5)	5	8,913	Continued collection	61,564	-
	The Company	Ultimate parent company	1,530,000 (Notes 3,5)	-	-	-	220,000	-
ASE Holdings (Singapore) PTE Ltd.	ASE	Parent company	5,681,350 (Notes 3,5)	-	-	-	-	-
ISE Labs, Inc.	ASE	Parent company	929,734 (Note 3,5)	4	-	-	-	-
	J&R Holding Limited	Parent company	368,520 (Note 3,5)	-	-	-	-	-
A.S.E. Holding Limited	J&R Holding Limited	Consolidated subsidiary	1,566,210 (Note 3,5)	-	-	-	153,550	-
ASE Test, Inc.	ASE	Parent company	3,180,231 (Note 4,5)	-	-	-	1,197,604	-
	The Company	Ultimate parent company	1,550,000 (Notes 3,5)	-	-	-	-	-
ASE Test Limited	USI Enterprise Limited	Consolidated subsidiary	4,176,560 (Note 3,5)	-	-	-	-	-
	J&R Holding Limited	Parent company	4,818,399 (Note 3,5)	-	-	-	-	-
	ASE	Parent company	4,821,470 (Note 3,5)	-	-	-	-	-
	ASE Japan Co., Ltd.	Consolidated subsidiary	122,840 (Note 3,5)	-	-	-	-	-
ASE (U.S.) Inc.	ASE	Parent company	332,728 (Note 3,5)	11	-	-	82,562	-
ASE (Korea) Inc.	ASE	Parent company	9,213,000 (Note 3,5)	-	-	-	1,228,400	-
Global Advanced Packaging Technology Ltd.	ASE	Parent company	26,932,670 (Note 3,5)	-	-	-	-	-
	USI Enterprise Limited	Consolidated subsidiary	829,170 (Note 3,5)	-	-	-	-	-
ASE Mauritius Inc.	ASE	Parent company	1,381,950 (Note 3,5)	-	-	-	-	-
ASE Investment (KunShan) Limited	ASE Assembly & Test (Shanghai) Limited	Consolidated subsidiary	132,804 (Note 3,5)	-	-	-	-	-
	ASE (Shanghai) Inc.	Consolidated subsidiary	222,569 (Note 3,5)	-	-	-	44,744	-
	Siliconware Technology (Suzhou) Limited	Consolidated subsidiary	1,553,008 (Note 3,5)	-	-	-	532,908	-
Alto Enterprises Limited	ASE	Parent company	1,136,270 (Note 3,5)	-	-	-	-	-
ASE (Shanghai) Inc.	ASE	Parent company	652,954 (Note 5)	4	-	-	26,789	-
	Advanced Semiconductor Engineering (HK) Limited	Subsidiary	126,293 (Note 5)	3	-	-	-	-
Advanced Semiconductor Engineering (China) Ltd.	Siliconware Technology (Suzhou) Limited	Consolidated subsidiary	1,024,843 (Note 3,5)	-	-	-	-	-
	ASE Assembly & Test (Shanghai) Limited	Consolidated subsidiary	1,269,882 (Note 3,5)	-	-	-	-	-

(Continued)

Company Name	Related Party	Relationships	Ending Balance (Note 1)	Turnover Rate (Note 2)	Overdue (Note 1)		Amounts Received in Subsequent Period	Allowance for Bad Debts
					Amount	Actions Taken		
Shanghai Ding Hui Real Estate Development Co., Ltd.	Shanghai Ding Wei Real Estate Development Co., Ltd.	Subsidiary	\$ 1,995,698 (Note 3.5)	-	\$ -	-	-	\$ -
	KunShan Ding Hong Real Estate Development Co., Ltd.	Subsidiary	359,983 (Note 3.5)	-	-	-	138,488	-
	Shanghai Ding Yu Real Estate Development Co., Ltd.	Subsidiary	447,649 (Note 3.5)	-	-	-	-	-
	Shanghai Dingyao Estate Development Co.,Ltd.	Subsidiary	456,365 (Note 3.5)	-	-	-	142,624	-
	ISE labs, China, Ltd.	Consolidated subsidiary	486,235 (Note 3.5)	-	-	-	486,235	-
Shanghai Ding Yu Real Estate Development Co., Ltd.	Shanghai Dingyao Estate Development Co.,Ltd.	Consolidated subsidiary	178,831 (Note 5)	-	-	-	36,777	-
Real Tech Holdings Limited	USI Enterprise Limited	Subsidiary	1,197,690 (Note 3.5)	-	-	-	-	-
USI Enterprise Limited	USI Inc.	Parent company	1,855,352 (Note 3.5)	-	-	-	-	-
Universal Scientific Industrial Co., Ltd	Universal Global Scientific Industrial Co., Ltd.	Parent company	1,315,840 (Note 3.5)	-	-	-	-	-
USI Electronics (Shenzhen) Co., Ltd.	Universal Global Technology (Huizhou) Co., Ltd	Consolidated subsidiary	1,240,056 (Note 3.5)	5	-	-	-	-
		Consolidated subsidiary	550,284 (Note 5)	-	-	-	100	-
Universal Global Technology (Huizhou) Co., Ltd	Universal Global Industrial Co., Limited	Consolidated subsidiary	1,523,460 (Note 5)	-	-	-	620,146	-
Universal Global Scientific Industrial Co., Ltd.	Universal Scientific Industrial Co., Ltd	Subsidiary	153,057 (Note 5)	6	-	-	-	-
Universal Global Technology Co., Limited	Universal Scientific Industrial De Mexico S.A. De C.V.	Subsidiary	1,842,600 (Note 3.5)	-	-	-	-	-
	Universal Global Technology (Kunshan) Co., Ltd.	Consolidated subsidiary	537,056 (Note 5)	-	-	-	84,320	-
	Universal Scientific Industrial (Shanghai) Co., Ltd.	Parent company	704,009 (Note 5)	-	-	-	202,142	-
	Universal Scientific Industrial (France)	Subsidiary	973,153 (Note 3.5)	-	-	-	-	-
	ASTEELFLASH USA CORP.	Subsidiary	217,220 (Note 3.5)	-	-	-	-	-
	FINANCIERE AFG	Subsidiary	1,578,490 (Note 3.5)	-	-	-	-	-
	ASTEELFLASH FRANCE	Subsidiary	771,294 (Note 3.5)	-	-	-	-	-
Universal Global Technology (Kunshan) Co., Ltd.	Universal Global Industrial Co., Limited	Consolidated subsidiary	3,857,368 (Note 5)	-	-	-	1,569,151	-
		Investments in joint ventures accounted for using the equity method	120,191 (Note 5)	-	-	-	-	-
Universal Scientific Industrial (Shanghai) Co., Ltd.	UNIVERSAL SCIENTIFIC INDUSTRIAL VIETNAM COMPANY LIMITED	Subsidiary	1,381,950 (Note 3.5)	-	-	-	307,100	-
	Universal Global Technology (Shanghai) Co., Ltd	Subsidiary	187,506 (Note 5)	3	-	-	39,369	-
	Universal Global Technology (Huizhou) Co., Ltd	Subsidiary	2,214,614 (Note 3.5)	-	-	-	-	-
	Universal Global Industrial Co., Limited	Subsidiary	1,044,677 (Note 5)	-	-	-	465,288	-
	Universal Global Scientific Industrial Co., Ltd.	Subsidiary	247,602 (Note 5)	23	-	-	155,272	-
	Universal Scientific Industrial De Mexico S.A. De C.V.	Subsidiary	922,380 (Note 3.5)	-	-	-	393	-
USI Inc.	Universal Global Scientific Industrial Co., Ltd.	Subsidiary	206,129 (Note 5)	-	-	-	-	-
Universal Global Technology (Shanghai) Co., Ltd	Universal Global Technology (Kunshan) Co., Ltd.	Consolidated subsidiary	1,336,048 (Note 3.5)	-	-	-	2,734	-
Universal Global Industrial Co., Limited	Universal Global Technology (Huizhou) Co., Ltd	Consolidated subsidiary	253,314 (Note 5)	-	-	-	142,255	-
		Consolidated subsidiary	5,585,556 (Note 5)	-	-	-	2,398,383	-
USI America Inc.	ASTEELFLASH USA CORP.	Consolidated subsidiary	123,946 (Note 3.5)	-	-	-	-	-
Universal Scientific Industrial (France)	ASTEELFLASH TUNISIE S.A.	Subsidiary	416,057 (Note 3.5)	-	-	-	-	-
		Subsidiary	298,708 (Note 3.5)	-	-	-	-	-

(Continued)

Company Name	Related Party	Relationships	Ending Balance (Note 1)	Turnover Rate (Note 2)	Overdue (Note 1)		Amounts Received in Subsequent Period	Allowance for Bad Debts
					Amount	Actions Taken		
Asteelflash Suzhou Co., Ltd.	Universal Global Technology Co., Limited	Parent company	\$ 1,639,088 (Notes 3,5)	-	\$ -	-	\$ -	-
	ASTEELFLASH TUNISIE S.A.	Consolidated subsidiary	371,704 (Notes 3,5)	-	-	-	-	-
FINANCIERE AFG	ASTEELFLASH (BEDFORD) LIMITED	Subsidiary	137,445 (Note 3,5)	-	-	-	-	-
	ASTEELFLASH USA CORP	Subsidiary	120,849 (Note 3,5)	-	-	-	-	-
	ASTEELFLASH PLZEN S.R.O.	Subsidiary	139,310 (Note 3,5)	-	-	-	-	-
	ASTEELFLASH TUNISIE S.A.	Subsidiary	633,939 (Note 5)	-	-	-	-	-
ASTEELFLASH MEXICO SOCIEDAD SA de CV	ASTEELFLASH USA CORP	Consolidated subsidiary	142,972 (Note 5)	3	-	-	-	-
ASTEELFLASH USA CORP	ASTEELFLASH MEXICO SOCIEDAD SA de CV	Consolidated subsidiary	125,037 (Note 5)	-	-	-	-	-
ASTEELFLASH TUNISIE S.A.	ASTEELFLASH FRANCE	Consolidated subsidiary	148,270 (Note 5)	5	-	-	-	-
ASTEELFLASH FRANCE	FINANCIERE AFG	Parent company	106,688 (Note 5)	-	-	-	-	-
SPIL	Siliconware Technology (Suzhou) Limited The Company	Subsidiary	3,371,975 (Note 3,5)	3	5,351	Continued collection	246,205	-
		Ultimate parent company	1,000,000 (Note 3,5)	-	-	-	-	-

(Continued)

- Note 1: Include trade receivables and other receivables.
- Note 2: Exclude other receivables.
- Note 3: Intercompany loan (refer to Table 1) and receivables of selling machinery and equipment.
- Note 4: Turnkey transaction.
- Note 5: All the transactions had been eliminated when preparing consolidated financial statements.

(Concluded)

ASE TECHNOLOGY HOLDING CO., LTD. AND SUBSIDIARIES

TABLE 8

NAMES, LOCATION, AND RELATED INFORMATION OF INVESTEEES OVER WHICH THE COMPANY EXERCISES SIGNIFICANT INFLUENCE
FOR THE YEAR ENDED DECEMBER 31, 2022
(Amounts In Thousands of New Taiwan Dollars, Unless Specified Otherwise)

Investor Company	Investee Company	Location	Main Businesses and Products	Original Investment Amount		Balance as of December 31, 2022			Net Income (Losses) of the Investee	Share of Profits/Losses of Investee (Note 1)	Note
				December 31, 2022	December 31, 2021	Shares	Percentage of Ownership	Carrying Value			
The Company	ASE	Taiwan	Engaged in the packaging and testing of semiconductors	\$ 183,660,039	\$ 183,660,039	5,994,143,764	100	\$ 142,475,904	\$ 36,960,792	\$ 36,904,160	Subsidiary
	SPL	Taiwan	Engaged in assembly, testing and turnkey services of integrated circuits	173,657,530	173,657,530	3,785,748,878	100	164,635,609	22,714,468	18,184,959	Subsidiary
	USI Inc.	Taiwan	Investment activities	33,362,556	33,362,556	2,926,735,620	100	45,114,733	8,368,562	8,294,004	Subsidiary
	ASE Social Enterprise Co., Ltd	Taiwan	Engaged in social services	50,000	-	5,000,000	100	50,103	104	104	Subsidiary
ASE	A.S.E. Holding Limited	Bermuda	Investment activities	US\$ 268,966 thousand	US\$ 283,966 thousand	228,966	100	20,287,809	1,318,034	(Note 2)	Subsidiary
	J & R Holding Limited	Bermuda	Investment activities	US\$ 279,693 thousand	US\$ 479,693 thousand	235,128	100	80,435,250	1,249,069	(Note 2)	Subsidiary
	ASE Marketing & Service Japan Co., Ltd.	Japan	Engaged in marketing and customer service of packaging and testing of semiconductors	JPY 60,000 thousand	JPY 60,000 thousand	1,200	100	40,051	3,600	(Note 2)	Subsidiary
	Omniquest Industrial Limited	British Virgin Islands	Investment activities	US\$ 254,604 thousand	US\$ 254,604 thousand	254,604,067	71	12,896,006	1,161,039	(Note 2)	Subsidiary
	Innosource Limited	British Virgin Islands	Investment activities	US\$ 86,100 thousand	US\$ 86,100 thousand	86,100,000	100	4,901,074	271,567	(Note 2)	Subsidiary
	HCK	Taiwan	Engaged in the leasing of real estate properties	\$ 390,470	\$ 390,470	35,497,273	27	244,516	(52,145)	(Note 2)	Associate
	HC	Taiwan	Engaged in the development, construction and leasing of real estate properties	2,845,913	2,845,913	68,629,782	26	1,603,973	305,126	(Note 2)	Associate
	ASE Test, Inc.	Taiwan	Engaged in the testing of semiconductors	20,698,867	20,698,867	1,131,452,502	100	30,631,529	6,203,204	(Note 2)	Subsidiary
	Lachu Development Corporation	Taiwan	Engaged in the development of real estate properties	1,366,238	1,366,238	145,178,015	67	1,421,195	3,260	(Note 2)	Subsidiary
	Deca Technologies Inc.	U.S.A	Holding company with group engaged in the development of wafer level packaging and interconnect technology	US\$ 54,402 thousand	US\$ 54,402 thousand	8,592,129	18	54,040	(21,255)	(Note 2)	Associate
	AMPI	Taiwan	Engaged in integrated circuit	\$ 178,861	\$ 178,861	8,327,113	8	81,350	244,086	(Note 2)	Subsidiary
	ASE Electronics (M) Sdn. Bhd.	Malaysia	Engaged in the packaging and testing of integrated circuits	US\$ 187,894 thousand	-	159,715,000	100	6,297,312	987,359	(Note 2)	Subsidiary
	ASE Singapore Pte. Ltd.	Singapore	Engaged in the testing of semiconductors	US\$ 195,137 thousand	-	30,100,000	100	6,200,044	750,652	(Note 2)	Subsidiary
ASE Test, Inc.	Aho Enterprises Limited	British Virgin Islands	Investment activities	US\$ 188,000 thousand	US\$ 188,000 thousand	188,000,000	100	4,813,455	499,450	(Note 2)	Subsidiary
	Super Zone Holdings Limited	Hong Kong	Investment activities	US\$ 100,000 thousand	US\$ 100,000 thousand	100,000,000	100	3,167,629	95,735	(Note 2)	Subsidiary
	Lachu Development Corporation	Taiwan	Engaged in the development of real estate properties	\$ 372,504	\$ 372,504	40,981,245	19	401,076	3,260	(Note 2)	Subsidiary
	TLJ Intertech Inc.	Taiwan	Engaged in information software services	89,998	89,998	2,119,080	60	58,343	7,276	(Note 2)	Subsidiary
	AMPI	Taiwan	Engaged in integrated circuit	475,000	475,000	47,500,000	43	359,997	244,086	(Note 2)	Subsidiary
A.S.E. Holding Limited	ASE Test Limited	Singapore	Investment activities	US\$ 72,866 thousand	US\$ 84,889 thousand	8,839,316	10	US\$ 106,956 thousand	US\$ 77,885 thousand	(Note 2)	Subsidiary
	ASE Investment (Labuan) Inc.	Malaysia	Investment activities	US\$ 169,643 thousand	US\$ 169,643 thousand	169,642,842	70	US\$ 496,659 thousand	US\$ 49,365 thousand	(Note 2)	Subsidiary
	ASE Technology Partners, Limited	British Cayman Islands	Investment activities	US\$ 430 thousand	US\$ 320 thousand	430,001	100	US\$ 376 thousand	(US\$ 22 thousand)	(Note 2)	Subsidiary
	INTEGRATED SOLUTIONS ENTERPRISE EUROPE	Belgium	Engaged in trading activity	US\$ 3,002 thousand	US\$ 3,002 thousand	186	100	US\$ 4,397 thousand	US\$ 1,798 thousand	(Note 2)	Subsidiary
ASE Technology Partners, Limited	ASE Technology Acquisition Corporation	British Cayman Islands	Investment activities	US\$ 380 thousand	US\$ 300 thousand	5,750,000	100	US\$ 356 thousand	(US\$ 12 thousand)	(Note 2)	Subsidiary
J & R Holding Limited	ASE Test Limited	Singapore	Investment activities	US\$ 858,556 thousand	US\$ 964,524 thousand	77,928,405	90	US\$ 1,058,449 thousand	US\$ 77,885 thousand	(Note 2)	Subsidiary
	Omniquest Industrial Limited	British Virgin Islands	Investment activities	US\$ 30,200 thousand	US\$ 30,200 thousand	30,200,000	8	US\$ 51,501 thousand	US\$ 38,312 thousand	(Note 2)	Subsidiary
	I&R Industrial Inc.	Taiwan	Engaged in leasing equipment	US\$ 16,886 thousand	US\$ 16,886 thousand	4,207,353	100	US\$ 1,505 thousand	US\$ 5 thousand	(Note 2)	Subsidiary
	ASE Japan Co., Ltd.	Japan	Engaged in the packaging and testing of semiconductors	US\$ 25,606 thousand	US\$ 25,606 thousand	7,200	100	US\$ 50,026 thousand	(US\$ 7,608 thousand)	(Note 2)	Subsidiary
	ASE (U.S.) Inc.	U.S.A	After-sales service and sales support	US\$ 4,600 thousand	US\$ 4,600 thousand	1,000	100	US\$ 23,863 thousand	US\$ 1,667 thousand	(Note 2)	Subsidiary
	Global Advanced Packaging Technology Limited	British Cayman Islands	Investment activities	US\$ 647,384 thousand	US\$ 647,384 thousand	376,040,939	100	US\$ 1,602,725 thousand	(US\$ 22,237 thousand)	(Note 2)	Subsidiary
ASE Investment (Labuan) Inc.	ASE (Korea) Inc.	Korea	Engaged in the manufacturing of substrates and components of telecomnn	US\$ 234,050 thousand	US\$ 234,050 thousand	20,741,363	100	US\$ 707,427 thousand	US\$ 49,126 thousand	(Note 2)	Subsidiary
ASE Test Limited	ASE Holdings (Singapore) Pte Ltd	Singapore	Investment activities	US\$ 65,520 thousand	US\$ 65,520 thousand	71,428,902	100	US\$ 188,316 thousand	US\$ 30,943 thousand	(Note 2)	Subsidiary
	ASE Test Holdings, Ltd.	British Cayman Islands	Investment activities	US\$ 222,399 thousand	US\$ 222,399 thousand	5	100	US\$ 110,038 thousand	US\$ 2,790 thousand	(Note 2)	Subsidiary
	ASE Investment (Labuan) Inc.	Malaysia	Investment activities	US\$ 72,304 thousand	US\$ 72,304 thousand	72,304,040	30	US\$ 211,640 thousand	US\$ 49,365 thousand	(Note 2)	Subsidiary
	ASE Singapore Pte. Ltd.	Singapore	Engaged in the testing of semiconductors	US\$ - thousand	US\$ 55,815 thousand	-	-	US\$ - thousand	US\$ - thousand	(Note 2)	Subsidiary

(Continued)

				Original Investment Amount		Balance as of December 31, 2022					
Investor Company	Investee Company	Location	Main Businesses and Products	December 31, 2022	December 31, 2021	Shares	Percentage of Ownership	Carrying Value	Net Income (Losses) of the Investee	Share of Profits/Losses of Investee (Note 1)	Note
ASE Test Holdings, Ltd.	ISE Labs, Inc.	U.S.A	Engaged in the testing of semiconductors	US\$ 221,145 thousand	US\$ 221,145 thousand	26,250,000	100	US\$ 110,037 thousand	US\$ 2,790 thousand	(Note 2)	Subsidiary
ISE Labs, Inc.	ISE Service, Inc.	U.S.A	Engaged in wafer procurement and customer product management services	US\$ 0.001 thousand	US\$ 0.001 thousand	1,000	100	US\$ 3,655 thousand	US\$ 3,271 thousand	(Note 2)	Subsidiary
	Chipletz, Inc.	U.S.A	Engaged in fabless substrate design	US\$ 8,000 thousand	US\$ 8,000 thousand	3,245,436	21	US\$ 4,742 thousand	(US\$ 4,218 thousand)	(Note 2)	Associate
ASE Holdings (Singapore) Pte Ltd.	ASE Electronics (M) Sdn. Bhd.	Malaysia	Engaged in the packaging and testing of integrated circuits	US\$ - thousand	US\$ 60,000 thousand	-	-	US\$ - thousand	US\$ - thousand	(Note 2)	Subsidiary
Omniquest Industrial Limited	ASE Corporation	British Cayman Islands	Investment activities	US\$ 356,284 thousand	US\$ 356,284 thousand	356,284,067	100	US\$ 611,308 thousand	US\$ 38,316 thousand	(Note 2)	Subsidiary
ASE Corporation	ASE Mauritius Inc.	Mauritius	Investment activities	US\$ 217,800 thousand	US\$ 217,800 thousand	217,800,000	100	US\$ 459,630 thousand	US\$ 16,414 thousand	(Note 2)	Subsidiary
	ASE Labuan Inc.	Malaysia	Investment activities	US\$ 126,184 thousand	US\$ 126,184 thousand	126,184,067	100	US\$ 147,699 thousand	US\$ 21,388 thousand	(Note 2)	Subsidiary
ASE Labuan Inc.	ASE Electronics Inc.	Taiwan	Engaged in the production of substrates	US\$ 125,813 thousand	US\$ 125,813 thousand	398,981,900	100	US\$ 147,163 thousand	US\$ 21,397 thousand	(Note 2)	Subsidiary
Innosource Limited	Omniquest Industrial Limited	British Virgin Islands	Investment activities	US\$ 74,000 thousand	US\$ 74,000 thousand	74,000,000	21	US\$ 126,123 thousand	US\$ 38,312 thousand	(Note 2)	Subsidiary
ASE (Shanghai) Inc.	Advanced Semiconductor Engineering (HK) Limited	Hong Kong	Engaged in the trading of substrates	US\$ 1,000 thousand	US\$ 1,000 thousand	-	100	US\$ 10,282 thousand	US\$ 3 thousand	(Note 2)	Subsidiary
USI Inc.	Huntington Holdings International Co. Ltd.	British Virgin Islands	Holding company	\$ 8,370,606	\$ 8,370,606	255,856,840	100	\$ 61,652,572	\$ 9,648,485	(Note 2)	Subsidiary
Huntington Holdings International Co., Ltd.	Unitech Holdings International Co. Ltd.	British Virgin Islands	Holding company	US\$ 3,000 thousand	US\$ 3,000 thousand	3,000,000	100	US\$ 7,896 thousand	(US\$ 4,572 thousand)	(Note 2)	Subsidiary
	Real Tech Holdings Limited	British Virgin Islands	Holding company	US\$ 149,151 thousand	US\$ 149,151 thousand	149,151,000	100	US\$ 1,996,245 thousand	US\$ 328,039 thousand	(Note 2)	Subsidiary
	Universal ABIT Holding Co., Ltd.	British Cayman Islands	Holding company	US\$ 28,125 thousand	US\$ 28,125 thousand	90,000,000	100	US\$ 13 thousand	US\$ - thousand	(Note 2)	Subsidiary
Real Tech Holdings Limited	USI Enterprise Limited	Hong Kong	Engaged in the services of investment advisory and warehousing management	US\$ 210,900 thousand	US\$ 210,900 thousand	210,900,000	100	US\$ 1,950,417 thousand	US\$ 327,952 thousand	(Note 2)	Subsidiary
Universal Scientific Industrial (Shanghai) Co., Ltd.	Universal Global Technology Co., Limited	Hong Kong	Holding company	RMB 2,796,632 thousand	RMB 2,189,946 thousand	3,187,660,985	100	RMB 6,943,204 thousand	RMB 1,038,298 thousand	(Note 2)	Subsidiary
	FINANCIERE AFG	France	Holding company	RMB 393,342 thousand	RMB 393,342 thousand	8,317,462	10	RMB 429,018 thousand	RMB 221,854 thousand	(Note 2)	Subsidiary
Universal Global Technology Co., Limited	Universal Global Industrial Co., Limited	Hong Kong	Engaged in trading and investing activity	US\$ 11,000 thousand	US\$ 11,000 thousand	85,800,000	100	US\$ 15,533 thousand	US\$ 1,261 thousand	(Note 2)	Subsidiary
	Universal Global Electronics Co., Ltd.	Hong Kong	Engaging in ordering and outsourcing, selling electronic products, and providing technical consulting services	US\$ 51,000 thousand	US\$ 51,000 thousand	51,000,000	100	US\$ 61,288 thousand	US\$ 8,368 thousand	(Note 2)	Subsidiary
	M-Universe Investments Pte. Ltd.	Singapore	Holding company	US\$ 58,688 thousand	US\$ 58,688 thousand	59,157,419	42	US\$ 68,078 thousand	US\$ 16,500 thousand	(Note 2)	Associate
	Universal Global Scientific Industrial Co., Ltd.	Taiwan	Engaged in the manufacturing of components of telecom and cars and provision of related R&D services	US\$ 62,235 thousand	US\$ 62,235 thousand	198,000,000	100	US\$ 373,720 thousand	US\$ 96,743 thousand	(Note 2)	Subsidiary
	USI Japan Co., Ltd.	Japan	Engaged in the manufacturing and sale of computer peripherals, integrated chip and other related accessories	US\$ 885 thousand	US\$ 885 thousand	6,400	100	US\$ 1,022 thousand	US\$ 34 thousand	(Note 2)	Subsidiary
	Universal Scientific Industrial De Mexico S.A. De C.V.	Mexico	Engaged in the assembling of motherboards and computer components	US\$ 63,963 thousand	US\$ 63,963 thousand	1,258,077,325	100	US\$ 75,835 thousand	US\$ 5,437 thousand	(Note 2)	Subsidiary
	USI America Inc.	U.S.A	Engaged in the manufacturing and processing of motherboards and wireless network communication and provision of related technical service	US\$ 9,500 thousand	US\$ 9,500 thousand	250,000	100	US\$ 7,375 thousand	US\$ 423 thousand	(Note 2)	Subsidiary
	Universal Scientific Industrial (France)	France	Holding company	US\$ 372,200 thousand	US\$ 372,200 thousand	321,374,822	100	US\$ 395,591 thousand	US\$ 24,545 thousand	(Note 2)	Subsidiary
	Universal Scientific Industrial Vietnam Company Limited	Vietnam	Engaged in IC assembly for wearable devices	US\$ 100,000 thousand	US\$ 80,000 thousand	100,000,000	100	US\$ 99,414 thousand	US\$ 6,666 thousand	(Note 2)	Subsidiary
	Universal Global Industrial Co., Limited	Universal Scientific Industrial De Mexico S.A. De C.V.	Mexico	Engaged in the assembling of motherboards and computer components	US\$ - thousand	US\$ - thousand	1	-	US\$ - thousand	US\$ 5,437 thousand	(Note 2)
Universal Global Scientific Industrial Co., Ltd.	Universal Scientific Industrial Co., Ltd.	Taiwan	Engaged in the manufacturing, processing and sale of computers, computer peripherals	\$ 1,791,208	\$ 1,791,208	139,972,740	100	\$ 3,917,167	\$ 309,954	(Note 2)	Subsidiary
	MUtek Electronics Co., Ltd.	Taiwan	Engaged in the manufacturing computer and peripheral equipment and electronics components	29,400	-	2,940,000	49	26,591	(5,733)	(Note 2)	Associate

(Continued)

Investor Company	Investee Company	Location	Main Businesses and Products	Original Investment Amount		Balance as of December 31, 2022			Net Income (Losses) of the investee	Share of Profits/Losses of Investee (Note 1)	Note
				December 31, 2022	December 31, 2021	Shares	Percentage of Ownership	Carrying Value			
Universal Global Electronics Co., Ltd.	Universal Scientific Industrial Poland Sp. z o.o.	Poland	Engaged in the design, manufacturing and processing of electronic products	US\$ 34,656 thousand	US\$ 34,656 thousand	1,617,046	100	US\$ 39,834 thousand	US\$ 7,323 thousand	(Note 2)	Subsidiary
Universal Scientific Industrial (France)	FINANCIERE AFG	France	Holding company	EUR 318,899 thousand	EUR 318,899 thousand	71,530,174	90	EUR 361,468 thousand	EUR 31,127 thousand	(Note 2)	Subsidiary
SPIL	SPIL (B.V.I.) Holding Limited	British Virgin Islands	Investment activities	US\$ 199,400 thousand	US\$ 199,400 thousand	199,400,000	100	\$ 19,931,969	\$ 3,302,014	(Note 2)	Subsidiary
	Siliconware Investment Co., Ltd.	Taiwan	Investment activities	\$ -	\$ 2,401,000	-	-	-	-	(Note 4)	Subsidiary
	ChipMOS Technologies Inc.	Taiwan	Engaged in the packaging and testing of semiconductors	1,309,699	1,309,699	78,910,390	11	2,754,679	(Note 3)	(Note 2)	Associate
	Vertical Circuits, Inc.	U.S.A	Engaged in the packaging of semiconductors	US\$ 5,000 thousand	US\$ 5,000 thousand	15,710,000	31	-	-	(Note 2)	Associate
	Yann Yuan Investment Co., Ltd.	Taiwan	Investment activities	\$ 2,400,000	\$ -	144,000,000	28	7,616,780	1,325,247	(Note 2)	Associate
Siliconware Investment Co., Ltd.	Yann Yuan Investment Co., Ltd.	Taiwan	Investment activities	\$ -	\$ 2,400,000	-	-	-	-	(Note 4)	Associate
SPIL (B.V.I.) Holding Limited	Siliconware USA, Inc.	U.S.A	Communications and relationship maintenance with companies headquartered in North America	US\$ 1,250 thousand	US\$ 1,250 thousand	1,250,000	100	\$ 340,208	\$ 36,731	(Note 2)	Subsidiary
	SPIL (Cayman) Holding Limited	British Cayman Islands	Investment activities	US\$ 201,200 thousand	US\$ 201,200 thousand	201,200,000	100	19,715,597	3,264,678	(Note 2)	Subsidiary

(Concluded)

Note 1: The share of profits/losses of investee includes the effect of unrealized gross profit on intercompany transaction.

Note 2: The share of profits/losses of investee company is not reflected herein as such amount is already included in the share of profits/losses of the investor company.

Note 3: Please refer to the Market Observation Post System website.

Note 4: Siliconware Investment Co., Ltd. were merged by SPIL in March, 2022,

ASE TECHNOLOGY HOLDING CO., LTD. AND SUBSIDIARIES

INFORMATION ON INVESTMENT IN MAINLAND CHINA
FOR THE YEAR ENDED DECEMBER 31, 2022
(Amounts In Thousands of New Taiwan Dollars, Unless Specified Otherwise)

Investee Company	Main Business Activities	Paid-in Capital	Investment Method	Accumulated amount of remittance from Taiwan to Mainland China as of January 1, 2022	Amount remitted from Taiwan to Mainland China/Amount remitted back to Taiwan for the year ended December 31, 2022		Accumulated amount of remittance from Taiwan to Mainland China as of December 31, 2022	Net income of investee for the year ended December 31, 2022	Ownership held by the Company (direct or indirect)	Investment income (loss) recognised by the Company for the year ended December 31, 2022	Book value of investments in Mainland China as of December 31, 2022	Accumulated amount of investment income remitted back to Taiwan as of December 31, 2022
					Remitted to Mainland China	Remitted back to Taiwan						
ASE (Shanghai) Inc.	Engaged in the production of substrates	\$ 4,349,312 (US\$ 148,496 thousand) (Note 7)	Note 1 (1)	\$ 4,782,216 (US\$ 149,800 thousand) (Note 7)	\$ -	\$ -	\$ 4,782,216 (US\$ 149,800 thousand)	\$ 381,739 (US\$ 12,399 thousand) (Note 3)	100	\$ 381,739 (US\$ 12,399 thousand) (Note 3)	\$ 13,081,986 (US\$ 425,985 thousand)	None
ASE Assembly & Test (Shanghai) Limited	Engaged in the packaging and testing of semiconductors	3,117,117 (US\$ 103,580 thousand)	Note 1 (2)	2,574,458 (US\$ 80,000 thousand)	-	-	2,574,458 (US\$ 80,000 thousand)	(78,689) (US\$ -2,752 thousand) (Note 2)	100	(78,689) (US\$ -2,752 thousand) (Note 2)	12,980,674 (US\$ 422,686 thousand)	None
Suzhou ASEN Semiconductors Co., Ltd., etc. four companies	Engaged in the packaging and testing of semiconductors	- (Note 7)	Note 1	13,574,763 (US\$ 429,600 thousand) (Note 7)	-	-	13,574,763 (US\$ 429,600 thousand)	-	-	-	-	None
Shanghai Ding Hui Real Estate Development Co., Ltd.	Engaged in the development, construction and sale of real estate properties	16,345,070 (RMB 3,600,000 thousand)	(Note 2)	- (Note 1.2)	-	-	- (Note 1.2)	(787,891) (RMB -178,834 thousand) (Note 3)	100	(792,296) (RMB -179,837 thousand) (Note 3)	19,085,419 (RMB 4,328,307 thousand)	None
Shanghai Ding Wei Real Estate Development Co., Ltd.	Engaged in the development, construction and sale of real estate properties	8,061,489 (RMB 1,798,000 thousand)	(Note 2)	- (Note 1.2)	-	-	- (Note 1.2)	(342,046) (RMB -77,568 thousand) (Note 3)	100	(342,046) (RMB -77,568 thousand) (Note 3)	5,661,568 (RMB 1,283,965 thousand)	None
Shanghai Ding Yu Real Estate Development Co., Ltd.	Engaged in the development, construction and sale of real estate properties	4,936,538 (RMB 1,100,000 thousand)	(Note 2)	- (Note 1.2)	-	-	- (Note 1.2)	(328,625) (RMB -74,512 thousand) (Note 3)	100	(328,625) (RMB -74,512 thousand) (Note 3)	4,254,845 (RMB 964,939 thousand)	None
Kun Shan Ding Hong Real Estate Development Co., Ltd.	Engaged in the development, construction and sale of real estate properties	3,139,662 (RMB 670,000 thousand)	(Note 2)	- (Note 1.2)	-	-	- (Note 1.2)	(29,858) (RMB -6,771 thousand) (Note 3)	100	(29,858) (RMB -6,771 thousand) (Note 3)	2,848,858 (RMB 646,081 thousand)	None
Advanced Semiconductor Engineering (China) Ltd.	Engage in the packaging and testing of semiconductors	3,149,000 (US\$ 100,000 thousand)	Note 1 (3)	3,149,000 (US\$ 100,000 thousand)	-	-	3,149,000 (US\$ 100,000 thousand)	95,754 (US\$ 3,225 thousand) (Note 2)	100	95,754 (US\$ 3,225 thousand) (Note 2)	3,167,531 (US\$ 103,143 thousand)	None
ASE Investment (Kun Shan) Limited	Holding company	3,705,121 (US\$ 122,000 thousand)	Note 1 (4)	3,717,318 (US\$ 122,000 thousand) (Note 8)	-	-	3,717,318 (US\$ 122,000 thousand)	430,242 (US\$ 14,156 thousand) (Note 2)	100	430,242 (US\$ 14,156 thousand) (Note 2)	3,083,294 (US\$ 100,400 thousand)	None
Wuxi Tongzhi Microelectronics Co., Ltd.	Engage in the packaging and testing of semiconductors	356,682 (RMB 73,461 thousand)	(Note 2)	- (Note 1.2)	-	-	- (Note 1.2)	58,700 (RMB 13,275 thousand) (Note 2)	100	58,700 (RMB 13,275 thousand) (Note 2)	467,550 (RMB 106,034 thousand)	None
Shanghai Ding Qi Property Management Co., Ltd.	Engaged in the management of real estate properties	5,078 (RMB 1,000 thousand)	(Note 2)	- (Note 1.2)	-	-	- (Note 1.2)	(18,732) (RMB -4,283 thousand) (Note 3)	100	(18,732) (RMB -4,283 thousand) (Note 3)	29,399 (RMB -6,667 thousand)	None
Shanghai Dingfun Business Management Co., Ltd	Commercial complex management services and department store trading	9,487 (RMB 2,000 thousand)	(Note 2)	- (Note 1.2)	-	-	- (Note 1.2)	(1,300) (RMB -295 thousand) (Note 3)	100	(1,300) (RMB -295 thousand) (Note 3)	1,642 (RMB 372 thousand)	None
Shanghai Ding Xu Property Management Co., Ltd.	Engaged in the management of real estate properties	22,860 (RMB 5,000 thousand)	(Note 2)	- (Note 1.2)	-	-	- (Note 1.2)	10,353 (RMB 2,345 thousand) (Note 3)	100	10,353 (RMB 2,345 thousand) (Note 3)	48,094 (RMB 10,907 thousand)	None

(Continued)

Investee Company	Main Business Activities	Paid-in Capital	Investment Method	Accumulated amount of remittance from Taiwan to Mainland China as of January 1, 2022	Amount remitted from Taiwan to Mainland China/Amount remitted back to Taiwan for the year ended December 31, 2022		Accumulated amount of remittance from Taiwan to Mainland China as of December 31, 2022	Net income of investee for the year ended December 31, 2022	Ownership held by the Company (direct or indirect)	Investment income (loss) recognised by the Company for the year ended December 31, 2022	Book value of investments in Mainland China as of December 31, 2022	Accumulated amount of investment income remitted back to Taiwan as of December 31, 2022
					Remitted to Mainland China	Remitted back to Taiwan						
ISE labs, China, Ltd.	Engage in the packaging and testing of semiconductors	432,703 (RMB 100,000 thousand)	(Note 2)	- (Note 1.2)	-	-	- (Note 1.2)	9,949 (RMB 2,239 thousand) (Note 2)	100	9,949 (RMB 2,239 thousand) (Note 2)	443,554 (RMB 100,592 thousand)	None
Shanghai Dingyao Estate Development Co.,Ltd.	Engaged in the management of real estate properties	42,142 (RMB 10,000 thousand)	(Note 2)	- (Note 1.2)	-	-	- (Note 1.2)	(52,273) (RMB -11,956 thousand) (Note 3)	100	(58,132) (RMB -13,312 thousand) (Note 3)	(250,351) (RMB -56,776 thousand)	None
USI Electronics (Shenzhen) Co., Ltd	Engaged in the processing and sales of computer and communication peripherals as well as business in import and export of goods and technology	2,270,625 (US\$ 75,000 thousand)	Note 1 (5)	1,180,746	-	-	1,180,746	823,885 (RMB 186,786 thousand) (Note 4)	78	658,066 (US\$ 22,305 thousand) (Note 4)	5,375,361 (US\$ 175,036 thousand)	\$ 1,842,387 (US\$ 62,297 thousand)
Universal Scientific Industrial (Shanghai) Co., Ltd.	Engaged in the designing, manufacturing and sale of electronic components	10,783,527 (RMB 2,206,864 thousand)	Note 1 (5)	1,668,233	-	-	1,668,233	13,500,531 (US\$ 450,069 thousand) (Note 4)	78	10,542,781 (US\$ 351,457 thousand) (Note 4)	54,202,990 (US\$ 1,764,995 thousand)	2,230,984 (US\$ 74,333 thousand)
Universal Global Technology (Kunshan) Co., Ltd.	Engaged in the designing and manufacturing of electronic components	2,488,323 (RMB 550,000 thousand)	(Note 2)	- (Note 1.2)	-	-	- (Note 1.2)	1,829,789 (RMB 414,922 thousand) (Note 4)	78	1,428,409 (RMB 323,921 thousand) (Note 4)	6,342,911 (RMB 1,438,498 thousand)	None
Universal Global Technology (Shanghai) Co., Ltd.	Engaged in the processing and sales of computer and communication peripherals as well as business in import and export of goods and technology	6,652,140 (RMB 1,330,000 thousand)	(Note 2)	- (Note 1.2)	-	-	- (Note 1.2)	1,939,104 (RMB 439,658 thousand) (Note 4)	78	1,514,602 (RMB 343,409 thousand) (Note 4)	7,020,292 (RMB 1,592,120 thousand)	None
Universal Global Electronics (Shanghai) Co., Ltd.	Engaged in the sale of electronic components and telecommunications equipment	240,850 (RMB 50,000 thousand)	(Note 2)	- (Note 1.2)	-	-	- (Note 1.2)	16,577 (RMB 3,744 thousand) (Note 4)	78	12,948 (RMB 2,924 thousand) (Note 4)	227,076 (RMB 51,498 thousand)	None
SUMA-USI	Engaged in the design and production of electronic products	963,033 (RMB 220,000 thousand)	(Note 2)	- (Note 1.2)	-	-	- (Note 1.2)	213,568 (RMB 48,589 thousand)	38	81,704 (RMB 18,589 thousand)	381,278 (RMB 86,469 thousand)	None
Universal Global Technology (Huizhou) Co., Ltd	Engaged in the reserch and manufacturing of new electroic applications, communication, computers and other electronics products and also provided auxiliary technical services as well as import and export services	3,492,881 (RMB 800,000 thousand)	(Note 2)	- (Note 1.2)	-	-	- (Note 1.2)	21,692 (RMB 4,724 thousand) (Note 4)	78	8,902 (RMB 1,163 thousand) (Note 4)	2,709,402 (RMB 614,461 thousand)	None
USI Science and Technology (Shenzhen) Co., Ltd.	Engaged in the design of electronic components, service of technical advisory; wholesale of electronic components and communication peripherals as well as business in import and export of goods and management of properties.	65,795 (RMB 15,000 thousand)	(Note 2)	- (Note 1.2)	-	-	- (Note 1.2)	11,789 (RMB 2,658 thousand) (Note 4)	78	9,210 (RMB 2,076 thousand) (Note 4)	64,934 (RMB 14,726 thousand)	None
ASTEEFLASH SUZHOU CO., LTD.	Engaged in the design, manufacturing and processing of electronic products	512,640 (US\$ 18,000 thousand)	(Note 3)	- (Note 1.3)	-	-	- (Note 1.3)	589,952 (US\$ 19,713 thousand) (Note 10)	78	460,486 (US\$ 15,386 thousand) (Note 10)	4,435,209 (US\$ 144,422 thousand)	None
Questyle Audio Engineering Co., Ltd	Research and development on technology and sales of electronic products, digital products, audio equipment and spare parts, domestic trading; import and export business.	29,416 (RMB 6,623 thousand)	(Note 2)	- (Note 1.2)	-	-	- (Note 1.2)	- (Note 11)	5	- (Note 11)	9,041 (RMB 2,050 thousand)	None
Siliconware Technology (Suzhou) Limited	Engage in the packaging and testing of semiconductors	8,243,861 (US\$ 248,816 thousand)	Note 1 (6)	6,774,513 (US\$ 195,000 thousand)	-	-	6,774,513 (US\$ 195,000 thousand)	3,219,051 (Note 2)	100	3,261,699 (Note 2)	19,176,644	None

((Concluded))

Investee Company	Accumulated Investment in Mainland China as of December 31, 2021	Investment Amounts Authorized by Investment Commission, MOEA	Upper Limit on Investment
ASE	\$ 15,203,097 (US\$471,400 thousand)	\$ 10,905,250 (US\$ 337,284 thousand) (Note 7)	\$ - (Note 5)
ASE Test, Inc.	8,878,838 (US\$288,000 thousand)	3,149,000 (US\$ 100,000 thousand)	18,374,240 (Note 6)
USI Inc.	2,848,979	32,402,458 (US\$ 1,027,240 thousand)	- (Note 5)
SPIL	6,774,513 (US\$195,000 thousand)	8,189,882 (US\$ 268,989 thousand) (Note 12)	- (Note 5)

Note 1: The investment methods are as follows:

1. Investments through a holding company registered in a third region. The holding companies are as follow:
- (1) ASE Mauritius Inc., ASE Corporation, Omniquest Industrial Limited, Innosource Limited and J&R Holding Limited.

(2) Global Advanced Packaging Technology Limited and J&R Holding Limited.

(3) Super Zone Holdings Limited.

(4) Alto Enterprises Limited.

(5) Real Tech Holdings Limited and Huntington Holdings International Co. Ltd.

(6) SPIL (Cayman) Holding Limited.
2. Invested by companies in mainland China.
3. Invested in other way.

(Continued)

Note 2: The basis for investment income (loss) recognition is from the financial statements audited and attested by R.O.C. parent company’s CPA.

Note 3: The basis for investment income (loss) recognition is from the financial statements audited and attested by international accounting firm which has cooperative relationship with accounting firm in R.O.C.

Note 4: The basis for investment income (loss) recognition is from the financial statements audited and attested by other CPA in the same accounting firm with R.O.C. parent company’s CPA.

Note 5: Pursuant to the Jing-Shen-Zi Letter No. 09704604680 of the Ministry of Economic Affairs, R.O.C amended 'Guidelines Governing the Review of Investment or Technical Cooperation in the Mainland Area' dated August 29, 2008 and effective August 1 of the same year, as the Company has obtained the certificate of being qualified for operating headquarters, issued by the Industrial Development Bureau, MOEA, and meet the criteria of multinational enterprise, the ceiling amount of the investment in Mainland China is not applicable to the Company.

Note 6: The upper limit on investment of ASE Test, Inc. is calculated as follow: \$ 30,623,734 × 60% = 18,374,240.

Note 7: ASE Inc and ASE Test Inc. has US\$134,116 thousand and US\$188,000 thousand difference between MOEA approved investment amount and accumulated outflow of investment from Taiwan includes:

(1) US\$141,600 thousand and US\$188,000 thousand were recognized by the MOEA as an decrease in net investment due to equity transferring ASE (Kunshan) Inc., ASE (WeiHai) Inc., ASE Advanced Semiconductor (Shanghai) Limited. and Suzhou ASEN Semiconductors Co., Ltd. to ASMPT Hong Kong Holding Limited.

(2) US\$707 thousand and US\$6,777 thousand were recognized by the MOEA as an increase in net investment due to transferring of ASE (Shanghai) Inc.’s equity from ASE Assembly & Test (Shanghai) Limited and ASE Module (Shanghai) Inc. to ASE Mauritius Inc. and due to the merger of ASE Module (Shanghai) Inc. by ASE (Shanghai) Inc., respectively.

Note 8: ASE Test Inc. through a holding company registered in a third region indirectly invested ASE Investment (Kunshan) Limited and ASE Investment (Kunshan) Limited invested ASE (Kunshan) Inc.

Note 9: ASE Investment (Kunshan) Limited decreased capital by cash US\$20,000 thousand and returned to ASE Assembly & Test (Shanghai) Limited.

Note 10: The difference of US\$73,989 thousand between the MOEA approved investment amount and accumulated outflow of investment from Taiwan was capital increased by earnings.

Note 11: The basis for investment income (loss) recognition is from the financial statements audited and attested by other CPA.

(Concluded)

ASE TECHNOLOGY HOLDING CO., LTD. AND SUBSIDIARIES

TABLE 10

INTERCOMPANY RELATIONSHIPS AND SIGNIFICANT INTERCOMPANY TRANSACTIONS
FOR THE YEAR ENDED DECEMBER 31, 2022
(Amounts In Thousands of New Taiwan Dollars, Unless Specified Otherwise)

No.	Company Name	Related Party	Nature of Relationships	Intercompany Transactions			Percentage of Consolidated Net Revenue or Total Assets
				Financial Statement Account	Amount (Note 2)	Terms (Note 1)	
0	The Company	ASE Electronics Inc.	Parent company to subsidiary	Other payables	\$ 1,530,000	-	-
		ASE Test, Inc.	Parent company to subsidiary	Other payables	1,550,000	-	-
		SPIL	Parent company to subsidiary	Other payables	1,000,000	-	-
		ASE	Parent company to subsidiary	Other receivables	202,503	-	-
1	ASE	ASE Test, Inc.	Subsidiary to subsidiary	Other payables	3,134,957	-	-
			Subsidiary to subsidiary	Purchase of property, plant and equipment	276,197	-	-
		Universal Scientific Industrial Co., Ltd.	Subsidiary to subsidiary	Trade receivables	1,186,213	-	-
			Subsidiary to subsidiary	Operating revenues	4,141,833	-	1
		Universal Global Scientific Industrial Co., Ltd.	Subsidiary to subsidiary	Trade receivables	485,369	-	-
			Subsidiary to subsidiary	Operating revenues	2,024,856	-	-
		ASE (Shanghai) Inc.	Subsidiary to subsidiary	Trade payables	651,361	-	-
			Subsidiary to subsidiary	Operating costs	1,813,131	-	-
		ASE (U.S.) Inc.	Subsidiary to subsidiary	Operating expenses	1,128,966	-	-
			Subsidiary to subsidiary	Other payables	332,728	-	-
		ASE Electronics Inc.	Subsidiary to subsidiary	Trade payables	589,605	-	-
			Subsidiary to subsidiary	Operating costs	2,595,600	-	-
		ASE (Korea) Inc.	Subsidiary to subsidiary	Other payables	9,213,000	-	1
				Operating expenses	277,439	-	-
		ISE Labs, Inc.	Subsidiary to subsidiary	Other payables	929,734	-	-
		ISE Services, Inc.	Subsidiary to subsidiary	Operating revenues	265,913	-	-
		Integrated Solutions Enterprise Europe	Subsidiary to subsidiary	Operating revenues	325,095	-	-
		Global Advanced Packaging Technology Limited	Subsidiary to subsidiary	Other liabilities	26,932,670	-	4
		ASE Mauritius Inc.	Subsidiary to subsidiary	Other liabilities	1,381,950	-	-
		Alto Enterprises Limited	Subsidiary to subsidiary	Other liabilities	1,136,270	-	-
		ASE Holdings (Singapore) PTE Ltd	Subsidiary to subsidiary	Other liabilities	5,681,350	-	1
		ASE Test Limited	Subsidiary to subsidiary	Other liabilities	4,821,470	-	1
		ASE Electronics (M) Sdn. Bhd.	Subsidiary to subsidiary	Operating revenues	286,039	-	-
2	ASE Electronics Inc.	ASE Electronics (M) Sdn. Bhd.	Subsidiary to subsidiary	Operating revenues	582,984	-	-
			Subsidiary to subsidiary	Trade receivables	132,433	-	-
		Universal Global Scientific Industrial Co., Ltd.	Subsidiary to subsidiary	Operating revenues	264,948	-	-
		SPIL	Subsidiary to subsidiary	Operating revenues	438,264	-	-
3	ASE Test, Inc.	Siliconware Technology (Suzhou) Limited	Subsidiary to subsidiary	Sales of property, plant and equipment	109,222	-	-
		ASE (U.S.) Inc.	Subsidiary to subsidiary	Operating expenses	110,225	-	-
4	ASE (Shanghai) Inc.	Advanced Semiconductor Engineering (HK) Limited	Subsidiary to subsidiary	Operating revenues	311,384	-	-
			Subsidiary to subsidiary	Trade receivables	126,293	-	-
		ASE Investment (Kunshan) Inc.	Subsidiary to subsidiary	Other payables	222,569	-	-
5	ASE Assembly & Test (Shanghai) Limited	ASE Investment (Kunshan) Inc.	Subsidiary to subsidiary	Other payables	132,804	-	-
6	ASE (Korea) Inc.	ASE (U.S.) Inc.	Subsidiary to subsidiary	Operating expenses	104,699	-	-

(Continued)

No.	Company Name	Related Party	Nature of Relationships	Intercompany Transactions			
				Financial Statement Account	Amount (Note 2)	Terms (Note 1)	Percentage of Consolidated Net Revenue or Total Assets
7	ASE Investment (Kunshan) Inc.	Siliconware Technology (Suzhou) Limited	Subsidiary to subsidiary	Other receivables	\$ 1,553,008	-	-
8	USI Enterprise Limited	ASE (U.S.) Inc.	Subsidiary to subsidiary	Operating expenses	141,694	-	-
9	A.S.E Holding Limited	J&R Holding Limited	Subsidiary to subsidiary	Other assets	1,566,210	-	-
10	ISE Labs, Inc.	J&R Holding Limited	Subsidiary to subsidiary	Other assets	368,520	-	-
11	Global Advanced Packaging Technology Limited	USI Enterprise Limited	Subsidiary to subsidiary	Other receivables	829,170	-	-
12	ASE Test Limited	USI Enterprise Limited	Subsidiary to subsidiary	Other assets	4,176,560	-	1
		J & R Holding Limited	Subsidiary to subsidiary	Other assets	4,818,399	-	1
		ASE Japan Co., Ltd.	Subsidiary to subsidiary	Other assets	122,840	-	-
13	Shanghai Ding Hui Real Estate Development Co., Ltd.	Shanghai Ding Yu Real Estate Development Co., Ltd.	Subsidiary to subsidiary	Other receivables	447,649	-	-
		Shanghai Ding Wei Real Estate Development Co., Ltd.	Subsidiary to subsidiary	Other receivables	1,995,698	-	-
		Shanghai Dingyao Estate Development Co., Ltd.	Subsidiary to subsidiary	Other receivables	456,365	-	-
		Kun Shan Ding Hong Real Estate Development Co., Ltd	Subsidiary to subsidiary	Other receivables	359,983	-	-
		ISE Labs, China, Ltd.	Subsidiary to subsidiary	Other receivables	486,235	-	-
14	Shanghai Ding Yu Real Estate Development Co.,Ltd.	Shanghai Dingyao Estate Development Co., Ltd.	Subsidiary to subsidiary	Trade receivables	178,831	-	-
			Subsidiary to subsidiary	Operating revenues	404,384	-	-
15	ISE Labs, China, Ltd.	Universal Global Industrial Co., Limited	Subsidiary to subsidiary	Purchase of property, plant and equipment	196,147	-	-
16	Advanced Semiconductor Engineering (China) Ltd.	Siliconware Technology (Suzhou) Limited	Subsidiary to subsidiary	Other receivables	1,024,842	-	-
		ASE Assembly & Test (Shanghai) Limited	Subsidiary to subsidiary	Other receivables	1,269,882	-	-
17	USI Inc.	Universal Global Scientific Industrial Co., Ltd.	Subsidiary to subsidiary	Other receivables	206,129	-	-
18	Universal Scientific Industrial (Shanghai) Co., Ltd.	Universal Global Industrial Co., Limited	Subsidiary to subsidiary	Trade receivables	964,156	-	-
		Universal Global Scientific Industrial Co., Ltd.	Subsidiary to subsidiary	Operating revenues	2,880,744	-	-
			Subsidiary to subsidiary	Trade receivables	247,602	-	-
		Universal Scientific Industrial De Mexico S.A. De C.V.	Subsidiary to subsidiary	Other receivables	921,300	-	-
		Universal Global Technology (Shanghai) Co., Ltd	Subsidiary to subsidiary	Operating revenues	525,393	-	-
			Subsidiary to subsidiary	Trade receivables	175,380	-	-
		Universal Global Technology (Huizhou) Co., Ltd	Subsidiary to subsidiary	Other receivables	2,214,529	-	-
		Universal Scientific Industrial Vietnam company Limited	Subsidiary to subsidiary	Other receivables	1,381,950	-	-
19	Universal Global Industrial Co., Limited	USI Electronics (Shenzhen) Co., Ltd.	Subsidiary to subsidiary	Other payables	550,284	-	-
		Universal Global Scientific Industrial Co., Ltd.	Subsidiary to subsidiary	Other receivables	5,585,556	-	1
		Universal Global Technology (Kunshan) Co., Ltd.	Subsidiary to subsidiary	Other payables	3,857,368	-	1
		Universal Global Technology (Huizhou) Co., Ltd	Subsidiary to subsidiary	Other receivables	253,314	-	-
			Subsidiary to subsidiary	Other payables	1,523,460	-	-
20	Universal Global Technology Co., Limited	Universal Scientific Industrial (Shanghai) Co., Ltd.	Subsidiary to subsidiary	Other receivables	704,009	-	-
		Universal Scientific Industrial De Mexico S.A. De C.V.	Subsidiary to subsidiary	Other assets	1,842,600	-	-
		Universal Global Technology (Kunshan) Co., Ltd.	Subsidiary to subsidiary	Other receivables	537,056	-	-
		Universal Scientific Industrial (France)	Subsidiary to subsidiary	Other assets	966,281	-	-
		ASTEELFLASH USA CORP.	Subsidiary to subsidiary	Other assets	214,970	-	-
		ASTEELFLASH FRANCE	Subsidiary to subsidiary	Other receivables	771,294	-	-
		FINANCIERE AFG	Subsidiary to subsidiary	Other assets	1,572,254	-	-
21	Universal Global Scientific Industrial Co., Ltd.	Universal Scientific Industrial Co., Ltd	Subsidiary to subsidiary	Operating revenues	547,768	-	-
			Subsidiary to subsidiary	Trade receivables	153,035	-	-
			Subsidiary to subsidiary	Other payables	1,315,840	-	-

(Continued)

No.	Company Name	Related Party	Nature of Relationships	Intercompany Transactions			Percentage of Consolidated Net Revenue or Total Assets
				Financial Statement Account	Amount (Note 2)	Terms (Note 1)	
22	USI Electronics (Shenzhen) Co., Ltd.	USI Electronics (Shenzhen) Co., Ltd.	Subsidiary to subsidiary	Operating revenues	\$ 212,501	-	-
		Universal Global Industrial Co., Limited	Subsidiary to subsidiary	Operating revenues	327,176	-	-
		Universal Global Technology (Kunshan) Co., Ltd.	Subsidiary to subsidiary	Operating revenues	259,879	-	-
		Universal Global Technology (Huizhou) Co., Ltd	Subsidiary to subsidiary	Operating revenues	128,273	-	-
		Universal Global Scientific Industrial Co., Ltd.	Subsidiary to subsidiary	Operating revenues	7,352,100	-	1
		Universal Scientific Industrial De Mexico S.A. De C.V.	Subsidiary to subsidiary	Operating revenues	610,970	-	-
		Universal Global Technology (Huizhou) Co., Ltd	Subsidiary to subsidiary	Trade receivables	688,466	-	-
			Subsidiary to subsidiary	Other receivables	551,590	-	-
			Subsidiary to subsidiary	Operating revenues	3,324,515	-	-
23	Universal Global Technology (Kunshan) Co., Ltd.	Universal Global Scientific Industrial Co., Ltd.	Subsidiary to subsidiary	Operating revenues	18,402,461	-	3
24	Universal Global Technology (Shanghai) Co., Ltd.	Universal Global Technology (Kunshan) Co., Ltd.	Subsidiary to subsidiary	Other assets	1,322,833	-	-
25	USI Enterprise Limited	Universal Scientific Industrial (Shanghai) Co., Ltd.	Subsidiary to subsidiary	Financial assets at fair value through profit or loss - current	7,271,258	-	1
		Real Tech Holdings Limited	Subsidiary to subsidiary	Other liabilities	1,197,690	-	-
		USI Inc.	Subsidiary to subsidiary	Other receivables	1,855,352	-	-
26	USI America Inc.	Universal Global Technology Co., Limited	Subsidiary to subsidiary	Operating revenues	245,614	-	-
		ASTEELFLASH USA CORP.	Subsidiary to subsidiary	Other receivables	123,946	-	-
27	Universal Scientific Industrial (France)	ASTEELFLASH TUNISIE S.A.	Subsidiary to subsidiary	Other assets	415,992	-	-
		ASTEELFLASH HERSFELD GmbH	Subsidiary to subsidiary	Other assets	298,073	-	-
28	Universal Global Technology (Huizhou) Co., Ltd	USI Electronics (Shenzhen) Co., Ltd.	Subsidiary to subsidiary	Operating revenues	356,052	-	-
		Universal Global Scientific Industrial Co., Ltd.	Subsidiary to subsidiary	Operating revenues	3,742,148	-	-
29	Asteelflash Suzhou Co., Ltd.	Universal Global Technology Co., Limited	Subsidiary to subsidiary	Other assets	1,627,630	-	-
		ASTEELFLASH TUNISIE S.A.	Subsidiary to subsidiary	Other receivables	368,520	-	-
30	ASTEELFLASH USA CORP.	ASTEELFLASH MEXICO S.A. de C.V.	Subsidiary to subsidiary	Other receivables	125,037	-	-
31	ASTEELFLASH MEXICO S.A. de C.V.	ASTEELFLASH USA CORP.	Subsidiary to subsidiary	Other receivables	130,869	-	-
			Subsidiary to subsidiary	Operating revenues	241,669	-	-
32	FINANCIERE AFG	ASTEELFLASH (BEDFORD) LIMITED	Subsidiary to subsidiary	Other assets	131,786	-	-
		ASTEELFLASH USA CORP.	Subsidiary to subsidiary	Trade receivables	120,849	-	-
		ASTEELFLASH PLZEN S.R.O.	Subsidiary to subsidiary	Other assets	134,297	-	-
		ASTEELFLASH TUNISIE S.A.	Subsidiary to subsidiary	Other assets	610,322	-	-
33	ASTEELFLASH TUNISIE S.A.	ASTEELFLASH FRANCE	Subsidiary to subsidiary	Operating revenues	596,855	-	-
			Subsidiary to subsidiary	Trade receivables	148,270	-	-

(Continued)

No.	Company Name	Related Party	Nature of Relationships	Intercompany Transactions			
				Financial Statement Account	Amount (Note 2)	Terms (Note 1)	Percentage of Consolidated Net Revenue or Total Assets
34	ASTEELFLASH PLZEN S.R.O.	ASTEELFLASH BONN GmbH	Subsidiary to subsidiary	Operating revenues	\$ 229,115	-	-
		ASTEELFLASH HERSFELD GmbH	Subsidiary to subsidiary	Operating revenues	181,062	-	-
		ASTEELFLASH EBERBACH GmbH	Subsidiary to subsidiary	Operating revenues	102,530	-	-
35	SPIL	Siliconware Technology (Suzhou) Limited	Subsidiary to subsidiary	Other receivables	3,367,273	-	-
			Subsidiary to subsidiary	Other revenues	363,723	-	-
			Subsidiary to subsidiary	Purchase of property, plant and equipment	220,506	-	-
			Subsidiary to subsidiary	Sales of property, plant and equipment	1,101,562	-	-
		Siliconware USA, Inc.	Subsidiary to subsidiary	Operating expenses	549,183	-	-

(Concluded)

Note 1: The sales prices and payment terms of intercompany sales are not significantly different from those to third parties. For other intercompany transactions, prices and terms are determined in accordance with mutual agreements.

Note 2: All the transactions had been eliminated when preparing consolidated financial statements.

Note 1: The information of major shareholders presented in this table is provided by Taiwan Depository & Clearing Corporation based on the number of ordinary shares and preferred shares held by shareholders with ownership of 5% or greater, that have been issued without physical registration (included treasury shares) by the Company as of the last business day for the current quarter. The share capital in the consolidated financial statements may differ from the actual number of shares that have been issued without physical registration because of different preparation basis.

Note 2: If a shareholder delivers their shareholdings to the trust, the above information will be disclosed by the individual trustee who opened the trust account. For shareholders who declare insider shareholdings with ownership greater than 10% in accordance with Security and Exchange Act, the shareholdings include shares held by shareholders and those delivered to the trust over which shareholders have rights to determine the use of trust property. For information relating to insider shareholding declaration, please refer to Market Observation Post System.

ASE Technology Holding Co., Ltd.

**Parent Company Only Financial Statements for the
Years Ended December 31, 2022 and 2021 and
Independent Auditors' Report**



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INDEPENDENT AUDITORS' REPORT

The Board of Directors and Shareholders
ASE Technology Holding Co., Ltd.

Opinion

We have audited the accompanying parent company only financial statements of ASE Technology Holding Co., Ltd. (the "Company"), which comprise the balance sheets as of December 31, 2022 and 2021, and the statements of comprehensive income, changes in equity and cash flows for the years then ended, and the notes to the parent company only financial statements, including a summary of significant accounting policies (collectively referred to as the "parent company only financial statements").

In our opinion, based on our audits and the report of other auditors (please refer to the Other Matter paragraph), the accompanying parent company only financial statements present fairly, in all material respects, the financial position of the Company as of December 31, 2022 and 2021, and its financial performance and its cash flows for the years then ended in accordance with the Regulations Governing the Preparation of Financial Reports by Securities Issuers.

Basis for Opinion

We conducted our audits in accordance with the Regulations Governing Auditing and Attestation of Financial Statements by Certified Public Accountants and Standards on Auditing of the Republic of China. Our responsibilities under those standards are further described in the Auditors' Responsibilities for the Audit of the Parent Company Only Financial Statements section of our report. We are independent of the Company in accordance with The Norm of Professional Ethics for Certified Public Accountant of the Republic of China, and we have fulfilled our other ethical responsibilities in accordance with these requirements. We believe that the audit evidence we have obtained is sufficient and appropriate to provide a basis for our opinion based on our audits and the report of other auditors.

Key Audit Matters

Key audit matters are those matters that, in our professional judgment, were of most significance in our audit of the parent company only financial statements for the year ended December 31, 2022. These matters were addressed in the context of our audit of the parent company only financial statements as a whole, and in forming our opinion thereon, and we do not provide a separate opinion on these matters.

The key audit matter of the Company's parent company only financial statements for the year ended December 31, 2022 is discussed as follows.

Evaluation of Goodwill included in Investments in Subsidiaries for Impairment

The Company's evaluation of goodwill included in investments in subsidiaries for impairment involves the comparison of the value in use of each segment, to which each subsidiary attributed, to its carrying value. The Company used the discounted cash flow model to estimate value in use, which required management to make significant estimates and assumptions related to discount rates and forecasts of future revenues. Changes in

these estimates and assumptions could have a significant impact on either the value in use, the amount of any goodwill impairment charge, or both. The goodwill included in investments in subsidiaries was NT\$51,657,594 thousand as of December 31, 2022, of which NT\$34,863,747 thousand and NT\$13,321,826 thousand were allocated to the packaging and testing segments, respectively. The value in use of the packaging and testing segments exceeded their carrying values as of the measurement date and, therefore, no impairment was recognized.

The operation of packaging and testing segments are sensitive to changes in demand in the semiconductor industry which varies by economic trends. Given the significant estimates and assumptions management makes to estimate the value in use of packaging and testing segments and the sensitivity of their operations to changes in demand, performing audit procedures to evaluate the reasonableness of management's estimates and assumptions related to the selection of the discount rates and forecasts of future revenues for the packaging and testing segments required a high degree of auditors' judgment and an increased extent of effort, including the need to involve our fair value specialists.

Please refer to Notes 4(d) and 5 for the related accounting policy, critical accounting judgements and key sources of estimation uncertainty as well as other disclosures for the Company's evaluation of goodwill included in investments in subsidiaries for impairment.

Our audit procedures related to the discount rates and forecasts of future revenues used by management to estimate the value in use of packaging and testing segments included the following, among others:

1. We tested the design and operating effectiveness of controls over management's evaluation of goodwill for impairment, including those over the determination of the value in use of the packaging and testing segments, such as controls related to management's selection of the discount rates and assessment on the reasonableness of forecasts of future revenues.
2. We evaluated management's ability to accurately forecast future revenues of the packaging and testing segments by comparing actual results to management's historical forecasts.
3. We performed sensitivity analyses to evaluate the risk of impairment if key assumptions are changed.
4. With the assistance of our fair value specialists, we evaluated the reasonableness of the selected discount rates by performing certain procedures, including:
 - Testing the source information underlying the determination of the discount rates and the mathematical accuracy of the calculation.
 - Developing a range of independent estimates and comparing those to the discount rates selected by management.

Other Matter

We did not audit the financial statements of Siliconware Precision Industries Co., Ltd (SPIL), a subsidiary accounted for using the equity method for the year ended December 31, 2021, but such statements were audited by other auditors. Our opinion, insofar as it relates to the amounts included for SPIL for the year ended December 31, 2021, is based solely on the report of other auditors. The carrying amount of the investment in SPIL accounted for using the equity method constituted 49% of the Company's total assets as of December 31, 2021, and the share of profit of SPIL constituted 20% of the Company's operating revenues for the year ended December 31, 2021.

Responsibilities of Management and Those Charged with Governance for the Parent Company Only Financial Statements

Management is responsible for the preparation and fair presentation of the parent company only financial statements in accordance with the Regulations Governing the Preparation of Financial Reports by Securities

Issuers, and for such internal control as management determines is necessary to enable the preparation of the parent company only financial statements that are free from material misstatement, whether due to fraud or error.

In preparing the parent company only financial statements, management is responsible for assessing the Company's ability to continue as a going concern, disclosing, as applicable, matters related to going concern and using the going concern basis of accounting unless management either intends to liquidate the Company or to cease operations, or has no realistic alternative but to do so.

Those charged with governance, including the audit committee, are responsible for overseeing the Company's financial reporting process.

Auditors' Responsibilities for the Audit of the Parent Company Only Financial Statements

Our objectives are to obtain reasonable assurance about whether the parent company only financial statements as a whole are free from material misstatement, whether due to fraud or error, and to issue an auditors' report that includes our opinion. Reasonable assurance is a high level of assurance, but is not a guarantee that an audit conducted in accordance with the Standards on Auditing of the Republic of China will always detect a material misstatement when it exists. Misstatements can arise from fraud or error and are considered material if, individually or in the aggregate, they could reasonably be expected to influence the economic decisions of users taken on the basis of these parent company only financial statements.

As part of an audit in accordance with the Standards on Auditing of the Republic of China, we exercise professional judgment and maintain professional skepticism throughout the audit. We also:

1. Identify and assess the risks of material misstatement of the parent company only financial statements, whether due to fraud or error, design and perform audit procedures responsive to those risks, and obtain audit evidence that is sufficient and appropriate to provide a basis for our opinion. The risk of not detecting a material misstatement resulting from fraud is higher than for one resulting from error, as fraud may involve collusion, forgery, intentional omissions, misrepresentations, or the override of internal control.
2. Obtain an understanding of internal control relevant to the audit in order to design audit procedures that are appropriate in the circumstances, but not for the purpose of expressing an opinion on the effectiveness of the Company's internal control.
3. Evaluate the appropriateness of accounting policies used and the reasonableness of accounting estimates and related disclosures made by management.
4. Conclude on the appropriateness of management's use of the going concern basis of accounting and, based on the audit evidence obtained, whether a material uncertainty exists related to events or conditions that may cast significant doubt on the Company's ability to continue as a going concern. If we conclude that a material uncertainty exists, we are required to draw attention in our auditors' report to the related disclosures in the parent company only financial statements or, if such disclosures are inadequate, to modify our opinion. Our conclusions are based on the audit evidence obtained up to the date of our auditors' report. However, future events or conditions may cause the Company to cease to continue as a going concern.
5. Evaluate the overall presentation, structure and content of the parent company only financial statements, including the disclosures, and whether the parent company only financial statements represent the underlying transactions and events in a manner that achieves fair presentation.
6. Obtain sufficient and appropriate audit evidence regarding the financial information of entities or business activities within the Company to express an opinion on the parent company only financial statements. We are responsible for the direction, supervision, and performance of the audit. We remain solely responsible for our audit opinion.

We communicate with those charged with governance regarding, among other matters, the planned scope and timing of the audit and significant audit findings, including any significant deficiencies in internal control that we identify during our audit.

We also provide those charged with governance with a statement that we have complied with relevant ethical requirements regarding independence, and to communicate with them all relationships and other matters that may reasonably be thought to bear on our independence, and where applicable, related safeguards.

From the matters communicated with those charged with governance, we determine those matters that were of most significance in the audit of the parent company only financial statements for the year ended December 31, 2022 and are therefore the key audit matters. We describe these matters in our auditors' report unless law or regulation precludes public disclosure about the matter or when, in extremely rare circumstances, we determine that a matter should not be communicated in our report because the adverse consequences of doing so would reasonably be expected to outweigh the public interest benefits of such communication.

The engagement partners on the audit resulting in this independent auditors' report are Shih-Tsung Wu and Lee-Yuan Kuo.

Deloitte & Touche
Taipei, Taiwan
Republic of China

February 22, 2023

Notice to Readers

The accompanying parent company only financial statements are intended only to present the financial position, financial performance and cash flows in accordance with accounting principles and practices generally accepted in the Republic of China and not those of any other jurisdictions. The standards, procedures and practices to audit such parent company only financial statements are those generally applied in the Republic of China.

For the convenience of readers, the independent auditors' report and the accompanying parent company only financial statements have been translated into English from the original Chinese version prepared and used in the Republic of China. If there is any conflict between the English version and the original Chinese version or any difference in the interpretation of the two versions, the Chinese-language independent auditors' report and parent company only financial statements shall prevail.

ASE TECHNOLOGY HOLDING CO., LTD.

PARENT COMPANY ONLY BALANCE SHEETS AS OF DECEMBER 31, 2022 AND 2021 (In Thousands of New Taiwan Dollars)

	December 31, 2022		December 31, 2021	
	NT\$	%	NT\$	%
ASSETS				
CURRENT ASSETS				
Cash	\$ 120,569	-	\$ 121,304	-
Other receivables to related parties (Note 11)	297,326	-	213,161	-
Other current assets	63,884	-	33,592	-
Total current assets	481,779	-	368,057	-
NON-CURRENT ASSETS				
Investments accounted for using the equity method (Notes 5 and 6)	352,276,349	100	338,834,820	100
Other intangible assets	23,024	-	20,577	-
Other non-current assets	7,160	-	7,929	-
Total non-current assets	352,306,533	100	338,863,326	100
TOTAL	<u>\$ 352,788,312</u>	<u>100</u>	<u>\$ 339,231,383</u>	<u>100</u>
LIABILITIES AND EQUITY				
CURRENT LIABILITIES				
Other payables	\$ 626,642	-	\$ 541,434	-
Other payables to related parties (Note 17)	4,080,201	1	12,305,219	4
Current tax liabilities	131,815	-	182,289	-
Current portion of bonds payable (Note 8)	2,998,981	1	6,202,753	2
Other current liabilities	3,197	-	2,436	-
Total current liabilities	7,840,836	2	19,234,131	6
NON-CURRENT LIABILITIES				
Bonds payable (Note 8)	30,081,461	9	33,069,658	10
Long-term borrowings (Note 7)	13,574,743	4	26,844,021	8
Other non-current liabilities	6,024	-	6,859	-
Total non-current liabilities	43,662,228	13	59,920,538	18
Total liabilities	51,503,064	15	79,154,669	24
EQUITY (Note 9)				
Share capital				
Ordinary shares	43,642,185	12	44,034,146	13
Shares subscribed in advance	37,656	-	52,356	-
Total share capital	43,679,841	12	44,086,502	13
Capital surplus	142,686,356	40	143,691,717	42
Retained earnings				
Legal reserve	12,582,960	4	6,300,198	2
Special reserve	10,367,052	3	9,569,027	3
Unappropriated earnings	97,882,542	28	75,449,674	21
Total retained earnings	120,832,554	35	91,318,899	26
Other equity	(3,954,396)	(1)	(11,532,042)	(3)
Treasury shares	(1,959,107)	(1)	(7,488,362)	(2)
Total equity	301,285,248	85	260,076,714	76
TOTAL	<u>\$ 352,788,312</u>	<u>100</u>	<u>\$ 339,231,383</u>	<u>100</u>

The accompanying notes are an integral part of the parent company only financial statements.

(With Deloitte & Touche auditors' report dated February 22, 2023)

ASE TECHNOLOGY HOLDING CO., LTD.

PARENT COMPANY ONLY STATEMENTS OF COMPREHENSIVE INCOME FOR THE YEARS ENDED DECEMBER 31, 2022 AND 2021

(In Thousands of New Taiwan Dollars Except Earnings Per Share)

	For the Year Ended December 31			
	2022		2021	
	NT\$	%	NT\$	%
OPERATING REVENUE	\$ 63,383,227	100	\$ 65,091,179	100
GROSS PROFIT	63,383,227	100	65,091,179	100
OPERATING EXPENSES (Note 10)				
General and administrative expenses	1,138,143	2	762,372	1
PROFIT FROM OPERATIONS	62,245,084	98	64,328,807	99
NON-OPERATING INCOME AND EXPENSES				
Other income (Note 10)	171,548	-	93,247	-
Other gains, net	13,627	-	74	-
Finance costs (Note 10)	(675,576)	(1)	(699,912)	(1)
Total non-operating income and expenses	(490,401)	(1)	(606,591)	(1)
PROFIT BEFORE INCOME TAX	61,754,683	97	63,722,216	98
INCOME TAX BENEFITS (Note 11)	335,811	1	185,464	-
NET PROFIT FOR THE YEAR	62,090,494	98	63,907,680	98
OTHER COMPREHENSIVE INCOME (LOSS) (Notes 9 and 11)				
Items that will not be reclassified subsequently to profit or loss:				
Share of other comprehensive income (loss) of subsidiaries	(2,352,557)	(4)	3,873,106	6
Income tax benefit relating to items that will not be reclassified subsequently to profit or loss	(190,428)	-	(16,106)	-
	(2,542,985)	(4)	3,857,000	6
Items that may be reclassified subsequently to profit or loss:				
Share of other comprehensive income (loss) of subsidiaries	10,245,960	16	(3,136,887)	(5)
Other comprehensive income for the year, net of income tax	7,702,975	12	720,113	1
TOTAL COMPREHENSIVE INCOME FOR THE YEAR	\$ 69,793,469	110	\$ 64,627,793	99
EARNINGS PER SHARE (Note 12)				
Basic	\$ 14.53		\$ 14.84	
Diluted	\$ 13.94		\$ 14.40	

The accompanying notes are an integral part of the parent company only financial statements.

(With Deloitte & Touche auditors' report dated February 22, 2023)

ASE TECHNOLOGY HOLDING CO., LTD.

PARENT COMPANY ONLY STATEMENTS OF CHANGES IN EQUITY
FOR THE YEARS ENDED DECEMBER 31, 2022 AND 2021
(In Thousands of New Taiwan Dollars)

								Other Equity							Treasury Shares	Total Equity
	Share Capital		Capital Surplus	Retained Earnings			Exchange Differences on Translating Foreign Operations	Unrealized Gain (Loss) on Financial Assets at Fair Value Through Other Comprehensive Income	Gain (Loss) on Hedging Instruments	Unearned Compensation	Total					
	Shares (In Thousands)	Amounts		Legal Reserve	Special Reserve	Unappropriated Earnings						Total				
BALANCE AT JANUARY 1, 2021	4,351,592	\$ 43,515,920	\$ 139,766,099	\$ 3,901,384	\$ 10,847,697	\$ 32,132,053	\$ 46,881,134	\$ (11,641,040)	\$ 2,501,278	\$ (429,265)	\$ -	\$ (9,569,027)	\$ (1,959,107)	\$ 218,635,019		
Appropriation of 2020 earnings																
Legal reserve	-	-	-	2,398,814	-	(2,398,814)	-	-	-	-	-	-	-	-		
Special reserve	-	-	-	-	(1,278,670)	1,278,670	-	-	-	-	-	-	-	-		
Cash dividends distributed by the Company	-	-	-	-	-	(18,389,856)	(18,389,856)	-	-	-	-	-	-	(18,389,856)		
	-	-	-	2,398,814	(1,278,670)	(19,510,000)	(18,389,856)	-	-	-	-	-	-	(18,389,856)		
Changes from investments in associates accounted for using the equity method	-	-	(30,533)	-	-	382,572	382,572	-	-	(450,054)	-	-	(450,054)	(98,015)		
Other changes in the capital surplus	-	-	1,633	-	-	-	-	-	-	-	-	-	-	1,633		
Net profit for the year ended December 31, 2021	-	-	-	-	-	63,907,680	63,907,680	-	-	-	-	-	-	63,907,680		
Other comprehensive income (loss) for the year ended December 31, 2021, net of income tax	-	-	-	-	-	25,842	25,842	(3,751,707)	3,894,880	551,098	-	694,271	-	720,113		
Total comprehensive income (loss) for the year ended December 31, 2021	-	-	-	-	-	63,933,522	63,933,522	(3,751,707)	3,894,880	551,098	-	694,271	-	64,627,793		
Buy-back of ordinary shares	-	-	-	-	-	-	-	-	-	-	-	-	(5,529,255)	(5,529,255)		
Cash dividends received by subsidiaries from the Company	-	-	305,737	-	-	-	-	-	-	-	-	-	-	305,737		
Changes in percentage of ownership interest in subsidiaries	-	-	(58,448)	-	-	(2,530,714)	(2,530,714)	-	-	-	-	-	-	(2,589,162)		
Issue of ordinary shares under employee share options (Note 13)	57,058	570,582	3,648,781	-	-	-	-	-	-	-	(1,164,991)	(1,164,991)	-	3,054,372		
Additional non-controlling interest arising on issue of employee share options by subsidiaries	-	-	58,448	-	-	-	-	-	-	-	-	-	-	58,448		
Disposal of investments in equity instruments at fair value through other comprehensive income	-	-	-	-	-	1,042,241	1,042,241	-	(1,042,241)	-	-	(1,042,241)	-	-		
BALANCE AT DECEMBER 31, 2021	4,408,650	\$ 44,086,502	\$ 143,691,717	\$ 6,300,198	\$ 9,569,027	\$ 75,449,674	\$ 91,318,899	\$ (15,392,747)	\$ 4,903,863	\$ 121,833	\$ (1,164,991)	\$ (11,532,042)	\$ (7,488,362)	\$ 260,076,714		
BALANCE AT JANUARY 1, 2022	4,408,650	\$ 44,086,502	\$ 143,691,717	\$ 6,300,198	\$ 9,569,027	\$ 75,449,674	\$ 91,318,899	\$ (15,392,747)	\$ 4,903,863	\$ 121,833	\$ (1,164,991)	\$ (11,532,042)	\$ (7,488,362)	\$ 260,076,714		
Appropriation of 2021 earnings																
Legal reserve	-	-	-	6,282,762	-	(6,282,762)	-	-	-	-	-	-	-	-		
Special reserve	-	-	-	-	798,025	(798,025)	-	-	-	-	-	-	-	-		
Cash dividends distributed by the Company	-	-	-	-	-	(30,501,981)	(30,501,981)	-	-	-	-	-	-	(30,501,981)		
	-	-	-	6,282,762	798,025	(37,582,768)	(30,501,981)	-	-	-	-	-	-	(30,501,981)		
Donations from shareholders	-	-	471,894	-	-	-	-	-	-	-	-	-	-	471,894		
Changes from investments in associates accounted for using the equity method	-	-	87,940	-	-	152,102	152,102	-	(152,102)	-	-	(152,102)	-	87,940		
Other changes in the capital surplus	-	-	1,186	-	-	-	-	-	-	-	-	-	-	1,186		

(Continued)

ASE TECHNOLOGY HOLDING CO., LTD.

PARENT COMPANY ONLY STATEMENTS OF CHANGES IN EQUITY
FOR THE YEARS ENDED DECEMBER 31, 2022 AND 2021
(In Thousands of New Taiwan Dollars)

								Other Equity								Treasury Shares	Total Equity
	Share Capital			Retained Earnings				Exchange Differences on Translating Foreign Operations	Unrealized Gain (Loss) on Financial Assets at Fair Value Through Other Comprehensive Income	Gain (Loss) on Hedging Instruments	Unearned Compensation	Total					
	Shares (In Thousands)	Amounts	Capital Surplus	Legal Reserve	Special Reserve	Unappropriated Earnings	Total										
Net profit for the year ended December 31, 2022	-	\$ -	\$ -	\$ -	\$ -	\$ 62,090,494	\$ 62,090,494	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ 62,090,494		
Other comprehensive income (loss) for the year ended December 31, 2022, net of income tax	-	-	-	-	-	895,896	895,896	9,864,258	(3,455,627)	398,448	-	6,807,079	-	-	7,702,975		
Total comprehensive income (loss) for the year ended December 31, 2022, net of income tax	-	-	-	-	-	62,986,390	62,986,390	9,864,258	(3,455,627)	398,448	-	6,807,079	-	-	69,793,469		
Buy-back of treasury shares	-	-	-	-	-	-	-	-	-	-	-	-	-	(205,608)	(205,608)		
Cancellation of treasury shares	(55,000)	(550,000)	(2,463,716)	-	-	(2,721,147)	(2,721,147)	-	-	-	-	-	-	5,734,863	-		
Cash dividends received by subsidiaries from the Company	-	-	38,404	-	-	-	-	-	-	-	-	-	-	-	38,404		
Changes in percentage of ownership interest in subsidiaries	-	-	(8,963)	-	-	(211,184)	(211,184)	-	-	-	-	-	-	-	(220,147)		
Issue of ordinary shares under employee share options (Note 13)	14,334	143,339	742,845	-	-	-	-	-	-	-	-	732,144	732,144	-	1,618,328		
Additional non-controlling interest arising on issue of employee share options by subsidiaries	-	-	125,049	-	-	-	-	-	-	-	-	-	-	-	125,049		
Disposal of investments in equity instruments at fair value through other comprehensive income	-	-	-	-	-	(190,525)	(190,525)	-	190,525	-	-	-	190,525	-	-		
BALANCE AT DECEMBER 31, 2022	4,367,984	\$ 43,679,841	\$ 142,686,356	\$ 12,582,960	\$ 10,367,052	\$ 97,862,542	\$ 120,832,554	\$ (5,528,489)	\$ 1,486,659	\$ 520,281	\$ (432,847)	\$ (3,954,396)	\$ (1,959,107)	\$ 301,285,248			

(Concluded)

The accompanying notes are an integral part of the parent company only financial statements.

(With Deloitte & Touche auditors' report dated February 22, 2023)

ASE TECHNOLOGY HOLDING CO., LTD.

PARENT COMPANY ONLY STATEMENTS OF CASH FLOWS FOR THE YEARS ENDED DECEMBER 31, 2022 AND 2021 (In Thousands of New Taiwan Dollars)

	For the Year Ended December 31	
	2022	2021
	NT\$	NT\$
CASH FLOWS FROM OPERATING ACTIVITIES		
Profit before income tax	\$ 61,754,683	\$ 63,722,216
Adjustments for:		
Depreciation expense	912	887
Amortization expense	7,195	6,361
Finance costs	675,576	699,912
Interest income	(1,119)	(111)
Share based compensations	207,461	65,842
Share of profit of subsidiaries	(63,383,227)	(65,091,179)
Changes in operating assets and liabilities		
Other current assets	(30,423)	(10,361)
Other payables	83,269	182,120
Other payables to related parties	(18)	43
Other current liabilities	754	528
Cash used in operations	(684,937)	(423,742)
Interest received	1,108	112
Dividend received	58,400,000	23,500,000
Interest paid	(638,740)	(636,665)
Income tax return	201,172	195,579
Net cash generated from operating activities	<u>57,278,603</u>	<u>22,635,284</u>
CASH FLOWS FROM INVESTING ACTIVITIES		
Acquisition of subsidiaries		
for using the equity method	(50,000)	-
Payments for intangible assets	(9,642)	(22,190)
Increase in other non-current assets	(1)	(311)
Net cash used in investing activities	<u>(59,643)</u>	<u>(22,501)</u>
CASH FLOWS FROM FINANCING ACTIVITIES		
Repayment of bonds	(6,204,800)	-
Proceeds from long-term borrowings	45,763,656	66,487,243
Repayment of long-term borrowings	(59,055,000)	(54,590,000)
Decrease in other payables to related parties	(8,225,000)	(13,165,000)
Repayment of the principle portion of lease liabilities	(826)	(820)
Dividends paid	(30,029,943)	(18,389,778)
Proceeds from exercise of employee share options	737,500	2,582,704
Payments for buy-back of ordinary shares	(205,608)	(5,529,255)
Other financing activities items	326	-
Net cash used in financing activities	<u>(57,219,695)</u>	<u>(22,604,906)</u>
NET INCREASE (DECREASE) IN CASH	(735)	7,877
CASH AT THE BEGINNING OF THE YEAR	<u>121,304</u>	<u>113,427</u>
CASH AT THE END OF THE YEAR	<u><u>\$ 120,569</u></u>	<u><u>\$ 121,304</u></u>

The accompanying notes are an integral part of the parent company only financial statements.

(With Deloitte & Touche auditors' report dated February 22, 2023)

ASE TECHNOLOGY HOLDING CO., LTD.

NOTES TO PARENT COMPANY ONLY FINANCIAL STATEMENTS
FOR THE YEARS ENDED DECEMBER 31, 2022 AND 2021
(In Thousands of New Taiwan Dollars, Unless Stated Otherwise)

1. GENERAL INFORMATION

ASE Technology Holding Co., Ltd. (the “Company”) is a corporation incorporated in Nanzih Technology Industrial Park (formerly known as Nantze Export Processing Zone) under the laws of Republic of China (R.O.C.) starting from April 30, 2018 (date of incorporation). The Company is an industrial investment holding company.

The Company’s subsidiaries, Advanced Semiconductor Engineering, Inc. (symbol “2311”, “ASE”) and Siliconware Precision Industries Co., Ltd. (symbol “2325”, “SPIL”), entered into and executed a joint share exchange agreement to establish the Company and the Company acquired all issued and outstanding ordinary shares of ASE and SPIL on April 30, 2018. Both of ASE’s and SPIL’s ordinary shares have been delisted while the ordinary shares of the Company were listed starting from the same date under the symbol “3711”. In addition, ASE’s ordinary shares that have been traded on the New York Stock Exchange (the “NYSE”) under the symbol “ASX” in the form of American Depositary Shares (“ADS”) starting from September 2000 were exchanged as the Company’s ADSs under the same symbol “ASX” starting from April 30, 2018.

The parent company only financial statements are presented in the Company’s functional currency, New Taiwan dollar (NT\$).

2. APPROVAL OF FINANCIAL STATEMENTS

The parent company only financial statements were authorized for issue by the Company’s board of directors on February 21, 2023.

3. APPLICATION OF NEW, AMENDED AND REVISED STANDARDS AND INTERPRETATIONS

- a. Initial application of the amendments to the International Financial Reporting Standards (IFRS), International Accounting Standards (IAS), IFRIC Interpretations (IFRIC), and SIC Interpretations (SIC) (collectively, the “IFRSs”) endorsed and issued into effect by the Financial Supervisory Commission (FSC).

The initial application of the IFRSs endorsed and issued into effect by the FSC did not have material impact on the Company’s accounting policies.

- b. The IFRSs endorsed by the FSC for application starting from 2023

New, Amended or Revised Standards and Interpretations	Effective Date Announced by International Accounting Standards Board (IASB)
Amendments to IAS 1 “Disclosure of Accounting Policies”	January 1, 2023 (Note 1)
Amendments to IAS 8 “Definition of Accounting Estimates”	January 1, 2023 (Note 2)

(Continued)

New, Amended or Revised Standards and Interpretations	Effective Date Announced by International Accounting Standards Board (IASB)
Amendments to IAS 12 “Deferred Tax related to Assets and Liabilities arising from a Single Transaction”	January 1, 2023 (Note 3)
	(Concluded)

Note 1: The amendments will be applied prospectively for annual reporting periods beginning on or after January 1, 2023.

Note 2: The amendments will be applicable to changes in accounting estimates and changes in accounting policies that occur on or after the annual reporting period beginning on or after January 1, 2023.

Note 3: Except for deferred taxes that were recognized on January 1, 2022 for temporary differences associated with leases and decommissioning obligations, the amendments were applied prospectively to transactions that occur on or after January 1, 2022.

As of the date the parent company only financial statements were authorized for issue, the Company has assessed that the application of other standards and interpretations will not have a material impact on the Company’s financial position and financial performance.

c. The IFRSs issued by IASB but not yet endorsed and issued into effect by the FSC

New, Amended or Revised Standards and Interpretations	Effective Date Announced by IASB (Note 1)
Amendments to IFRS 10 and IAS 28 “Sale or Contribution of Assets between An Investor and Its Associate or Joint Venture”	To be determined by IASB
Amendments to IFRS 16 “Leases Liability in a Sale and leaseback”	January 1, 2024 (Note 2)
Amendments to IAS 1 “Classification of Liabilities as Current or Non-current”	January 1, 2024
Amendments to IAS 1 “Non-current Liabilities with Covenants”	January 1, 2024

Note 1: Unless stated otherwise, the above IFRSs are effective for annual reporting periods beginning on or after their respective effective dates.

Note 2: A seller-lessee shall apply the Amendments to IFRS 16 retrospectively to sale and leaseback transactions entered into after the date of initial application of IFRS 16.

1) Amendments to IAS 1 “Classification of Liabilities as Current or Non-current” (referred to as the “2020 amendments”) and “Non-current Liabilities with Covenants” (referred to as the “2022 amendments”)

The 2020 amendments clarify that for a liability to be classified as non-current, the Company shall assess whether it has the right at the end of the reporting period to defer settlement of the liability for at least twelve months after the reporting period. If such rights are in existence at the end of the reporting period, the liability is classified as non-current regardless of whether the Company will exercise that right.

The 2020 amendments also stipulate that, if the right to defer settlement is subject to compliance with specified conditions, the Company must comply with those conditions at the end of the reporting period even if the lender does not test compliance until a later date. The 2022 amendments

further clarify that only covenants with which an entity is required to comply on or before the reporting date should affect the classification of a liability as current or non-current. Although the covenants to be complied with within twelve months after the reporting period do not affect the classification of a liability, the Company shall disclose information that enables users of financial statements to understand the risk of the Company that may have difficulty complying with the covenants and repay its liabilities within twelve months after the reporting period.

The 2020 amendments stipulate that, for the purpose of liability classification, the aforementioned settlement refers to a transfer of cash, other economic resources or the Company's own equity instruments to the counterparty that results in the extinguishment of the liability. However, if the terms of a liability that could, at the option of the counterparty, result in its settlement by a transfer of the Company's own equity instruments, and if such option is recognized separately as equity in accordance with IAS 32 "Financial Instruments: Presentation", the aforementioned terms would not affect the classification of the liability.

Except for the above impact, as of the date the parent company only financial statements were authorized for issue, the Company is continuously assessing the possible impact that the application of other standards and interpretations will have on the Company's financial position and financial performance and will disclose the relevant impact when the assessment is completed.

4. SUMMARY OF SIGNIFICANT ACCOUNTING POLICIES

a. Statement of compliance

The parent company only financial statements have been prepared in accordance with the Regulations Governing the Preparation of Financial Reports by Securities Issuers.

b. Basis of preparation

The parent company only financial statements have been prepared on the historical cost basis except for certain financial instruments that are measured at fair value.

The fair value measurements, which are grouped into Levels 1 to 3 based on the degree to which the fair value measurement inputs are observable and based on the significance of the inputs to the fair value measurement in its entirety, are described as follows:

- 1) Level 1 inputs are quoted prices (unadjusted) in active markets for identical assets or liabilities;
- 2) Level 2 inputs are inputs other than quoted prices included within Level 1 that are observable for an asset or a liability, either directly (i.e. as prices) or indirectly (i.e. derived from prices); and
- 3) Level 3 inputs are unobservable inputs for an asset or a liability.

When preparing the parent company only financial statements, the Company accounted for subsidiaries by using the equity method. In order to agree with the amount of the net income, other comprehensive income and equity attributable to shareholders of the parent in the consolidated financial statements, the differences of the accounting treatment between the parent company only basis and the consolidated basis are adjusted under the heading of investments accounted for using equity method, share of profits of subsidiaries and share of other comprehensive income of subsidiaries in the parent company only financial statements.

c. Classification of current and non-current assets and liabilities

Current assets include cash and those assets expected to be realized within 12 months after the balance sheet date, unless the asset is to be used for an exchange or to settle a liability, or otherwise remains

restricted, at more than 12 months after the balance sheet date. Current liabilities are obligations to be settled within 12 months after the balance sheet date (even if an agreement to refinance, or to reschedule payments, on a long-term basis is completed after the balance sheet date and before the parent company only financial statements are authorized for issue) and liabilities that do not have an unconditional right to defer settlement for at least 12 months after the balance sheet date (terms of a liability that could, at the option of the counterparty, result in its settlement by the issue of equity instruments do not affect its classification). Assets and liabilities that are not classified as current are classified as non-current.

d. Investments in subsidiaries

The Company uses the equity method to account for its investments in subsidiaries. A subsidiary is an entity that is controlled by the Company.

Under the equity method, an investment in a subsidiary is initially recognized at cost and adjusted thereafter to recognize the Company's share of the profit or loss and other comprehensive income of the subsidiary. The Company also recognizes the changes in the Company's share of equity of subsidiaries attributable to the Company.

Changes in the Company's ownership interest in a subsidiary that do not result in the Company losing control of the subsidiary are accounted for as equity transactions. The Company recognizes directly in equity any difference between the carrying amount of the investment and the fair value of the consideration paid or received.

Any excess of the cost of acquisition over the Company's share of the net fair value of the identifiable assets and liabilities of a subsidiary that constitutes a business at the date of acquisition is recognized as goodwill, which is included within the carrying amount of the investment and is not amortized. Any excess of the Company's share of the net fair value of the identifiable assets and liabilities of a subsidiary that constitutes a business over the cost of acquisition is recognized immediately in profit or loss.

The Company assesses its investment for any impairment by comparing the carrying amount with the estimated recoverable amount as assessed based on the investee's financial statements as a whole. Impairment loss is recognized when the carrying amount exceeds the recoverable amount. If the recoverable amount of the investment subsequently increases, the Company recognizes a reversal of the impairment loss; the adjusted post-reversal carrying amount should not exceed the carrying amount that would have been recognized (net of amortization or depreciation) had no impairment loss been recognized in prior years. An impairment loss recognized on goodwill cannot be reversed in a subsequent period.

Profits or losses resulting from downstream transactions are eliminated in full only in the parent company's financial statements. Profits or losses resulting from upstream transactions and transactions between subsidiaries are recognized only in the parent company's financial statements only to the extent of interests in the subsidiaries that are not related to the Company.

e. Property, plant and equipment

Property, plant and equipment are initially measured at cost and subsequently measured at cost less accumulated depreciation and accumulated impairment loss.

The depreciation of property, plant and equipment is recognized using the straight-line method. Each significant part is depreciated separately. The estimated useful lives, residual values and depreciation methods are reviewed at the end of each reporting period, with the effects of any changes in the estimates accounted for on a prospective basis.

f. Other intangible assets

Other intangible assets with finite useful lives acquired separately are initially measured at cost and subsequently measured at cost less accumulated amortization and accumulated impairment loss. Other intangible assets are amortized using the straight-line method over their estimated useful lives. The estimated useful lives, residual values, and amortization methods are reviewed at each balance sheet date, with the effect of any changes in estimate being accounted for on a prospective basis.

g. Leases

At the inception of a contract, the Company assesses whether the contract is, or contains, a lease.

The Company as lessee

The Company recognizes right-of-use assets and lease liabilities for all leases at the commencement date of a lease, except for short-term leases and low-value asset leases accounted for by applying a recognition exemption where lease payments are recognized as expenses on a straight-line basis over the lease terms.

Right-of-use assets are initially measured at cost, which comprises the initial measurement of lease liabilities adjusted for lease payments made at or before the commencement date, plus any initial direct costs incurred and an estimate of costs needed to restore the underlying assets, and less any lease incentives received. Right-of-use assets are subsequently measured at cost less accumulated depreciation and impairment losses and adjusted for any remeasurement of the lease liabilities.

Right-of-use assets are depreciated using the straight-line method from the commencement dates to the earlier of the end of the useful lives of the right-of-use assets or the end of the lease terms.

Lease liabilities are initially measured at the present value of the lease payments, which comprise fixed payments, in-substance fixed payments, variable lease payments which depend on an index or a rate, residual value guarantees, the exercise price of a purchase option if the Company is reasonably certain to exercise that option, and payments of penalties for terminating a lease if the lease term reflects such termination, less any lease incentives receivable. The lease payments are discounted using the interest rate implicit in a lease, if that rate can be readily determined. If that rate cannot be readily determined, the lessee's incremental borrowing rate will be used.

Subsequently, lease liabilities are measured at amortized cost using the effective interest method, with interest expense recognized over the lease terms. When there is a change in a lease term, a change in the amounts expected to be payable under a residual value guarantee, a change in the assessment of an option to purchase an underlying asset, or a change in future lease payments resulting from a change in an index or a rate used to determine those payments, the Company remeasures the lease liabilities with a corresponding adjustment to the right-of-use-assets. However, if the carrying amount of the right-of-use assets is reduced to zero, any remaining amount of the remeasurement is recognized in profit or loss.

h. Borrowing costs

Borrowing costs are recognized in profit or loss in the period in which they are incurred.

i. Employee benefits

1) Short-term employee benefits

Liabilities recognized in respect of short-term employee benefits are measured at the undiscounted amount of the benefits expected to be paid in exchange for the related services.

2) Retirement benefits

Payments to defined contribution retirement benefit plans are recognized as expenses when employees have rendered services entitling them to the contributions.

j. Share-based payment arrangements

The fair value at the grant date of the employee share options and restricted stocks for employees is expensed on a straight-line basis over the vesting period, based on the Company's best estimate of the number of options or stocks that are expected to ultimately vest, with a corresponding increase in capital surplus - employee share options and other equity - unearned employee benefits. It is recognized as an expense in full at the grant date if vesting immediately.

When restricted stocks for employees are issued, other equity - unearned employee benefits is recognized on the grant date, with a corresponding increase in capital surplus - restricted stocks for employees.

At each balance sheet date, the Company reviews its estimate of the number of employee share options and restricted stocks for employees expected to vest. The impact of the revision of the original estimates is recognized in profit or loss such that the cumulative expense reflects the revised estimate, with a corresponding adjustment to the capital surplus - employee share options and capital surplus - restricted stocks for employees.

The grant by the Company of its equity instruments to the employees of a subsidiary under options and restricted stocks is treated as a capital contribution. The fair value of employee services received under the arrangement is measured by reference to the grant-date fair value and is recognized over the vesting period as an addition to the investment in the subsidiary, with a corresponding credit to capital surplus - employee share options and capital surplus - restricted stocks for employees.

k. Taxation

Income tax expense represents the sum of the tax currently payable and deferred tax.

1) Current tax

According to the Income Tax Law of the R.O.C., an additional tax of unappropriated earnings is provided for in the year the shareholders approve to retain earnings.

Adjustments of prior years' tax liabilities are added to or deducted from the current year's tax provision.

2) Deferred tax

Deferred tax is recognized on temporary differences between the carrying amounts of assets and liabilities and the corresponding tax bases used in the computation of taxable profit.

If a temporary difference arises from the initial recognition (other than in a business combination) of assets and liabilities in a transaction that affects neither the taxable profit nor the accounting profit, the resulting deferred tax asset or liability is not recognized. In addition, a deferred tax liability is not recognized on any taxable temporary difference arising from the initial recognition of goodwill included in the investment in the subsidiary.

Deferred tax liabilities are generally recognized for all taxable temporary differences. Deferred tax assets are generally recognized for all deductible temporary differences and unused loss carryforwards to the extent that it is probable that taxable profits will be available against which those deductible temporary differences can be utilized.

Deferred tax liabilities are recognized for taxable temporary differences associated with investments in subsidiaries, except where the Company is able to control the reversal of the temporary difference and it is probable that the temporary difference will not reverse in the foreseeable future. Deferred tax assets arising from deductible temporary difference associated with such investments and interests are only recognized to the extent that it is probable that there will be sufficient taxable profits against which to utilize the benefits of the temporary differences and they are expected to reverse in the foreseeable future.

The carrying amount of deferred tax assets is reviewed at each balance sheet date and reduced to the extent that it is no longer probable that sufficient taxable profits will be available to allow all or part of the assets to be recovered. A previously unrecognized deferred tax asset is also reviewed at each balance sheet date and recognized to the extent that it has become probable that future taxable profit will allow the deferred tax asset to be recovered.

Deferred tax liabilities and assets are measured at the tax rates that are expected to apply in the period in which the liabilities are settled or assets are realized, based on tax rates (and tax laws) that have been enacted or substantively enacted by the balance sheet date. The measurement of deferred tax liabilities and assets reflects the tax consequences that would follow from the manner in which the Company expects, at the balance sheet date, to recover or settle the carrying amount of its assets and liabilities.

3) Current and deferred tax for the year

Current and deferred tax are recognized in profit or loss, except when they relate to items that are recognized in other comprehensive income or directly in equity, in which case, the current and deferred tax are also recognized in other comprehensive income or directly in equity, respectively.

Where current tax or deferred tax arises from the initial accounting for a business combination, the tax effect is included in the accounting for the business combination.

5. CRITICAL ACCOUNTING JUDGMENTS AND KEY SOURCES OF ESTIMATION UNCERTAINTY

In the application of the Company's accounting policies, management is required to make judgments, estimates, and assumptions about the carrying amounts of assets and liabilities that are not readily apparent from other sources. The estimates and underlying assumptions are based on historical experience and other factors that are considered to be relevant. Actual results may differ from these estimates.

The Company considers the possible impact of the recent development of the COVID-19 and its economic environment implications when making its critical accounting estimates in cash flow projections, growth rate, discount rate, profitability, etc. The estimates and underlying assumptions are reviewed on an ongoing basis. Revisions to accounting estimates are recognized in the period in which the estimates are revised if the revisions affect only that period or in the period of the revision and future periods if the revision affects both current and future periods.

Impairment of goodwill included in the investments in subsidiaries

While acquiring a subsidiary, any excess of the cost of acquisition over the Company's share of the fair value of the subsidiary's identifiable assets and liabilities of a subsidiary that constitutes a business at the date of acquisition is recognized as goodwill, which is included in the carrying amount of the investment and is not amortized but evaluated for impairment annually. The Company assesses goodwill for impairment by estimating the value in use of cash generating units to which goodwill is attributed. In order to assess the value in use, management is required to estimate the expected future cash flows generated from cash generating units and determine appropriate discount rates used for calculating the present value.

If the actual cash flow is less than the expected, significant impairment loss may occur.

6. INVESTMENTS ACCOUNTED FOR USING THE EQUITY METHOD

The investments accounted for using the equity method were the Company’s investments in subsidiaries:

	December 31			
	2022		2021	
	Carrying Amount	Ownership	Carrying Amount	Ownership
	NT\$	(%)	NT\$	(%)
ASE	\$ 142,475,904	100.0	\$ 139,413,170	100.0
SPIL	164,635,609	100.0	164,686,535	100.0
USI Inc. (“USIINC”)	45,114,733	100.0	34,735,115	100.0
ASE Social Enterprise Co., Ltd (“ASESOCIAL”)	<u>50,103</u>	100.0	<u>-</u>	-
	<u>\$ 352,276,349</u>		<u>\$ 338,834,820</u>	

The Company established ASESOCIAL with NT\$50,000 thousand in June 2022, which mainly engages in social work services.

7. LONG-TERM BORROWINGS

a. Bank loans

	December 31	
	2022	2021
	NT\$	NT\$
Revolving bank loans		
Repayable through April 2024 to December 2024, annual interest rates were 1.43%-1.60% and 0.72%-0.88% as of December 31, 2022 and 2021, respectively	<u>\$ 11,575,000</u>	<u>\$ 19,845,000</u>

b. Long-term bills payable

	December 31	
	2022	2021
	NT\$	NT\$
Ta Ching Bills Finance Corporation, repayable through March 2024, annual interest rates were 0.94% and 0.65% as of December 31, 2022 and 2021, respectively	\$ 2,000,000	\$ 1,500,000
China Bills Finance Corporation, redeemed in March 2022, annual interest rates were 0.65% as of December 31, 2021	-	2,000,000
Mega Bills Finance Corporation, redeemed in March 2022, annual interest rates were 0.65% as of December 31, 2021	-	2,000,000
International Bills Finance Corporation, redeemed in March 2022, annual interest rates was 0.65% as of December 31, 2021	<u>-</u>	<u>1,500,000</u>
	2,000,000	7,000,000
		(Continued)

	December 31	
	2022	2021
	NT\$	NT\$
Less: unamortized discounts	\$ 257	\$ 979
	<u>\$ 1,999,743</u>	<u>\$ 6,999,021</u>
		(Concluded)

8. BONDS PAYABLE

	December 31	
	2022	2021
	NT\$	NT\$
Unsecured domestic bonds		
Repayable at maturity in April 2024 and interest due annually with annual interest rate at 0.90%	\$ 6,500,000	\$ 6,500,000
Repayable at maturity in April 2026 and interest due annually with annual interest rate at 1.03%	3,500,000	3,500,000
Repayable at maturity in April 2025 and interest due annually with annual interest rate at 0.90%	10,000,000	10,000,000
Repayable at maturity in August 2023 and interest due annually with annual interest rate at 0.72%	3,000,000	3,000,000
Repayable at maturity in August 2025 and interest due annually with annual interest rate at 0.85%	5,000,000	5,000,000
Repayable at maturity in August 2027 and interest due annually with annual interest rate at 0.95%	2,000,000	2,000,000
Unsecured overseas bonds		
US\$200,000 thousand (linked to New Taiwan dollar), fully redeemed in Septmber 2022 and interest due quarterly with annual interest rate at 2.15%	-	6,204,800
US\$100,000 thousand (linked to New Taiwan dollar), repayable at maturity in October 2024 and interest due quarterly with annual interest rate at 2.50%	<u>3,102,400</u>	<u>3,102,400</u>
	33,102,400	39,307,200
Less: discounts on bonds payable	<u>21,958</u>	<u>34,789</u>
	33,080,442	39,272,411
Less: current portion of bonds payable	<u>2,998,981</u>	<u>6,202,753</u>
	<u>\$ 30,081,461</u>	<u>\$ 33,069,658</u>

9. EQUITY

a. Share capital

Ordinary shares

	December 31	
	2022	2021
Numbers of shares authorized (in thousands)	<u>5,500,000</u>	<u>5,500,000</u>
		(Continued)

	December 31	
	2022	2021
Numbers of shares reserved (in thousands)		
Employee share options	<u>400,000</u>	<u>400,000</u>
Shares capital authorized	<u>\$ 55,000,000</u>	<u>\$ 55,000,000</u>
Shares capital reserved		
Employee share options	<u>\$ 4,000,000</u>	<u>\$ 4,000,000</u>
Number of shares issued and fully paid (in thousands)	<u>4,367,984</u>	<u>4,408,650</u>
		(Concluded)

American Depositary Receipts

The Company's ADS represents 2 ordinary shares of the Company. As of December 31, 2022 and 2021, 157,164 thousand ADSs were outstanding and represented approximately 314,328 thousand ordinary shares of the Company.

b. Capital surplus

	December 31	
	2022	2021
	NT\$	NT\$
May be used to offset a deficit, distributed as cash dividends, or transferred to share capital (1)		
Issuance of ordinary shares	\$ 15,072,129	\$ 16,049,286
Merger by share exchange	117,693,658	117,693,658
Difference between consideration and the carrying amount of the subsidiaries' net assets during actual disposal or acquisition	3,240,987	3,240,987
Exercised employee share options	2,943,447	2,362,951
Treasury share transactions	38,404	816,186
Donations	471,894	-
Expired share options	<u>646,447</u>	<u>645,903</u>
	<u>140,106,966</u>	<u>140,808,971</u>
May be used to offset a deficit only		
Changes in percentage of ownership interest in subsidiaries (2)	116,086	-
Share of changes in capital surplus of associates	98,646	10,706
Dividends that the claim period has elapsed and unclaimed by shareholders	6,043	5,183
Exercised disgorgement	<u>326</u>	<u>-</u>
	<u>221,101</u>	<u>15,889</u>
May not be used for any purpose		
Employee share options	1,425,171	1,442,132
Restricted stocks for employees	778,387	1,193,782
Others (3)	<u>154,731</u>	<u>230,943</u>
	<u>2,358,289</u>	<u>2,866,857</u>
	<u>\$ 142,686,356</u>	<u>\$ 143,691,717</u>

- 1) Such capital surplus may be used to offset a deficit; in addition, when the Company has no deficit, such capital surplus may be distributed as cash dividends or transferred to share capital (limited to a certain percentage of the Company's capital surplus and once a year).
- 2) Such capital surplus arises from the effects of changes in ownership interests in subsidiaries resulting from equity transactions other than actual disposals or acquisitions, or from changes in capital surplus of subsidiaries accounted for using the equity method.
- 3) Such capital surplus represents the excess of the carrying amount of related accounts over the par value due to employee share options exercised and the Company has not completed registration formalities.

c. Retained earnings and dividend policy

The Articles of Incorporation of the Company (the "Articles") provides that annual net income shall be distributed in the following order:

- 1) Replenishment of deficits;
- 2) 10.0% as legal reserve;
- 3) Special reserve appropriated or reversed in accordance with laws or regulations set forth by the authorities concerned;
- 4) If annual net income remains, a proposal for the distribution of such amount together with a part or all of the accumulated undistributed profits from previous years shall be prepared by the board of directors and submit to the shareholders' meeting for resolution. However, the distributable dividends may be paid in cash after a resolution has been adopted by a majority vote at a meeting of the board of directors attended by two-thirds of the total number of directors; and in addition thereto a report of such distribution shall be submitted to the shareholders' meeting.

For the policies on the distribution of employees' compensation and remuneration of directors, refer to employees' compensation and remuneration of directors in Note 10(d).

The Company is currently in the mature growth stage. To meet the capital needs for business development now and in the future and satisfy the shareholders' demand for cash inflows, the Company shall use residual dividend policy to distribute dividends, of which the cash dividend is not lower than 30% of the total dividend distribution, with the remainder to be distributed in shares. A distribution plan is also to be made by the board of directors and passed for resolution in the shareholders' meeting.

Appropriation of earnings to legal reserve shall be made until the legal reserve equals the Company's share capital. Legal reserve may be used to offset deficits. If the Company has no deficit and the legal reserve has exceeded 25% of the Company's share capital, the excess may be transferred to capital or distributed in cash.

Items referred to under Rule No. 1090150022 issued by the FSC and in the directive titled "Questions and Answers for Special Reserves Appropriated Following Adoption of IFRSs" should be appropriated to or reversed from a special reserve by the Company.

The appropriation of earnings for 2021 and 2020, respectively, were as follows:

	Appropriation of Earnings		Dividends Per Share	
	For Year 2021	For Year 2020	For Year 2021	For Year 2020
	NT\$	NT\$	NT\$ (in dollars)	NT\$ (in dollars)
Legal reserve	\$ 6,282,762	\$ 2,398,814		
Special reserve (reversed)	798,025	(1,278,670)		
Cash dividends	<u>30,501,981</u>	<u>18,389,856</u>	\$7.0	\$4.2
	<u>\$ 37,582,768</u>	<u>\$ 19,510,000</u>		

The above 2021 appropriations of earnings for cash dividends had been resolved by the Company's board of directors in March, 2022; the other proposed appropriations items for 2021 had been resolved by the shareholders in the meeting held in June, 2022. The proposed appropriations of earnings for 2020 had been resolved by the shareholders in the meeting in August, 2021.

d. Others equity items

1) Exchange differences on translating foreign operations

	For the Year Ended December 31	
	2022	2021
	NT\$	NT\$
Balance at January 1	\$(15,392,747)	\$(11,641,040)
Recognized during the year		
Share from subsidiaries accounted for using the equity method	<u>9,864,258</u>	<u>(3,751,707)</u>
Balance at December 31	<u>\$ (5,528,489)</u>	<u>\$ (15,392,747)</u>

2) Unrealized gain (loss) on financial assets at FVTOCI

	For the Year Ended December 31	
	2022	2021
	NT\$	NT\$
Balance at January 1	\$ 4,903,863	\$ 2,501,278
Unrealized gain (loss) recognized during the year		
Share from subsidiaries accounted for using the equity method	<u>(3,455,627)</u>	<u>3,894,880</u>
Other comprehensive income (loss) recognized for the year	<u>(3,455,627)</u>	<u>3,894,880</u>
Cumulative unrealized loss (gain) transferred to retained earnings due to disposal of equity instruments in relation to subsidiaries accounted for using the equity method	<u>38,423</u>	<u>(1,492,295)</u>
Balance at December 31	<u>\$ 1,486,659</u>	<u>\$ 4,903,863</u>

3) Gain (loss) on hedging instruments - hedges of net investments of foreign operations

	For the Year Ended December 31	
	2022	2021
	NT\$	NT\$
Balance at January 1	\$ 121,833	\$ (429,265)
Recognized during the year		
Share from subsidiaries accounted for using the equity method	<u>398,448</u>	<u>551,098</u>
Balance at December 31	<u>\$ 520,281</u>	<u>\$ 121,833</u>

4) Unearned employee compensation

In August 2021, the shareholders' meeting resolved to issue restricted stock awards to employees. Refer to Note 13 for the information.

	For the Year Ended December 31	
	2022	2021
	NT\$	NT\$
Balance at January 1	\$ (1,164,991)	\$ -
Issuance of shares	-	(1,343,782)
Share from subsidiaries accounted for using the equity method	530,529	130,159
Share-based payment expenses	198,219	48,632
Valuation adjustments	<u>3,396</u>	<u>-</u>
Balance at December 31	<u>\$ (432,847)</u>	<u>\$ (1,164,991)</u>

e. Treasury shares (in thousand shares)

Purpose of Repurchase	Shares Cancelled	Shares Held by Subsidiaries	Total
Balance at January 1, 2022	53,067	72,941	126,008
Increase during the period	1,933	-	1,933
Decrease during the period	<u>(55,000)</u>	<u>-</u>	<u>(55,000)</u>
Balance at December 31, 2022	<u>-</u>	<u>72,941</u>	<u>72,941</u>
Balance at January 1, 2021	-	72,941	72,941
Increase during the period	<u>53,067</u>	<u>-</u>	<u>53,067</u>
Balance at December 31, 2021	<u>53,067</u>	<u>72,941</u>	<u>126,008</u>

In order to maintain the Company's credit and shareholders' rights and interests, the Company's board of directors resolved in November 2021 to repurchase up to 55,000 thousand of the Company's ordinary shares for cancellation at prices between NT\$90 to NT\$150 per share during November 8, 2021 to January 7, 2022. The Company has completed the repurchase of 55,000 thousand shares at an average price of NT\$104.3 per share. In February 2022, the Company's board of directors resolved that February 25, 2022 was the record date for capital reduction and completed the cancellation of those repurchased ordinary shares.

In order to align with the Group’s financial strategy to simplify its investment management, ASE Test and J&R Holding reduced capital in the fourth quarter of 2022 by remitting 44,100 thousand and 23,352 thousand common shares of the Company, respectively, to their shareholder, ASE.

The Company’s shares held by its subsidiaries at each balance sheet date were as follows:

	Shares Held By Subsidiaries (In thousand shares)	Carrying amount NT\$	Fair Value NT\$
<hr/> December 31, 2022 <hr/>			
ASE	67,452	\$ 1,762,430	\$ 6,333,754
ASE Test, Inc.	<u>5,489</u>	<u>196,677</u>	<u>515,454</u>
	<u>72,941</u>	<u>\$ 1,959,107</u>	<u>\$ 6,849,208</u>
<hr/> December 31, 2021 <hr/>			
ASE Test Limited	44,100	\$ 1,380,721	\$ 4,696,675
J & R Holding Limited	23,352	381,709	2,486,975
ASE Test, Inc.	<u>5,489</u>	<u>196,677</u>	<u>584,620</u>
	<u>72,941</u>	<u>\$ 1,959,107</u>	<u>\$ 7,768,270</u>

Fair value (Level 1) of the Company’s shares held by subsidiaries is based on the closing price from an available published price quotation.

Under the Securities and Exchange Act, the Company shall neither pledge treasury shares nor exercise shareholders’ rights on these shares, such as the rights to dividends and voting. The subsidiaries holding the aforementioned treasury shares are bestowed shareholders’ rights except the rights to participate in any share issuance for cash and voting.

10. PROFIT BEFORE INCOME TAX

a. Other income

	For the Year Ended December 31	
	2022	2021
	NT\$	NT\$
Subsidy income	\$ 170,429	\$ 93,136
Interest income	<u>1,119</u>	<u>111</u>
	<u>\$ 171,548</u>	<u>\$ 93,247</u>

b. Finance costs

	For the Year Ended December 31	
	2022	2021
	NT\$	NT\$
Interests on bonds payable	\$ 457,819	\$ 492,114
Interests on borrowings	192,987	164,852
Interests on loans from related parties	24,530	38,513
Interests on lease liabilities	<u>59</u>	<u>66</u>
Total interest expense for financial liabilities measured at amortized cost	675,395	695,545
Other finance costs	<u>181</u>	<u>4,367</u>
	<u>\$ 675,576</u>	<u>\$ 699,912</u>

c. Employee benefits expense

	For the Year Ended December 31	
	2022	2021
	NT\$	NT\$
Post-employment benefits		
Defined contribution plans	\$ 3,914	\$ 3,596
Equity-settled share-based payments	207,461	65,842
Other employee benefits	<u>654,734</u>	<u>551,172</u>
	<u>\$ 866,109</u>	<u>\$ 620,610</u>
Summary of employee benefits expense by function		
Operating expenses	<u>\$ 866,109</u>	<u>\$ 620,610</u>

d. Employees' compensation and the remuneration to directors

The Articles stipulates to distribute employees' compensation and remuneration to directors at the rates of 0.01%-1.00% and no higher than 0.75%, respectively, of net profit before income tax, employees' compensation and remuneration to directors.

	For the Year Ended December 31			
	2022		2021	
	Accrual rate	Accrual amount NT\$	Accrual rate	Accrual amount NT\$
Employees' compensation	0.25%	\$ 155,398	0.19%	\$ 121,935
Remuneration to directors	0.40%	248,637	0.30%	195,095

If there is a change in the proposed amounts after the parent company only financial statements authorized for issue, the differences are recorded as a change in accounting estimate and will be adjusted in the following year.

In March 2022 and 2021, the board of directors resolved the appropriations of employees' compensation and remuneration to directors in cash for 2021 and 2020, respectively. The differences between the resolved amounts and the accrued amounts reflected in the parent company only financial statements for the years ended December 31, 2021 and 2020 were deemed changes in estimates. The differences were NT\$1,030 thousand and NT\$818 thousand and were adjusted in net profit for each of the year ended December 31, 2022 and 2021, respectively.

	For Year 2021		For Year 2020	
	Employees' compensation	Remuneration to directors	Employees' compensation	Remuneration to directors
	NT\$	NT\$	NT\$	NT\$
Resolved by the board of directors	\$ <u>122,000</u>	\$ <u>194,000</u>	\$ <u>54,909</u>	\$ <u>109,000</u>
Recognized in the parent company only financial statements	\$ <u>121,935</u>	\$ <u>195,095</u>	\$ <u>54,909</u>	\$ <u>109,818</u>

Information on the employees' compensation and the remuneration to directors resolved by the board of directors are available on the Market Observation Post System website of the Taiwan Stock Exchange (the "TWSE").

11. INCOME TAX

The Company and its subsidiaries, ASE, SPIL and USIINC, have filed a consolidated tax return for corporate income tax and for unappropriated earnings. As a result, NT\$297,326 thousand and NT\$213,161 thousand were recognized in other receivables from related parties for the years ended December 31, 2022 and 2021, respectively.

a. Income tax recognized in profit or loss

The major components of income tax benefits were as follows:

	For the Year Ended December 31	
	2022	2021
	NT\$	NT\$
Current income tax		
In respect of the current year	\$ (246,092)	\$ (185,221)
Changes in estimate for prior years	<u>(89,719)</u>	<u>(243)</u>
	<u>\$ (335,811)</u>	<u>\$ (185,464)</u>

A reconciliation of income tax expense calculated at the statutory rates and income tax benefits recognized in profit or loss was as follows:

	For the Year Ended December 31	
	2022	2021
	NT\$	NT\$
Profit before income tax	<u>\$ 61,754,683</u>	<u>\$ 63,722,216</u>
Income tax expense calculated at the statutory rate	\$ 12,350,937	\$ 12,744,443
Nontaxable expense in determining taxable income	61,127	78,450
Tax-exempt income	(12,676,645)	(13,018,236)
The origination and reversal of temporary differences	1,447	808
Non-deductible withholding tax	17,043	9,314
Income tax adjustments on prior years	<u>(89,719)</u>	<u>(243)</u>
	<u>\$ (335,811)</u>	<u>\$ (185,464)</u>

- b. Income tax recognized in other comprehensive income

	For the Year Ended December 31	
	2022	2021
	NT\$	NT\$
Deferred income tax		
Share of other comprehensive income of subsidiaries and associates	\$ (190,428)	\$ (16,106)

- c. Income tax assessments

The tax returns of the Company through 2019 has been assessed by the tax authorities.

12. EARNINGS PER SHARE

The earnings and weighted average number of ordinary shares outstanding in the computation of earnings per share were as follows:

Net profit for the year

	For the Year Ended December 31	
	2022	2021
	NT\$	NT\$
Profit for the year	\$ 62,090,494	\$ 63,907,680
Effect of potentially dilutive ordinary shares:		
Potential ordinary shares of the subsidiaries	(1,811,449)	(1,056,778)
Earnings used in the computation of diluted earnings per share	\$ 60,279,045	\$ 62,850,902

Weighted average number of ordinary shares outstanding (in thousand shares):

	For the Year Ended December 31	
	2022	2021
Weighted average number of ordinary shares in the computation of basic earnings per share	4,274,687	4,305,348
Effect of potentially dilutive ordinary shares:		
Employee share options	40,351	58,113
Employees' compensation	1,940	1,264
Employee restricted stock awards	6,445	943
Weighted average number of ordinary shares in the computation of diluted earnings per share	4,323,423	4,365,668

The Company is able to settle the employees' compensation by cash or shares. The Company assumed that the entire amount of the compensation would be settled in shares and the resulting potential shares were included in the weighted average number of ordinary shares outstanding used in the computation of diluted earnings per share if the effect is dilutive. Such dilutive effect of the potential shares was included in the computation of diluted earnings per share until the board of directors approve the number of shares to be distributed to employees at their meeting in the following year.

13. SHARE-BASED PAYMENT ARRANGEMENTS

a. Employee share option plans of the Company

In order to attract, retain and reward employees, the Company and its subsidiary, ASE, have their employee share option plans for the Group’s full-time employees. As disclosed in Note 1, the Company assumed ASE’s obligations of outstanding employee share option plans starting from April 30, 2018 and each share option represents the right to purchase 0.5 ordinary share of the Company when exercised. The right of those share options granted under the plan is valid for 10 years, non-transferable and exercisable at certain percentages subsequent to the second anniversary of the grant date. For any subsequent changes in the Company’s capital structure or when cash dividend per ordinary share exceeds 1.5% of the market price per ordinary share, the exercise price is accordingly adjusted.

Information about the share option plans that the Company granted and assumed for the years ended December 31, 2022 and 2021 was as follows:

	For the Year ended December 31			
	2022		2021	
	Number of Options (In Thousands)	Weighted Average Exercise Price Per Share (NT\$)	Number of Options (In Thousands)	Weighted Average Exercise Price Per Share (NT\$)
Balance at January 1	96,802	\$ 53.3	144,767	\$ 56.9
Options forfeited	(1,206)	51.1	(5,907)	52.3
Options exercised	<u>(14,334)</u>	51.5	<u>(42,058)</u>	61.4
Balance at December 31	<u>81,262</u>	50.2	<u>96,802</u>	53.3
Options exercisable, end of year	<u>58,216</u>	51.3	<u>49,696</u>	55.5

The weighted average share prices at exercise dates of share options for the years ended December 31, 2022 and 2021 were NT\$92.4 and NT\$108.8, respectively.

Information about the outstanding share options at each balance sheet date was as follows:

	Range of Exercise Price Per Share (NT\$)	Weighted Average Remaining Contractual Life (Years)
December 31, 2022		
ASE 5 th share options	\$ 73.0	2.7
The Company 1 st share options	47.5	5.9
December 31, 2021		
ASE 5 th share options	73.0	3.7
The Company 1 st share options	51.0	6.9

The Company’s board of directors resolved in February 2023 to issue the Company’s second share options plan and granted 150,000 thousand share units. Each unit represents the right to purchase one newly issued ordinary share of the Company when exercised, which amounted to 150,000 thousand shares.

b. Employee restricted stock awards plan of the Company

To attract and retain talents as well as motivate and engage employees, the Company's annual shareholders' meeting resolved in August 2021 to issue the 2021 employee restricted stock awards plan and granted 15,000 thousand ordinary shares on the record date of October 1, 2021. The par value and the exercise price were NT\$10 and NT\$0 per share, respectively. The fair value at the grant day was NT\$92.4 per share.

The vested shares are settled and issued on an annual basis during a three-year period starting from October 1, 2021. Up to one-third of the total shares granted will be vested only after the Company reaches specific performance targets before the end of each year-period. Except for inheritance, those shares shall not be sold, pledged, transferred, gifted, conditioned, or otherwise disposed of before vest, while the rights of attending, proposing, speaking, voting and election at shareholders meeting and other rights, including but not limited to, stock dividend, cash dividend, distribution from legal reserve and capital surplus, share options at cash capital increase are identical with the Company's ordinary shares issued and outstanding. All the shares under this plan should be deposited in a trust account before vest.

After the grant date, the Company has the right to revoke and cancel those unvested shares. The dividends (including cash dividends, stock dividends, and the cash or the shares distributed from legal reserve or capital surplus) entitled to those unvested shares and interests derived therefrom shall be returned to the Company from the trust account at the same time.

Information about employee restricted stocks was as follows:

	For the Year ended December 31	
	2022	2021
	Number of Options (In Thousands)	Number of Options (In Thousands)
Balance at January 1	15,000	-
Stocks granted	-	15,000
Stocks unrestricted	<u>(5,000)</u>	<u>-</u>
Balance at December 31	<u>10,000</u>	<u>15,000</u>

For the years ended December 31, 2022 and 2021, employee benefits expense recognized on the aforementioned employee share option plans and the employee restricted stock awards plan were NT\$207,461 thousand and NT\$65,842 thousand, respectively.

14. CASH FLOWS INFORMATION

Changes in liabilities arising from financing activities

For the year ended December 31, 2022

	Bonds payable	Long-term borrowings	Other payables to related parties	Lease liabilities (under the line item of other current and non-current liabilities)	Total
	NT\$	NT\$	NT\$	NT\$	NT\$
Balance at January 1, 2022	\$ 39,272,411	\$ 26,844,021	\$ 12,305,219	\$ 7,685	\$ 78,429,336
Net financing cash flows	(6,204,800)	(13,291,344)	(8,225,000)	(826)	(27,721,970)

(Continued)

	Bonds payable	Long-term borrowings	Other payables to related parties	Lease liabilities (under the line item of other current and non-current liabilities)	Total
	NT\$	NT\$	NT\$	NT\$	NT\$
Non-cash changes					
Amortization of issuance cost	\$ 12,831	\$ 22,066	\$ -	\$ -	\$ 34,897
Others	-	-	(18)	-	(18)
Balance at December 31, 2022	<u>\$ 33,080,442</u>	<u>\$ 13,574,743</u>	<u>\$ 4,080,201</u>	<u>\$ 6,859</u>	<u>\$ 50,742,245</u> (Concluded)

For the year ended December 31, 2021

	Bonds payable	Long-term borrowings	Other payables to related parties	Lease liabilities (under the line item of other current and non-current liabilities)	Total
	NT\$	NT\$	NT\$	NT\$	NT\$
Balance at January 1, 2021	\$ 39,258,910	\$ 14,898,654	\$ 25,470,176	\$ -	\$ 79,627,740
Net financing cash flows	-	11,897,243	(13,165,000)	(820)	(1,268,577)
Non-cash changes					
Additions to lease liabilities	-	-	-	8,505	8,505
Amortization of issuance cost	13,501	48,124	-	-	61,625
Others	-	-	43	-	43
Balance at December 31, 2021	<u>\$ 39,272,411</u>	<u>\$ 26,844,021</u>	<u>\$ 12,305,219</u>	<u>\$ 7,685</u>	<u>\$ 78,429,336</u>

15. CAPITAL MANAGEMENT

The capital structure of the Company consists of debt and equity. The Company manages its capital to ensure that the Company will be able to continue as going concerns while maximizing the return to shareholders through the optimization of the debt and equity balance. Key management personnel of the Company periodically review the cost of capital and the risks associated with each class of capital. In order to balance the overall capital structure, the Company may adjust the amount of dividends paid to shareholders, the number of new shares issued or repurchased, and the amount of new debt issued or existing debt redeemed.

16. FINANCIAL INSTRUMENTS

a. Categories of financial instruments

	December 31	
	2022	2021
	NT\$	NT\$
Financial assets		
Measured at amortized cost (Note 1)	\$ 417,906	\$ 334,465
Financial liabilities		
Measured at amortized cost (Note 2)	51,362,028	78,963,085

Note 1: The balances included financial assets measured at amortized cost which comprise cash, other receivables from related parties and interest receivables (under the line item of other current assets).

Note 2: The balances included financial liabilities measured at amortized cost which comprise other payables (including other payables to related parties), bonds payable (including current portion) and long-term borrowings.

b. Financial risk management objectives and policies

The Company is an industrial investment holding company, and the financial risk management objectives and policies are disclosed in Note 34 to the Company's consolidated financial statements.

1) Market risk — interest rate risk

Except for a portion of long-term borrowings and bonds payable at fixed interest rates, the Company was exposed to interest rate risk because the Company borrowed funds at floating interest rates. Changes in market interest rates led to variances in effective interest rates of borrowings from which the future cash flow fluctuations arise. The Company utilized financing instruments with low interest rates and favorable terms to maintain low financing cost, adequate banking facilities, as well as to hedge interest rate risk.

The carrying amounts of the Company's financial assets and financial liabilities with exposure to interest rates at each balance sheet date were as follows:

	December 31	
	2022	2021
	NT\$	NT\$
Fair value interest rate risk		
Financial assets	\$ 142	\$ 141
Financial liabilities	33,109,258	39,314,885
Cash flow interest rate risk		
Financial assets	120,569	121,304
Financial liabilities	17,655,201	39,150,219

For the assets and the liabilities with floating interest rates, a 100 basis point increase or decrease was used when reporting interest rate risk internally to key management personnel. If interest rates had been 100 basis points (1%) higher or lower and all other variables held constant, the Company's profit before income tax for the years ended December 31, 2022 and 2021 would have decreased or increased approximately by NT\$175,000 thousand and NT\$391,000 thousand.

2) Credit risk

Credit risk refers to the risk that the counterparty will default on its contractual obligations resulting in financial loss to the Company. The Company's credit risk arises from cash. The Company's maximum exposure to credit risk was the carrying amounts of financial assets in the balance sheets.

3) Liquidity risk

As of December 31, 2022 and 2021, the Company's current liabilities have already exceeded current assets. However, considering the Company's strategy of managing funds through the Group as well as financing through external financial institutions in order to support its cash flow needs in the normal course of business, it is thus assessed that there is no liquidity risk arising from

the inability to acquire funds in order to fulfill contractual obligations.

In the table below, financial liabilities with a repayment on demand clause were included in the earliest time band regardless of the probability of counter-parties choosing to exercise their rights. The maturity dates for other non-derivative financial liabilities were based on the agreed repayment dates.

To the extent that interest flows are floating rate, the undiscounted amounts were derived from the interest rates at each balance sheet date.

For the year ended December 31, 2022

	On Demand or Less than 1 Month	1 to 3 Months	3 Months to 1 Year	1 to 5 Years	More than 5 Years
	NT\$	NT\$	NT\$	NT\$	NT\$
Non-derivative financial liabilities					
Non-interest bearing	\$ 17,008	\$ 5,722	\$ 164,992	\$ -	\$ -
Obligation under leases	74	148	664	3,543	2,658
Floating interest rate liabilities	1,119,932	39,470	3,158,281	13,700,507	-
Fixed interest rate liabilities	<u>19,390</u>	<u>-</u>	<u>3,325,820</u>	<u>30,687,610</u>	<u>-</u>
	<u>\$ 1,156,404</u>	<u>\$ 45,340</u>	<u>\$ 6,649,757</u>	<u>\$ 44,391,660</u>	<u>\$ 2,658</u>

For the year ended December 31, 2021

	On Demand or Less than 1 Month	1 to 3 Months	3 Months to 1 Year	1 to 5 Years	More than 5 Years
	NT\$	NT\$	NT\$	NT\$	NT\$
Non-derivative financial liabilities					
Non-interest bearing	\$ 29,833	\$ 5,235	\$ 163,891	\$ -	\$ -
Obligation under leases	74	148	664	3,543	3,543
Floating interest rate liabilities	10,267,490	34,555	2,210,612	26,957,154	-
Fixed interest rate liabilities	<u>52,741</u>	<u>-</u>	<u>6,630,672</u>	<u>32,013,820</u>	<u>2,019,000</u>
	<u>\$ 10,350,138</u>	<u>\$ 39,938</u>	<u>\$ 9,005,839</u>	<u>\$ 58,974,517</u>	<u>\$ 2,022,543</u>

The amounts included above for floating interest rate instruments for non-derivative financial liabilities was subject to change if changes in floating interest rates differ from those estimates of interest rates determined at each balance sheet date.

17. RELATED PARTY TRANSACTIONS

The significant transactions between the Company and its related parties were summarized as follows:

a. Related parties

Related Party Name	Relationship with the Company
ASE	Subsidiary
SPIL	Subsidiary
ASE Test, Inc.	Subsidiary
ASE Electronics Inc.	Subsidiary
TLJ Intertech Inc.	Subsidiary

b. Loans from related parties (under the line item of other payables to related parties)

Related Party Category / Name	December 31	
	2022	2021
	NT\$	NT\$
Subsidiary		
ASE Test, Inc.	\$ 1,550,000	\$ 1,525,000
ASE Electronics Inc.	1,530,000	780,000
SPIL	<u>1,000,000</u>	<u>10,000,000</u>
	<u>\$ 4,080,000</u>	<u>\$ 12,305,000</u>

Interest expense

Related Party Category / Name	For the Year Ended December 31	
	2022	2021
	NT\$	NT\$
Subsidiary		
ASE Test, Inc.	\$ 8,935	\$ 13,862
ASE Electronics Inc.	8,587	3,730
SPIL	7,008	8,226
ASE	<u>-</u>	<u>12,695</u>
	<u>\$ 24,530</u>	<u>\$ 38,513</u>

The interest rates for the loans from related parties were comparable to market interest rates. The loans from related parties were all unsecured.

c. Compensation to key management personnel

	For the Year Ended December 31	
	2022	2021
	NT\$	NT\$
Short-term employee benefits	\$ 267,536	\$ 331,999
Share-based payments	<u>185,458</u>	<u>73,729</u>
	<u>\$ 452,994</u>	<u>\$ 405,728</u>

The compensation to the Company's key management personnel is determined according to personal performance and market trends.

18. ADDITIONAL DISCLOSURES

The following are the additional disclosures required by the Securities and Futures Bureau for the Company:

- a. Financial provided: Please see Table 1 attached;
- b. Endorsement/guarantee provided: Please see Table 2 attached;
- c. Marketable securities held (excluding investments in subsidiaries, associates and joint ventures): Please see Table 3 attached;
- d. Marketable securities acquired and disposed of at costs or prices of at least NT\$300 million or 20% of the paid-in capital: Please see Table 4 attached;
- e. Acquisition of individual real estate properties at costs of at least NT\$300 million or 20% of the paid-in capital: Please see Table 5 attached;
- f. Disposal of individual real estate properties at prices of at least NT\$300 million or 20% of the paid-in capital: None;
- g. Total purchases from or sales to related parties of at least NT\$100 million or 20% of the paid-in capital: Please see Table 6 attached;
- h. Receivables from related parties amounting to at least NT\$100 million or 20% of the paid-in capital: Please see Table 7 attached;
- i. Information about the derivative financial instruments transaction: Please see Note 7 to the consolidated financial statements;
- j. Names, locations, and related information of investees over which the Company exercises significant influence (excluding information on investment in mainland China): Please see Table 8 attached;
- k. Information on investment in mainland China
 - 1) The name of the investee in mainland China, the main businesses and products, its issued capital, method of investment, information on inflow or outflow of capital, percentage of ownership, income (losses) of the investee, share of profits/losses of investee, ending balance, amount received as dividends from the investee, and the limitation on investee: Please see Table 9 attached;
 - 2) Any of the following significant transactions with investee companies in mainland China, either directly or indirectly through a third party, and their prices, payment terms, and unrealized gains or losses:
 - a) The amount and percentage of purchases and the balance and percentage of the related payables at the end of the year: Please see Table 6 attached;
 - b) The amount and percentage of sales and the balance and percentage of the related receivables at the end of the year: Please see Table 6 attached;
 - c) The amount of property transactions and the amount of the resultant gains or losses:
No significant transaction;
 - d) The balance of negotiable instrument endorsements or guarantees or pledges of collateral at the end of the year and the purposes: None;

- e) The highest balance, the end of year balance, the interest rate range, and total current year interest with respect to financing of funds: Please see Table 1 attached;
 - f) Other transactions that have a material effect on the profit or loss for the year or on the financial position, such as the rendering or receiving of services: None.
1. Information of major shareholders: List all shareholders with ownership of 5% or greater showing the name of the shareholder, the number of shares owned, and percentage of ownership of each shareholder: Please see Table 10 attached;

ASE TECHNOLOGY HOLDING CO., LTD. AND SUBSIDIARIES

TABLE 1

FINANCINGS PROVIDED
FOR THE YEAR ENDED DECEMBER 31, 2022
(Amounts In Thousands of New Taiwan Dollars)

No.	Financing Company	Counter-party	Financial Statement Account	Related Party	Maximum Balance for the Period	Ending Balance	Amount Actual Drawn	Interest Rate (%)	Nature for Financing	Transaction Amounts	Reason for Financing	Allowance for Bad Debt	Collateral		Financing Limits for Each Borrowing Company	Financing Company's Total Financing Amount Limits
													Item	Value		
1	ASE	The Company	Other receivables from related parties	Yes	\$ 10,000,000	\$ -	\$ -	-	The need for short-term financing	\$ -	Operating capital	\$ -	-	\$ -	\$ 59,862,249 (Note 1)	\$ 59,862,249 (Note 2)
2	ASE Test, Inc.	The Company	Other receivables from related parties	Yes	4,680,000	4,500,000	1,550,000	0.59-1.45	The need for short-term financing	-	Operating capital	-	-	-	12,249,494 (Note 1)	12,249,494 (Note 2)
3	ASE Electronics Inc.	The Company	Other receivables from related parties	Yes	1,710,000	1,710,000	1,530,000	0.59-1.45	The need for short-term financing	-	Operating capital	-	-	-	1,807,756 (Note 1)	1,807,756 (Note 2)
4	A.S.E. Holding Limited	ASE Test Limited	Long-term receivables from related parties	Yes	1,600,493	-	-	-	The need for short-term financing	-	Operating capital	-	-	-	20,287,809 (Note 3)	20,287,809 (Note 3)
		Alto Enterprises Limited	Other receivables from related parties	Yes	3,222	3,071	-	-	The need for short-term financing	-	Operating capital	-	-	-	20,287,809 (Note 3)	20,287,809 (Note 3)
		USI Enterprise Limited	Long-term receivables from related parties	Yes	1,739,610	1,658,340	-	-	The need for short-term financing	-	Operating capital	-	-	-	20,287,809 (Note 3)	20,287,809 (Note 3)
		J&R Holding Limited	Long-term receivables from related parties	Yes	1,739,610	1,658,340	1,566,210	-	The need for short-term financing	-	Operating capital	-	-	-	20,287,809 (Note 3)	20,287,809 (Note 3)
5	ASE Test Limited	ASE	Other receivables from related parties/ Long-term receivables from related parties	Yes	6,489,023	6,489,023	4,821,470	5.91	The need for short-term financing	-	Operating capital	-	-	-	29,652,453 (Note 3)	29,652,453 (Note 3)
		J&R Holding Limited	Long-term receivables from related parties	Yes	5,466,380	5,466,380	4,818,399	0.50-4.73	The need for short-term financing	-	Operating capital	-	-	-	29,652,453 (Note 3)	29,652,453 (Note 3)
		USI Enterprise Limited	Long-term receivables from related parties	Yes	4,993,325	4,760,050	4,176,560	0.50-4.54	The need for short-term financing	-	Operating capital	-	-	-	29,652,453 (Note 3)	29,652,453 (Note 3)
		ASE Japan Co., Ltd.	Long-term receivables from related parties	Yes	483,225	460,650	122,840	4.80-5.91	The need for short-term financing	-	Operating capital	-	-	-	29,652,453 (Note 3)	29,652,453 (Note 3)
		ASE	Long-term receivables from related parties	Yes	5,681,350	5,681,350	5,681,350	5.91	The need for short-term financing	-	Operating capital	-	-	-	5,783,195 (Note 3)	5,783,195 (Note 3)
6	ASE Holding (Singapore) Pte Ltd.	ASE	Long-term receivables from related parties	Yes	30,024,380	28,621,720	26,932,670	-	The need for short-term financing	-	Operating capital	-	-	-	49,181,550 (Note 3)	49,181,550 (Note 3)
7	Global Advanced Packaging Technology Limited	USI Enterprise Limited	Other receivables from related parties	Yes	2,994,000	829,170	829,170	-	The need for short-term financing	-	Operating capital	-	-	-	49,181,550 (Note 3)	49,181,550 (Note 3)
8	Alto Enterprises Limited	ASE	Long-term receivables from related parties	Yes	1,191,955	1,136,270	1,136,270	-	The need for short-term financing	-	Operating capital	-	-	-	4,813,455 (Note 3)	4,813,455 (Note 3)
9	ASE Mauritius Inc.	ASE	Long-term receivables from related parties	Yes	1,449,675	1,381,950	1,381,950	-	The need for short-term financing	-	Operating capital	-	-	-	14,115,223 (Note 3)	14,115,223 (Note 3)
10	ASE Corporation	Synergy Link Limited	Other receivables	No	101,689	48,560	48,560	5.00-5.50	The need for short-term financing	-	Strategic purpose	-	Synergy Link Limited 1,000 shares	112,504	7,509,307 (Note 1)	7,509,307 (Note 2)
		J&R Holding Limited	Long-term receivables from related parties	Yes	112,753	107,485	67,562	-	The need for short-term financing	-	Operating capital	-		-	18,773,267 (Note 3)	18,773,267 (Note 3)
		ASE	Other receivables from related parties	Yes	966,450	921,300	921,300	0.63-5.68	The need for short-term financing	-	Operating capital	-		-	2,745,223 (Note 3)	2,745,223 (Note 3)
11	ISE Labs, Inc.	ASE Test Limited	Other receivables from related parties/ Long-term receivables from related parties	Yes	353,700	-	-	0.59-1.42	The need for short-term financing	-	Operating capital	-	-	-	2,745,223 (Note 3)	2,745,223 (Note 3)
		J&R Holding Limited	Long-term receivables from related parties	Yes	386,580	368,520	368,520	1.24-4.54	The need for short-term financing	-	Operating capital	-	-	-	2,745,223 (Note 3)	2,745,223 (Note 3)
		ASE	Other receivables from related parties	Yes	9,503,425	9,213,000	9,213,000	2.10-6.39	The need for short-term financing	-	Operating capital	-	-	-	21,511,283 (Note 3)	21,511,283 (Note 3)
12	ASE (Korea) Inc.	ASE	Other receivables from related parties	Yes	9,503,425	9,213,000	9,213,000	2.10-6.39	The need for short-term financing	-	Operating capital	-	-	-	21,511,283 (Note 3)	21,511,283 (Note 3)
13	ASE Japan Co., Ltd.	ASE	Other receivables from related parties	Yes	481,400	-	-	0.53-0.54	The need for short-term financing	-	Operating capital	-	-	-	1,514,170 (Note 3)	1,514,170 (Note 3)
		ASE Marketing & Service Japan Co., Ltd.	Other receivables from related parties	Yes	48,640	-	-	0.46-0.49	The need for short-term financing	-	Operating capital	-	-	-	1,514,170 (Note 3)	1,514,170 (Note 3)
14	ASE Singapore Pte. Ltd.	ASE Test Limited	Long-term receivables from related parties	Yes	500,850	-	-	0.50-0.64	The need for short-term financing	-	Operating capital	-	-	-	6,200,044 (Note 3)	6,200,044 (Note 3)
		J&R Holding Limited	Long-term receivables from related parties	Yes	1,437,120	-	-	0.50-2.76	The need for short-term financing	-	Operating capital	-	-	-	6,200,044 (Note 3)	6,200,044 (Note 3)
15	ASE (U.S.) Inc.	ASE	Other receivables from related parties	Yes	444,500	214,970	214,970	0.63-5.68	The need for short-term financing	-	Operating capital	-	-	-	717,970 (Note 3)	717,970 (Note 3)

(Continued)

No.	Financing Company	Counter-party	Financial Statement Account	Related Party	Maximum Balance for the Period	Ending Balance	Amount Actual Drawn		Interest Rate (%)	Nature for Financing	Transaction Amounts	Reason for Financing	Allowance for Bad Debt	Collateral		Financing Limits for Each Borrowing Company	Financing Company's Total Financing Amount Limits
														Item	Value		
16	Shanghai Ding Hui Real Estate Development Co., Ltd.	Shanghai Ding Yu Real Estate Development Co., Ltd.	Other receivables from related parties	Yes	\$ 450,915	\$ 440,944	\$ 440,944	4.35	The need for short-term financing	\$ -	Operating capital	\$ -	-	-	\$ -	\$ 18,988,336 (Note 3)	\$ 18,988,336 (Note 3)
		Shanghai Ding Wei Real Estate Development Co., Ltd.	Other receivables from related parties	Yes	2,029,118	1,984,249	1,984,249	4.35	The need for short-term financing	-	Operating capital	-	-	-	-	18,988,336 (Note 3)	18,988,336 (Note 3)
		Shanghai Dingao Estate Development Co.,Ltd.	Other receivables from related parties	Yes	448,877	440,944	440,944	4.35	The need for short-term financing	-	Operating capital	-	-	-	-	18,988,336 (Note 3)	18,988,336 (Note 3)
		Kun Shan Ding Hong Real Estate Development Co., Ltd	Other receivables from related parties	Yes	360,732	352,755	352,755	4.35	The need for short-term financing	-	Operating capital	-	-	-	-	18,988,336 (Note 3)	18,988,336 (Note 3)
		ASE Assembly & Test (Shanghai) Limited	Other receivables from related parties	Yes	1,352,746	881,888	-	4.90	The need for short-term financing	-	Operating capital	-	-	-	-	18,988,336 (Note 3)	18,988,336 (Note 3)
		ISE Labs, China, Ltd.	Other receivables from related parties	Yes	1,322,833	1,322,833	485,039	4.90	The need for short-term financing	-	Operating capital	-	-	-	-	18,988,336 (Note 3)	18,988,336 (Note 3)
17	Advanced Semiconductor Engineering (China) Ltd.	Siliconware Technology (Suzhou) Limited	Other receivables from related parties	Yes	1,063,095	1,013,430	1,013,430	0.54-2.15	The need for short-term financing	-	Operating capital	-	-	-	-	3,167,531 (Note 3)	3,167,531 (Note 3)
		ASE Investment (Kun Shan) Limited	Other receivables from related parties	Yes	2,052	-	-	3.00	The need for short-term financing	-	Operating capital	-	-	-	-	3,167,531 (Note 3)	3,167,531 (Note 3)
		ASE Assembly & Test (Shanghai) Limited	Other receivables from related parties	Yes	1,352,746	1,322,833	1,234,644	2.40-3.41	The need for short-term financing	-	Operating capital	-	-	-	-	3,167,531 (Note 3)	3,167,531 (Note 3)
18	Wuxi Tongzhi Microelectronics Co., Ltd.	ASE Assembly & Test (Shanghai) Limited	Other receivables from related parties	Yes	225,458	220,472	88,189	3.44-3.69	The need for short-term financing	-	Operating capital	-	-	-	-	467,550 (Note 3)	467,550 (Note 3)
19	ASE Investment (Kun Shan) Limited	ASE Assembly & Test (Shanghai) Limited	Other receivables from related parties	Yes	1,009,973	992,124	132,283	2.40-3.25	The need for short-term financing	-	Operating capital	-	-	-	-	3,083,294 (Note 3)	3,083,294 (Note 3)
		ASE (Shanghai) Inc.	Other receivables from related parties	Yes	538,652	529,133	220,472	2.40-3.10	The need for short-term financing	-	Operating capital	-	-	-	-	3,083,294 (Note 3)	3,083,294 (Note 3)
		Siliconware Technology (Suzhou) Limited	Other receivables from related parties	Yes	1,571,069	1,543,305	1,543,305	2.40	The need for short-term financing	-	Operating capital	-	-	-	-	3,083,294 (Note 3)	3,083,294 (Note 3)
		ISE Labs, China, Ltd.	Other receivables from related parties	Yes	440,944	440,944	88,189	2.40	The need for short-term financing	-	Operating capital	-	-	-	-	3,083,294 (Note 3)	3,083,294 (Note 3)
20	USI Enterprise Limited	ASE	Other receivables from related parties	Yes	2,899,350	-	-	4.31-4.43	The need for short-term financing	-	Operating capital	-	-	-	-	23,958,136 (Note 1)	23,958,136 (Note 2)
		USIINC	Other receivables from related parties	Yes	3,865,800	1,842,600	1,842,600	0.63-5.68	The need for short-term financing	-	Operating capital	-	-	-	-	23,958,136 (Note 1)	23,958,136 (Note 2)
21	Real Tech Holdings Limited	USI Enterprise Limited	Long-term receivables from related parties	Yes	1,256,385	1,197,690	1,197,690	-	The need for short-term financing	-	Operating capital	-	-	-	-	61,302,710 (Note 3)	61,302,710 (Note 3)
		Huntington Holdings International Co. Ltd.	Long-term receivables from related parties	Yes	154,450	153,550	92,130	-	The need for short-term financing	-	Operating capital	-	-	-	-	61,302,710 (Note 3)	61,302,710 (Note 3)
22	USI Electronics (Shenzhen) Co., Ltd.	Universal Scientific Industrial (Shanghai) Co., Ltd.	Other receivables from related parties	Yes	2,244,385	2,204,721	-	-	The need for short-term financing	-	Operating capital	-	-	-	-	2,780,454 (Note 1)	2,780,454 (Note 2)
		Universal Global Technology (Huizhou) Co., Ltd	Other receivables from related parties	Yes	450,915	440,944	440,944	1.75-2.40	The need for short-term financing	-	Operating capital	-	-	-	-	6,951,136 (Note 3)	6,951,136 (Note 3)
		Universal Global Technology (Shanghai) Co., Ltd.	Other receivables from related parties	Yes	448,877	440,944	-	-	The need for short-term financing	-	Operating capital	-	-	-	-	6,951,136 (Note 3)	6,951,136 (Note 3)
		Universal Global Technology (Kunshan) Co., Ltd.	Other receivables from related parties	Yes	897,754	881,888	-	-	The need for short-term financing	-	Operating capital	-	-	-	-	6,951,136 (Note 3)	6,951,136 (Note 3)
23	Universal Global Technology Co., Limited	Universal Scientific Industrial De Mexico S.A.De C.V.	Long-term receivables from related parties	Yes	2,577,200	2,456,800	1,842,600	0.56-5.05	The need for short-term financing	-	Operating capital	-	-	-	-	30,616,321 (Note 3)	30,616,321 (Note 3)
		Universal Global Scientific Industrial Co., Ltd.	Other receivables from related parties	Yes	589,500	-	-	0.63-1.50	The need for short-term financing	-	Operating capital	-	-	-	-	12,246,528 (Note 1)	12,246,528 (Note 2)
		Universal Scientific Industrial Co., Ltd.	Other receivables from related parties	Yes	1,574,375	-	-	0.63-1.07	The need for short-term financing	-	Operating capital	-	-	-	-	12,246,528 (Note 1)	12,246,528 (Note 2)
		Universal Scientific Industrial (France)	Long-term receivables from related parties	Yes	1,684,160	1,293,834	966,281	0.60-2.47	The need for short-term financing	-	Operating capital	-	-	-	-	30,616,321 (Note 3)	30,616,321 (Note 3)
		ASTEEFLASH USA CORP.	Long-term receivables from related parties	Yes	322,150	307,100	214,970	0.72-6.49	The need for short-term financing	-	Operating capital	-	-	-	-	30,616,321 (Note 3)	30,616,321 (Note 3)
		FINANCIERE AFG(Note 5)	Long-term receivables from related parties	Yes	2,491,784	1,572,254	1,572,254	1.00-2.47	The need for short-term financing	-	Operating capital	-	-	-	-	30,616,321 (Note 3)	30,616,321 (Note 3)
		Universal Global Electronics Co., Ltd.	Long-term receivables from related parties	Yes	322,150	307,100	15,355	2.05-4.54	The need for short-term financing	-	Operating capital	-	-	-	-	30,616,321 (Note 3)	30,616,321 (Note 3)
		ASTEEFLASH FRANCE	Other receivables from related parties	Yes	769,749	769,749	769,749	1.50-2.48	The need for short-term financing	-	Operating capital	-	-	-	-	12,246,528 (Note 1)	12,246,528 (Note 2)
24	Universal Scientific Industrial Co., Ltd.	Universal Global Scientific Industrial Co., Ltd.	Other receivables from related parties	Yes	1,344,300	1,314,200	1,314,200	0.59-5.05	The need for short-term financing	-	Operating capital	-	-	-	-	1,566,867 (Note 1)	1,566,867 (Note 2)
25	Universal Global Technology (Shanghai) Co., Ltd.	Universal Scientific Industrial (Shanghai) Co., Ltd.	Other receivables from related parties	Yes	1,270,000	-	-	-	The need for short-term financing	-	Operating capital	-	-	-	-	3,599,722 (Note 1)	3,599,722 (Note 2)

(Continued)

No.	Financing Company	Counter-party	Financial Statement Account	Related Party	Maximum Balance for the Period	Ending Balance	Amount Actual Drawn	Interest Rate (%)	Nature for Financing	Transaction Amounts	Reason for Financing	Allowance for Bad Debt	Collateral		Financing Limits for Each Borrowing Company (Note 1)	Financing Company's Total Financing Amount Limits (Note 2)
													Item	Value		
		Universal Global Technology (Kunshan) Co., Ltd.	Long-term receivables from related parties	Yes	\$ 1,346,631	\$ 1,322,833	\$ 1,322,833	1.75-2.40	The need for short-term financing	\$ -	Operating capital	\$ -	-	\$ -	\$ 8,999,306 (Note 3)	\$ 8,999,306 (Note 3)
26	Universal Scientific Industrial (Shanghai) Co., Ltd.	Universal Scientific Industrial De Mexico S.A.De C.V.	Other receivables from related parties	Yes	3,043,500	1,535,500	921,300	0.56-5.05	The need for short-term financing	-	Operating capital	-	-	-	27,792,842 (Note 1)	27,792,842 (Note 2)
		Universal Scientific Industrial Vietnam Company Limited	Other receivables from related parties	Yes	3,892,200	1,535,500	1,381,950	0.53-4.78	The need for short-term financing	-	Operating capital	-	-	-	27,792,842 (Note 1)	27,792,842 (Note 2)
		Universal Global Technology (Haizhou) Co., Ltd	Other receivables from related parties	Yes	3,366,577	3,307,082	2,204,721	1.75-2.40	The need for short-term financing	-	Operating capital	-	-	-	27,792,842 (Note 1)	27,792,842 (Note 2)
		Universal Global Technology (Kunshan) Co., Ltd.	Other receivables from related parties	Yes	448,877	440,944	-	-	The need for short-term financing	-	Operating capital	-	-	-	27,792,842 (Note 1)	27,792,842 (Note 2)
27	USI America Inc.	ASTEELFLASH USA CORP.	Other receivables from related parties	Yes	177,183	168,905	122,840	1.85-5.89	The need for short-term financing	-	Operating capital	-	-	-	226,499 (Note 3)	226,499 (Note 3)
28	Universal Scientific Industrial (France)	ASTEELFLASH HERSFELD GmbH	Long-term receivables from related parties	Yes	327,553	327,553	298,073	1.00-2.47	The need for short-term financing	-	Operating capital	-	-	-	12,148,587 (Note 3)	12,148,587 (Note 3)
		ASTEELFLASH FRANCE	Other receivables from related parties	Yes	746,750	-	-	1.00-2.47	The need for short-term financing	-	Operating capital	-	-	-	4,859,435 (Note 1)	4,859,435 (Note 2)
		ASTEELFLASH TUNISIE S.A.	Long-term receivables from related parties	Yes	458,574	458,574	415,992	1.00-2.81	The need for short-term financing	-	Operating capital	-	-	-	12,148,587 (Note 3)	12,148,587 (Note 3)
		ASTEELFLASH PLZEN S.R.O.	Long-term receivables from related parties	Yes	98,266	98,266	98,266	1.00-2.47	The need for short-term financing	-	Operating capital	-	-	-	12,148,587 (Note 3)	12,148,587 (Note 3)
29	FINANCIERE AFG(Note 5)	ASTEELFLASH (BEDFORD) LIMITED	Long-term receivables from related parties	Yes	134,297	134,297	131,786	1.25-3.00	The need for short-term financing	-	Operating capital	-	-	-	5,417,729 (Note 3)	5,417,729 (Note 3)
		ASTEELFLASH TUNISIE S.A.	Long-term receivables from related parties	Yes	949,903	949,903	610,322	1.25-3.41	The need for short-term financing	-	Operating capital	-	-	-	5,417,729 (Note 3)	5,417,729 (Note 3)
		ASTEELFLASH GERMANY GmbH	Long-term receivables from related parties	Yes	29,480	29,480	29,480	1.00-3.00	The need for short-term financing	-	Operating capital	-	-	-	5,417,729 (Note 3)	5,417,729 (Note 3)
		ASTEELFLASH PLZEN S.R.O.	Long-term receivables from related parties	Yes	193,837	134,297	134,297	1.00-3.00	The need for short-term financing	-	Operating capital	-	-	-	5,417,729 (Note 3)	5,417,729 (Note 3)
		ASTEELFLASH EBERBACH GmbH	Other receivables from related parties	Yes	111,218	65,511	65,511	1.00-3.00	The need for short-term financing	-	Operating capital	-	-	-	5,417,729 (Note 3)	5,417,729 (Note 3)
		ASTEELFLASH BONN GmbH	Other receivables from related parties	Yes	47,665	-	-	1.00	The need for short-term financing	-	Operating capital	-	-	-	5,417,729 (Note 3)	5,417,729 (Note 3)
		ASTEELFLASH HERSFELD GmbH	Long-term receivables from related parties	Yes	65,511	65,511	-	-	The need for short-term financing	-	Operating capital	-	-	-	5,417,729 (Note 3)	5,417,729 (Note 3)
		FINANCIERE AFG(Note 5)	Other receivables from related parties	Yes	232,644	-	-	1.25	The need for short-term financing	-	Operating capital	-	-	-	833,195 (Note 1)	833,195 (Note 2)
30	ASTEELFLASH FRANCE	ASTEELFLASH PLZEN S.R.O.	Other receivables from related parties	Yes	65,511	65,511	65,511	1.00-3.00	The need for short-term financing	-	Operating capital	-	-	-	833,195 (Note 1)	833,195 (Note 2)
		ASTEELFLASH (BEDFORD) LIMITED	Other receivables from related parties	Yes	65,511	65,511	65,511	1.00-3.00	The need for short-term financing	-	Operating capital	-	-	-	833,195 (Note 1)	833,195 (Note 2)
		Universal Global Technology Co., Limited	Long-term receivables from related parties	Yes	1,707,395	1,627,630	1,627,630	1.00-4.51	The need for short-term financing	-	Operating capital	-	-	-	5,685,436 (Note 3)	5,685,436 (Note 3)
31	ASTEELFLASH SUZHOU CO., LTD.	ASTEELFLASH TUNISIE S.A.	Other receivables from related parties	Yes	386,580	368,520	368,520	2.73-5.02	The need for short-term financing	-	Operating capital	-	-	-	5,685,436 (Note 3)	5,685,436 (Note 3)
32	ASTEELFLASH HongKong CO., LTD.	Universal Global Technology Co., Limited	Other receivables from related parties	Yes	161,075	-	-	1.00	The need for short-term financing	-	Operating capital	-	-	-	582,688 (Note 3)	582,688 (Note 3)
33	ASTEELFLASH GERMANY GmbH	ASTEELFLASH EBERBACH GmbH	Long-term receivables from related parties	Yes	75,337	75,337	75,337	1.25-3.00	The need for short-term financing	-	Operating capital	-	-	-	376,037 (Note 3)	376,037 (Note 3)
		ASTEELFLASH DESIGN SOLUTIONS HAMBOURG GmbH	Long-term receivables from related parties	Yes	29,480	29,480	29,480	1.25-3.00	The need for short-term financing	-	Operating capital	-	-	-	376,037 (Note 3)	376,037 (Note 3)
34	SPIL	Siliconware Technology (Suzhou) Limited	Other receivables from related parties	Yes	4,565,250	3,071,000	1,535,500	0.64-4.53	The need for short-term financing	-	Operating capital	-	-	-	39,321,988 (Note 1)	39,321,988 (Note 2)
		The Company	Other receivables from related parties	Yes	10,000,000	9,000,000	1,000,000	0.59-1.45	The need for short-term financing	-	Operating capital	-	-	-	39,321,988 (Note 1)	39,321,988 (Note 2)

Note 1: A subsidiary’s limit amount of lending to a company shall not exceed 40% of the lender’s net worth.

Note 2: Where an inter-company or inter-firm short-term financing facility is necessary, the total amount of such financing facility shall not exceed 40% of the lender’s net worth.

Note 3: Foreign subsidiaries whose voting shares are 100% owned, directly or indirectly, by the Company as a lender, the aggregate lending amount and the amount lending to a single company shall not exceed 15% and 10%, respectively, of the Company’s net worth as stated in its latest financial statement.

(Continued)

Note 4: Except No.10 its counter-party Synergy Link Limited, The transactions had been eliminated when preparing consolidated financial statements.

Note 5: No.23, 30 its counter-party and No.29 financing company ASTEELFLASH GROUP were merged by parent company FINANCIERE AFG in January, 2022, the debt for related parties of ASTEELFLASH GROUP had transferred to FINANCIERE AFG..

(Concluded)

ASE TECHNOLOGY HOLDING CO., LTD. AND SUBSIDIARIES

TABLE 2

ENDORSEMENTS/GUARANTEES PROVIDED
FOR THE YEAR ENDED DECEMBER 31, 2022
(Amounts In Thousands of New Taiwan Dollars, Unless Specified Otherwise)

No.	Endorsement/ Guarantee Provider	Guaranteed Party		Limits on Endorsement /Guarantee Amount Provided to Each Guaranteed Party (Note 1)	Maximum Balance for the Year	Ending Balance	Amount Actually Drawn	Amount of Endorsement/ Guarantee Collateralized by Properties	Ratio of Accumulated Endorsement/Guarantee to Net Equity per Latest Financial Statement (%)	Maximum Endorsement /Guarantee Amount Allowable (Note 2)	Guarantee Provided by Parent Company	Guarantee Provided by A Subsidiary	Guarantee Provided to Subsidiaries in Mainland
	Name	Name	Nature of Relationship										
1	USI Enterprise Limited	Universal Scientific Industrial (France)	More than 50% voting shares indirectly owned by the company	\$ 83,853,476	\$ 1,378,949	\$ 1,314,528	\$ 1,314,528	\$ -	2.19	\$ 89,843,010	Yes	No	No
2	FINANCIERE AFG(Note 3)	ASTEELFLASH USA CORP.	More than 50% voting shares indirectly owned by the company	7,584,821	140,125	-	-	-	-	8,126,594	Yes	No	No
		ASTEELFLASH GERMANY GmbH	More than 50% voting shares directly owned by the company	7,584,821	327,553	327,553	327,553	-	6.05	8,126,594	Yes	No	No
		ASTEELFLASH HERSFELD GmbH	More than 50% voting shares indirectly owned by the company	7,584,821	327,553	327,553	327,553	-	6.05	8,126,594	Yes	No	No
		ASTEELFLASH BONN GmbH	More than 50% voting shares indirectly owned by the company	7,584,821	327,553	327,553	327,553	-	6.05	8,126,594	Yes	No	No
		ASTEELFLASH EBERBACH GmbH	More than 50% voting shares indirectly owned by the company	7,584,821	327,553	327,553	327,553	-	6.05	8,126,594	Yes	No	No
		ASTEELFLASH DESIGN SOLUTIONS HAMBOURG GmbH	More than 50% voting shares indirectly owned by the company	7,584,821	327,553	327,553	327,553	-	6.05	8,126,594	Yes	No	No
		ASTEELFLASH TUNISIE S.A.	More than 50% voting shares directly owned by the company	7,584,821	549,591	491,329	131,021	-	15.11	8,126,594	Yes	No	No
		ASTEELFLASH PLZEN S.R.O.	More than 50% voting shares directly owned by the company	7,584,821	98,266	98,266	98,266	-	16.93	8,126,594	Yes	No	No
		ASTEELFLASH FRANCE	More than 50% voting shares directly owned by the company	7,584,821	229,287	229,287	131,021	-	21.16	8,126,594	Yes	No	No
		ASTEELFLASH HERSFELD GmbH	More than 50% voting shares indirectly owned by the company	7,584,821	222,436	98,266	98,266	-	22.97	8,126,594	Yes	No	No
		ASTEELFLASH EBERBACH GmbH	More than 50% voting shares indirectly owned by the company	7,584,821	222,436	65,511	65,511	-	24.18	8,126,594	Yes	No	No
		ASTEELFLASH DESIGN SOLUTIONS HAMBOURG GmbH	More than 50% voting shares indirectly owned by the company	7,584,821	222,436	65,511	65,511	-	25.39	8,126,594	Yes	No	No

Note 1: The ceilings on the amounts a subsidiary permitted to make endorsements/guarantees for any single entity shall not exceed 140% of the subsidiary’s net worth as stated in its latest financial statement according to “The Process of make in endorsements/guarantees” of the Company.

Note 2: The ceilings on the aggregate amounts a subsidiary permitted to make endorsements/guarantees shall not exceed 150% of the subsidiary’s net worth as stated in its latest financial statement according to “The Process of make in endorsements/guarantees” of the Company.

Note 3: No.2 the subsidiary ASTEELFLASH GROUP were merged by parent company FINANCIERE AFG in January, 2022, the debt for related parties of ASTEELFLASH GROUP had transferred to FINANCIERE AFG.

ASE TECHNOLOGY HOLDING CO., LTD. AND SUBSIDIARIES

TABLE 3

MARKETABLE SECURITIES HELD
DECEMBER 31, 2022
(Amounts In Thousands of New Taiwan Dollars, Unless Specified Otherwise)

Held Company Name	Marketable Securities Type and Name	Relationship with the Company	Financial Statement Account	December 31, 2022				Note
				Shares/ Units	Carrying Value	Percentage of Ownership (%)	Fair Value	
ASE	Stock	Ultimate parent company	Financial assets at fair value through other comprehensive income - non current	67,452,117	\$ 6,333,754		\$ 6,333,754	
	The Company		Financial assets at fair value through other comprehensive income - non current					
	MiTAC Information Technology Corp		Financial assets at fair value through other comprehensive income - non current	2,521	16	-	16	
	Asia Pacific Emerging Industry Venture Capital Co, Ltd.		Financial assets at fair value through other comprehensive income - non current	3,509,064	23,911	7	23,911	
	StarChips Technology Inc.		Financial assets at fair value through other comprehensive income - non current	333,334	-	6	-	
ASE Test, Inc.	Limited Liability Partnership	Ultimate parent company	Financial assets at fair value through other comprehensive income - non current	-	-	4	-	
	Ripley Cable Holdings I, L.P.		Financial assets at fair value through other comprehensive income - non current					
	Stock		Financial assets at fair value through other comprehensive income - non current	5,489,388	515,454	-	515,454	
	The Company		Financial assets at fair value through other comprehensive income - non current					
	Powtec ElectroChemical Corporation		Financial assets at fair value through other comprehensive income - non current	33,560,184	0	2	-	
	MiTAC Information Technology Corp.		Financial assets at fair value through other comprehensive income - non current	680,017	4,383	-	4,383	
	Ainos Inc.		Financial assets at fair value through other comprehensive income - non current	100,000,000	38,861	21	38,861	
	Neolink Capital Corp.		Financial assets at fair value through other comprehensive income - non current	14,000,000	87,272	17	87,272	
	Hongkong & Shanghai Banking Corp.		Financial assets at fair value through profit or loss - current	400,000	76,476	-	76,476	
	Tencent Holdings Ltd		Financial assets at fair value through profit or loss - current	194,000	255,167	-	255,167	
	JD.com Inc		Financial assets at fair value through profit or loss - current	9,238	8,011	-	8,011	
	Industrial and Commercial Bank of China Limited		Financial assets at fair value through profit or loss - current	11,000,000	174,138	-	174,138	
	Ping An Insurance (Group) Company of China, Ltd.		Financial assets at fair value through profit or loss - current	1,000,000	203,398	-	203,398	
	China Construction Bank Corporation		Financial assets at fair value through profit or loss - current	10,402,000	200,309	-	200,309	
	AIA Group Limited		Financial assets at fair value through profit or loss - current	300,000	102,546	-	102,546	
	China Merchants Bank Co., Ltd.		Financial assets at fair value through profit or loss - current	2,200,000	378,166	-	378,166	
	China Life Insurance Co., Ltd.		Financial assets at fair value through profit or loss - current	1,000,000	52,769	-	52,769	
	BOC Hong Kong (Holdings) Ltd.		Financial assets at fair value through profit or loss - current	1,900,000	199,027	-	199,027	
	China Mobile Communications Corporation		Financial assets at fair value through profit or loss - current	600,000	122,275	-	122,275	
	CK Hutchison Holdings Limited		Financial assets at fair value through profit or loss - current	200,000	36,899	-	36,899	
	Agricultural Bank of China Limited		Financial assets at fair value through profit or loss - current	16,300,000	172,028	-	172,028	

(Continued)

Held Company Name	Marketable Securities Type and Name	Relationship with the Company	Financial Statement Account	December 31, 2022				Note
				Shares/ Units	Carrying Value	Percentage of Ownership (%)	Fair Value	
Luchu Development Corporation	Bank of China Ltd.	-	Financial assets at fair value through profit or loss - current	16,700,000	\$ 186,771	-	\$ 186,771	
	Alibaba Group Holding Ltd.	-	Financial assets at fair value through profit or loss - current	360,000	122,275	-	122,275	
	AIMD Ainos Inc	-	Financial assets at fair value through profit or loss - current	147,058	2,800	-	2,800	
	Preferred share HanTech Venture Capital Corporation	-	Financial assets at fair value through profit or loss - non current	25,000,000	287,500	25	287,500	
	Corporate bond Nan Shan Life Insurance Co., Ltd. 1st Perpetual Unsecured Subordinate Corporate Bond Issue in 2016	-	Financial assets at fair value through other comprehensive income - non current	1,000	1,059,712	-	1,059,712	
	Fund Yuanta Taiwan High-yield Leading Company Fund	-	Financial assets at fair value through profit or loss - current	5,000,000	39,400	-	39,400	
	Stock Powerchip Investment Holding Corporation	-	Financial assets at fair value through other comprehensive income - non current	1,016,060	23,688	-	23,688	
AMPI	Powerchip Semiconductor Manufacturing Corporation	-	Financial assets at fair value through other comprehensive income - non current	1,434,320	45,683	-	45,683	
	Stock United Microelectronics Corp.	-	Financial assets at fair value through profit or loss - current	89,659	3,649	-	3,649	
	Winbond Electronics Corporation	-	Financial assets at fair value through profit or loss - current	5,893	116	-	116	
A.S.E. Holding Limited	Stock SiPhoton, Inc.	-	Financial assets at fair value through other comprehensive income - non current	544,800	-	4	-	
	Amphastar Pharmaceuticals, Inc.	-	Financial assets at fair value through profit or loss - current	37,766	US\$ 1,058 thousand	-	US\$ 1,058 thousand	
J & R Holding Limited	Limited Liability Partnership Crimson Velocity Fund, L.P.	-	Financial assets at fair value through other comprehensive income - non current	-	US\$ 114 thousand	-	US\$ 114 thousand	
	Beneficiary Certificate SMART Growth Fund, L.P	-	Financial assets at fair value through profit or loss - non current	-	US\$ 25,739 thousand	6	US\$ 25,739 thousand	
Advanced Semiconductor Engineering (China) Ltd.	Beneficiary Certificate Taiwan Business Cross-Straits Industry Investment Fund	-	Financial assets at fair value through profit or loss - non current	-	RMB 9,000 thousand	8	RMB 9,000 thousand	

(Continued)

Held Company Name	Marketable Securities Type and Name	Relationship with the Company	Financial Statement Account	December 31, 2022				Note
				Shares/ Units	Carrying Value	Percentage of Ownership (%)	Fair Value	
USINC	Stock							
	Universal Venture Capital Investment Corporation	-	Financial assets at fair value through other comprehensive income - non current	6,200,000	\$ 36,215	5	\$ 36,215	
	Gapertise Inc.	-	Financial assets at fair value through other comprehensive income - non current	275,000	210	4	210	
	WellySun Inc.	-	Financial assets at fair value through other comprehensive income - non current	500,744	8,060	1	8,060	
	Plasmag Technology Inc.	-	Financial assets at fair value through other comprehensive income - non current	733,000	-	2	-	
	ZEPT Inc.	-	Financial assets at fair value through other comprehensive income - non current	1,333,333	1,763	4	1,763	
	Preferred Stock iWEECARE Co., Ltd.	-	Financial assets at fair value through other comprehensive income - non current	180,000	-	1	-	
Huntington Holdings International Co. Ltd.	Stock							
	Superactive Group Company Limited	-	Financial assets at fair value through profit or loss - current	5,140,800	US\$ 22 thousand	-	US\$ 22 thousand	
	Cadence Design SYS Inc.	-	Financial assets at fair value through profit or loss - current	4,633	US\$ 744 thousand	-	US\$ 744 thousand	
	Solid Gain Investments Ltd.	-	Financial assets at fair value through other comprehensive income - non current	1,291,400	US\$ 422 thousand	20	US\$ 422 thousand	
	Preferred Stock							
	Techgains I Corporation	-	Financial assets at fair value through other comprehensive income - non current	518,316	US\$ 169 thousand	10	US\$ 169 thousand	
	Techgains II Corporation	-	Financial assets at fair value through other comprehensive income - non current	653,998	US\$ 115 thousand	4	US\$ 115 thousand	
Unitech Holdings International Co., Ltd.	Famous City ventures Limited	-	Financial assets at fair value through profit or loss - non-current	14,725	US\$ 2,797 thousand	29	US\$ 2,797 thousand	
	Stock							
	Superactive Group Company Limited	-	Financial assets at fair value through profit or loss - current	5,213,600	US\$ 23 thousand	-	US\$ 23 thousand	
	WacomCo., Ltd.	-	Financial assets at fair value through profit or loss - non-current	1,200,000	US\$ 5,303 thousand	1	US\$ 5,303 thousand	
	Sequans Communications SA	-	Financial assets at fair value through profit or loss - non-current	54,333	US\$ 180 thousand	-	US\$ 180 thousand	
	Asia Global Venture Co., Ltd.	-	Financial assets at fair value through other comprehensive income - non current	445,740	US\$ 415 thousand	10	US\$ 415 thousand	
	Preferred Stock MoBagel, Inc.	-	Financial assets at fair value through other comprehensive income - non current	391,318	US\$ 168 thousand	2	US\$ 168 thousand	
USI Enterprise Limited	Beneficiary Certificate							
	All-Stars Investment Private Partners Fund L.P.	-	Financial assets at fair value through profit or loss - non-current	-	US\$ 8,935 thousand	2	US\$ 8,935 thousand	
	Fund							
	JPMorgan Funds-Income Fund	-	Financial assets at fair value through profit or loss - current	1,048,218	US\$ 8,270 thousand	-	US\$ 8,270 thousand	
	Bond							
	Unsecured convertible corporate bonds of Universal Scientific Industrial (Shanghai) Co., Ltd.	Subsidiary	Financial assets at fair value through profit or loss - current	14,446,080	US\$ 236,772 thousand	42	US\$ 236,772 thousand	

(Continued)

Held Company Name	Marketable Securities Type and Name	Relationship with the Company	Financial Statement Account	December 31, 2022				Note
				Shares/ Units	Carrying Value	Percentage of Ownership (%)	Fair Value	
Universal Scientific Industrial (Shanghai) Co., Ltd.	Beneficiary Certificate Suzhou Yaotu Equity Investment Partnership	-	Financial assets at fair value through profit or loss - non current	-	RMB 11,841 thousand	3	RMB 11,841 thousand	
	Stock Senscomm Semiconductor Co., Ltd.	-	Financial assets at fair value through profit or loss - non current	257,937	RMB 24,753 thousand	1	RMB 24,753 thousand	
Universal Global Electronics Co., Ltd.	Beneficiary Certificate PHI FUND, L.P.	-	Financial assets at fair value through profit or loss - non current	-	US\$ 14,432 thousand	29	US\$ 14,432 thousand	
Universal Global Scientific Industrial Co., Ltd.	Stock TriKnight Capital Corporation	-	Financial assets at fair value through other comprehensive income - non current	40,841,800	\$ 169,414	5	\$ 169,414	
Universal Global Technology Co., Limited	Preferred Stock GaN System Inc. Series	-	Financial assets at fair value through profit or loss - non current	589,622	US\$ 4,741 thousand	1	US\$ 4,741 thousand	

(Concluded)

ASE TECHNOLOGY HOLDING CO., LTD. AND SUBSIDIARIES

TABLE 4

MARKETABLE SECURITIES ACQUIRED AND DISPOSED OF AT COSTS OR PRICES OF AT LEAST NTS300 MILLION OR 20% OF THE PAID-IN CAPITAL
FOR THE YEAR ENDED DECEMBER 31, 2022
(Amounts In Thousands of New Taiwan Dollars)

Company Name	Marketable Securities Type and Name	Financial Statement Account	Counter-party	Nature of Relationship	Beginning Balance		Acquisition		Disposal				Ending Balance	
					Shares/Units	Amount (Note 1)	Shares/Units	Amount	Shares/Units	Amount	Carrying Value	Gain/Loss on Disposal	Shares/Units	Amount (Note 1)
ASE	Stock													
	The Company	Financial assets at fair value through other comprehensive income - noncurrent	(Note 4)	-	-	\$ -	67,452,117	\$ 5,508,313	-	\$ -	\$ -	\$ -	67,452,117	\$ 6,333,754
	ASE Singapore Pte. Ltd.	Investments accounted for using the equity method	-	-	-	-	30,100,000	6,227,554	-	-	-	-	30,100,000	6,200,044
	ASE Electronics (M) Sdn. Bhd.	Investments accounted for using the equity method	-	-	-	-	159,715,000	5,996,420	-	-	-	-	159,715,000	6,297,312
J & R Holding Limited	Stock													
	The Company	Financial assets at fair value through other comprehensive income - noncurrent	(Note 4)	-	23,351,881	US\$ 89,847 thousand	39,606,442	US\$ 103,695 thousand	62,958,323	US\$ 200,000 thousand	US\$ 119,970 thousand	(Note 5)	-	US\$ -
ASE Test Limited	Stock													
	The Company	Financial assets at fair value through other comprehensive income - noncurrent	(Note 4)	-	44,100,236	US\$ 169,678 thousand	-	US\$ -	44,100,236	US\$ 117,991 thousand	US\$ 169,678 thousand	(Note 4)	-	US\$ -
	ASE Singapore Pte. Ltd.	Investments accounted for using the equity method	-	-	30,100,000	US\$ 226,325 thousand	-	US\$ -	30,100,000	US\$ 195,137 thousand	US\$ 200,181 thousand	(Note 5)	-	US\$ -
ASE Holding Limited	Stock													
	The Company	Financial assets at fair value through other comprehensive income - noncurrent	(Note 4)	-	-	US\$ -	4,493,814	US\$ 11,765 thousand	4,493,814	US\$ 15,000 thousand	US\$ 11,828 thousand	(Note 5)	-	US\$ -
ASE Holdings (Singapore) Pte. Ltd.	Stock													
	ASE Electronics (M) Sdn. Bhd.	Investments accounted for using the equity method	-	-	159,715,000	US\$ 180,949 thousand	-	US\$ -	159,715,000	US\$ 187,894 thousand	US\$ 200,544 thousand	(Note 5)	-	US\$ -
Universal Scientific Industrial (Shanghai) Co., Ltd.	Stock													
	Universal Global Technology Co., LIMITED	Investments accounted for using the equity method	(Note 2, 3)	-	2,549,748,125	RMB 5,116,197 thousand	1,194,862,860	RMB 1,057,858 thousand	556,950,000	RMB -	RMB 451,172 thousand	RMB -	3,187,660,985	RMB 6,943,204 thousand
	Universal Global Technology (Huizhou) Co., Ltd	Investments accounted for using the equity method	(Note 2)	-	460,000,000	RMB 446,215 thousand	340,000,000	RMB 340,000 thousand	-	RMB -	RMB -	RMB -	800,000,000	RMB 787,669 thousand
USI Enterprise Limited	Unsecured convertible corporate bonds													
	Universal Scientific Industrial (Shanghai) Co., Ltd.	Financial assets at fair value through profit or loss - current	-	-	26,418,020	US\$ 503,524 thousand	-	US\$ -	11,971,940	US\$ 201,688 thousand	US\$ 185,002 thousand	US\$ 16,686 thousand	14,446,080	US\$ 236,772 thousand
Universal Global Technology Co., Ltd.	Stock													
	Universal Scientific Industrial Vietnam Company Limited	Investments accounted for using the equity method	(Note 2)	-	80,000,000	US\$ 72,748 thousand	20,000,000	US\$ 20,000 thousand	-	US\$ -	US\$ -	US\$ -	100,000,000	US\$ 99,414 thousand

Note 1: The balance of investment accounted for using the equity method includes share of profits/losses of investees and other adjustment related to equity. The balance of financial assets at fair value through profit or loss – non current includes valuation adjustment based on fair value measurement.

Note 2: Capital increase by cash.

Note 3: Capital decrease by cash.

Note 4: Capital decrease by physical capital.

Note 5: Organization structure adjusted.

ASE TECHNOLOGY HOLDING CO., LTD. AND SUBSIDIARIES

TABLE 5

ACQUISITION OF INDIVIDUAL REAL ESTATE PROPERTIES AT COSTS OF AT LEAST NTS300 MILLION OR 20% OF THE PAID-IN CAPITAL
FOR THE YEAR ENDED DECEMBER 31, 2022
(Amounts In Thousands of New Taiwan Dollars)

Company Name	Types of Property	Transaction Date	Transaction Amount (Tax excluded)	Payment Term	Counter-party	Nature of Relationships	Prior Transaction of Related Counter-party				Price Reference	Purpose of Acquisition	Other Terms
							Owner	Relationships	Transfer Date	Amount			
ASE	The lands located at Neili land serial No. 3736, 3737, 3745-1 and 3736-1 for Chungli plant	February 9, 2022	\$ 1,257,203	Has been paid fully	Hsia Fah Industrial Co., Ltd.	None	-	-	-	\$ -	Request for quotation, price comparison and price negotiation	Facilities and equipment expansion	None
	Facilities and equipment engineering of ASE Kaohsiung plant and Chungli plant	January 1, 2022 - December 31, 2022	322,305	\$17,951 thousand will be paid after acceptance check	Hantech Engineering Co.,Ltd	None	-	-	-	-	Request for quotation, price comparison and price negotiation	Facilities and equipment expansion	None
	Facilities and equipment engineering of ASE Kaohsiung plant and Chungli plant	January 1, 2022 - December 31, 2022	436,919	\$510 thousand will be paid after acceptance check	Marketch International Corp.	None	-	-	-	-	Request for quotation, price comparison and price negotiation	Facilities and equipment expansion	None
	Facilities and equipment engineering of ASE Kaohsiung plant	January 1, 2022 - December 31, 2022	332,320	Has been paid fully	MTS Reliability Technology Co., Ltd.	None	-	-	-	-	Request for quotation, price comparison and price negotiation	Facilities and equipment expansion	None
	Facilities and equipment engineering of ASE Kaohsiung plant	January 1, 2022 - December 31, 2022	330,815	\$12,881 thousand will be paid after acceptance check	Kun Lin Engineering Co., Ltd.	None	-	-	-	-	Request for quotation, price comparison and price negotiation	Facilities and equipment expansion	None
Universal Technology (Huizhou) Co., Ltd	Facility engineering	January 1, 2022 - December 31, 2022	515,455	Based on the terms agreed upon by both parties	Longhai Engineering Group Corp. Ltd.	None	-	-	-	-	Bidding	For operating purpose	None
SPIL	Facility engineering	January 1, 2022 - December 31, 2022	4,606,546	Based on the terms agreed upon by both parties	Chung Yuang Electrical Consulting Co., Ltd.	None	-	-	-	-	Request for quotation, price comparison and price negotiation	For operating purpose	None
	Facility engineering	January 1, 2022 - December 31, 2022	4,294,093	Based on the terms agreed upon by both parties	Acter Group Corporation Limited	None	-	-	-	-	Request for quotation, price comparison and price negotiation	For operating purpose	None
	Facility engineering	January 1, 2022 - December 31, 2022	3,063,844	Based on the terms agreed upon by both parties	Sheng Yi Fa Construction Co., Ltd.	None	-	-	-	-	Request for quotation, price comparison and price negotiation	For operating purpose	None
	Facility engineering	January 1, 2022 - December 31, 2022	5,944,159	Based on the terms agreed upon by both parties	LeeMing Construction Co., Ltd.	None	-	-	-	-	Request for quotation, price comparison and price negotiation	For operating purpose	None
	Facility engineering	January 1, 2022 - December 31, 2022	390,732	Based on the terms agreed upon by both parties	Tai-Jin Engineering Technology Co., Ltd.	None	-	-	-	-	Request for quotation, price comparison and price negotiation	For operating purpose	None
	Facility engineering	January 1, 2022 - December 31, 2022	452,245	Based on the terms agreed upon by both parties	United Purification Technology Co., Ltd.	None	-	-	-	-	Request for quotation, price comparison and price negotiation	For operating purpose	None
	Facility engineering	January 1, 2022 - December 31, 2022	548,959	Based on the terms agreed upon by both parties	Kang Cheng Technology Engineering Co., Ltd.	None	-	-	-	-	Request for quotation, price comparison and price negotiation	For operating purpose	None
	Facility engineering	January 1, 2022 - December 31, 2022											

(Continued)

Company Name	Types of Property	Transaction Date	Transaction Amount (Tax excluded)	Payment Term	Counter-party	Nature of Relationships	Prior Transaction of Related Counter-party				Price Reference	Purpose of Acquisition	Other Terms
							Owner	Relationships	Transfer Date	Amount			
Siliconware Technology (Suzhou) Limited	Facilities and equipment engineering	September 15, 2022	\$ 641,513	Has been paid fully	BenQ Materials Corp.	None	-	-	-	\$ -	Based on professional appraisal report and the market data Request for quotation, price comparison and price negotiation Request for quotation, price comparison and price negotiation	For operating purpose and sublease for a portion	None
	Facility engineering	January 1, 2022 - December 31, 2022	340,639	Based on the terms agreed upon by both parties	Sheng Hwei (Suzhou) Engineering Co., Ltd.	None	-	-	-	-		For operating purpose	None
	Facility engineering	January 1, 2022 - December 31, 2022	419,488	Based on the terms agreed upon by both parties	Jiangsu New Power Technology Co., Ltd.	None	-	-	-	-		For operating purpose	None

(Concluded)

ASE TECHNOLOGY HOLDING CO., LTD. AND SUBSIDIARIES

TABLE 6

TOTAL PURCHASES FROM OR SALES TO RELATED PARTIES OF AT LEAST NTS100 MILLION OR 20% OF THE PAID-IN CAPITAL
FOR THE YEAR ENDED DECEMBER 31, 2022
(Amounts In Thousands of New Taiwan Dollars)

Buyer	Related Party	Relationships	Transaction Details				Abnormal Transaction		Notes/Accounts Payable or Receivable		Note
			Purchases/ Sales	Amount	% to Total	Payment Terms	Unit Price	Payment Terms	Ending Balance	% to Total	
ASE	ASE (Shanghai) Inc.	Subsidiary	Purchases	\$ 2,012,184	3	Net 60 days from the end of the month when invoice is issued	\$ -	-	\$ (651,361)	(4)	Note
	ASE Electronics Inc.	Subsidiary	Purchases	2,605,510	3	Net 60 days from the end of the month when invoice is issued	-	-	(589,605)	(4)	Note
	ASE Test Inc.	Subsidiary	Purchases	143,572	-	Net 60 days from the end of the month when invoice is issued	-	-	(5)	-	Note
	Universal Scientific Industrial Co., Ltd.	Consolidated subsidiary	Sales	(4,141,833)	(2)	Net 60 days from the end of the month when invoice is issued	-	-	1,186,213	4	Note
	Universal Global Scientific Industrial Co., Ltd.	Consolidated subsidiary	Sales	(2,024,856)	(1)	Net 60 days from the end of the month when invoice is issued	-	-	485,369	2	Note
	Integrated Solutions Enterprise Europe	Subsidiary	Sales	(325,095)	-	Net 60 days from the end of the month when invoice is issued	-	-	34,442	-	Note
	ISE Labs, Inc.	Subsidiary	Sales	(265,913)	-	Net 45 days from invoice date	-	-	5,795	-	Note
	ASE Electronics (M) Sdn. Bhd.	Subsidiary	Sales	(286,039)	-	Net 60 days from invoice date	-	-	82,876	-	Note
ASE Electronics (M) Sdn. Bhd.	ASE Electronics Inc.	Consolidated subsidiary	Purchases	582,984	19	Net 60 days from invoice date	-	-	(132,018)	(27)	Note
	ASE	Parent company	Purchases	286,039	9	Net 60 days from invoice date	-	-	(82,876)	(17)	Note
Advanced Semiconductor Engineering (HK) Limited	ASE (Shanghai) Inc.	Parent company	Purchases	311,384	100	Net 90 days from the end of the month when invoice is issued	-	-	(126,232)	(100)	Note
Integrated Solutions Enterprise Europe	ASE	Parent company	Purchases	325,095	69	Net 60 days from the end of the month when invoice is issued	-	-	(34,750)	(79)	Note
ISE Labs, Inc.	ASE	Parent company	Purchases	265,913	42	Net 45 days from invoice date	-	-	(5,795)	(4)	Note
ASE (Shanghai) Inc.	ASE	Parent company	Sales	(2,012,184)	(33)	Net 60 days from the end of the month when invoice is issued	-	-	652,954	41	Note
	Advanced Semiconductor Engineering (HK) Limited	Subsidiary	Sales	(311,384)	(5)	Net 90 days from the end of the month when invoice is issued	-	-	126,293	8	Note

(Continued)

Buyer	Related Party	Relationships	Transaction Details				Abnormal Transaction		Notes/Accounts Payable or Receivable		Note
			Purchases/ Sales	Amount	% to Total	Payment Terms	Unit Price	Payment Terms	Ending Balance	% to Total	
ASE Electronics Inc.	ASE	Parent company	Sales	\$ (2,605,510)	(46)	Net 60 days from the end of the month when invoice is issued	-	-	\$ 621,245	53	Note
	ASE Electronics (M) Sdn. Bhd.	Consolidated subsidiary	Sales	(582,984)	(10)	Net 60 days from invoice date	-	-	132,432	11	Note
	SPIL	Consolidated subsidiary	Sales	(438,264)	(8)	Net 60 days from the end of the month when invoice is issued	-	-	34,038	3	Note
	Universal Global Scientific Industrial Co., Ltd.	Consolidated subsidiary	Sales	(264,948)	(5)	Net 60 days from the end of the month when invoice is issued	-	-	36,978	3	Note
ASE Test Inc.	ASE	Parent company	Sales	(143,572)	(1)	Net 60 days from the end of the month when invoice is issued	-	-	3,089,638	69	Note
Universal Scientific Industrial Co., Ltd.	ASE	Consolidated subsidiary	Purchases	4,141,833	25	Net 60 days from the end of the month when invoice is issued	-	-	(1,186,151)	(42)	Note
Universal Scientific Industrial (Shanghai) Co., Ltd.	Universal Global Scientific Industrial Co., Ltd.	Subsidiary	Sales	(2,880,744)	(3)	T/T 75 days	-	-	247,602	2	Note
	Universal Global Technology (Shanghai) Co., Limited	Subsidiary	Sales	(523,497)	(1)	T/T 75 days	-	-	175,380	1	Note
Universal Global Technology (Kunshan) Co., Ltd.	Universal Global Scientific Industrial Co., Ltd.	Consolidated subsidiary	Sales	(18,402,448)	(63)	T/T 75 days	-	-	-	-	Note
			Purchases	186,578	1	T/T 75 days	-	-	-	-	Note
	Taitech Precision Electronic (Kunshan) Co., Ltd.	Investments in joint ventures accounted for using the equity method	Purchases	171,489	1	Net 120 days from the end of the month when invoice is issued	-	-	(87,850)	(2)	Note
Universal Global Technology (Shanghai) Co., Limited	Universal Scientific Industrial (Shanghai) Co., Ltd.	Parent company	Purchases	523,497	1	T/T 75 days	-	-	(175,355)	(3)	Note
USI Electronics (Shenzhen) Co., Ltd.	Universal Global Scientific Industrial Co., Ltd.	Consolidated subsidiary	Sales	(7,352,100)	(41)	T/T 75 days	-	-	-	-	Note
			Purchases	124,536	2	T/T 75 days	-	-	-	-	Note
	Universal Global Technology (Huizhou) Co., Ltd	Consolidated subsidiary	Sales	(3,324,515)	(19)	T/T 75 days	-	-	688,466	33	Note
			Purchases	348,965	3	T/T 75 days	-	-	(22,985)	(3)	Note
	Universal Scientific Industrial De Mexico S.A. De C.V.	Consolidated subsidiary	Sales	(610,970)	(3)	T/T 75 days	-	-	65,002	3	Note
Universal Global Technology (Huizhou) Co., Ltd	USI Electronics (Shenzhen) Co., Ltd.	Consolidated subsidiary	Sales	(348,965)	(5)	T/T 75 days	-	-	27,171	1	Note
			Purchases	3,324,515	42	T/T 75 days	-	-	(688,466)	(18)	Note
	Universal Global Scientific Industrial Co., Ltd.	Consolidated subsidiary	Sales	(3,742,148)	(52)	T/T 75 days	-	-	-	-	Note
Universal Global Scientific Industrial Co., Ltd.	Universal Global Technology (Kunshan) Co., Ltd.	Consolidated subsidiary	Sales	(186,578)	-	T/T 75 days	-	-	-	-	Note
			Purchases	18,402,448	27	T/T 75 days	-	-	-	-	Note
	USI Electronics (Shenzhen) Co., Ltd.	Consolidated subsidiary	Sales	(124,536)	-	T/T 75 days	-	-	-	-	Note
			Purchases	7,352,100	11	T/T 75 days	-	-	-	-	Note

(Continued)

Buyer	Related Party	Relationships	Transaction Details				Abnormal Transaction		Notes/Accounts Payable or Receivable		Note
			Purchases/ Sales	Amount	% to Total	Payment Terms	Unit Price	Payment Terms	Ending Balance	% to Total	
	Universal Global Technology (Huizhou) Co., Ltd	Consolidated subsidiary	Purchases	\$ 3,742,148	6	T/T 75 days	\$ -	-	\$ -	-	Note
	Universal Scientific Industrial (Shanghai) Co., Ltd.	Parent company	Purchases	2,880,744	4	T/T 75 days	-	-	-	-	Note
	Mentech Development (H.K.) Co., Limited	Investments in joint ventures accounted for using the equity method	Purchases	199,450	-	Net 120 days from the end of the month when invoice is issued	-	-	(73,918)	(1)	Note
	ASE	Consolidated subsidiary	Purchases	2,024,856	3	Net 60 days from the end of the month when invoice is issued	-	-	(485,369)	(5)	Note
	ASE Electronics Inc.	Consolidated subsidiary	Purchases	264,948	-	Net 60 days from the end of the month when invoice is issued	-	-	(36,978)	-	Note
Universal Scientific Industrial De Mexico S.A. De C.V.	USI Electronics (Shenzhen) Co., Ltd.	Consolidated subsidiary	Purchases	610,970	5	T/T 75 days	-	-	(65,002)	(4)	Note
ASTEELFLASH TUNISIE S.A.	ASTEELFLASH FRANCE	Consolidated subsidiary	Sales	(596,855)	(14)	Net 30 days from the end of the month when invoice is issued	-	-	148,270	15	Note
ASTEELFLASH FRANCE	ASTEELFLASH TUNISIE S.A.	Consolidated subsidiary	Purchases	596,855	14	Net 30 days from the end of the month when invoice is issued	-	-	(148,270)	(12)	Note
ASTEELFLASH PLZEN S.R.O.	ASTEELFLASH BONN GmbH	Consolidated subsidiary	Sales	(229,115)	(26)	Net 30 days from the end of the month when invoice is issued	-	-	25,923	16	Note
	ASTEELFLASH HERSFELD GmbH	Consolidated subsidiary	Sales	(181,062)	(21)	Net 30 days from the end of the month when invoice is issued	-	-	33,606	21	Note
	ASTEELFLASH EBERBACH GmbH	Consolidated subsidiary	Sales	(102,530)	(12)	Net 30 days from the end of the month when invoice is issued	-	-	23,568	15	Note
ASTEELFLASH BONN GmbH	ASTEELFLASH PLZEN S.R.O.	Consolidated subsidiary	Purchases	229,115	68	Net 30 days from the end of the month when invoice is issued	-	-	(25,923)	(34)	Note
ASTEELFLASH HERSFELD GmbH	ASTEELFLASH PLZEN S.R.O.	Consolidated subsidiary	Purchases	181,062	12	Net 30 days from the end of the month when invoice is issued	-	-	(33,606)	(9)	Note
ASTEELFLASH EBERBACH GmbH	ASTEELFLASH PLZEN S.R.O.	Consolidated subsidiary	Purchases	102,530	16	Net 30 days from the end of the month when invoice is issued	-	-	(23,568)	(20)	Note
ASTEELFLASH MEXICO S.A. de C.V.	ASTEELFLASH USA CORP.	Consolidated subsidiary	Sales	(241,669)	(100)	Net 30 days from the end of the month when invoice is issued	-	-	12,103	100	Note
ASTEELFLASH USA CORP.	ASTEELFLASH MEXICO S.A. de C.V.	Consolidated subsidiary	Purchases	241,669	14	Net 30 days from the end of the month when invoice is issued	-	-	(12,103)	(2)	Note
SPIIL	ASE Electronics Inc.	Consolidated subsidiary	Purchases	438,264	1	Net 60 days from the end of the month when invoice is issued	-	-	(32,181)	-	Note

Note : All the transactions had been eliminated when preparing consolidated financial statements.

.(Concluded)

ASE TECHNOLOGY HOLDING CO., LTD. AND SUBSIDIARIES

RECEIVABLES FROM RELATED PARTIES AMOUNTING TO AT LEAST NTS100 MILLION OR 20% OF THE PAID-IN CAPITAL

DECEMBER 31, 2022

(Amounts In Thousands of New Taiwan Dollars, Unless Specified Otherwise)

TABLE 7

Company Name	Related Party	Relationships	Ending Balance (Note 1)	Turnover Rate (Note 2)	Overdue (Note 1)		Amounts Received in Subsequent Period	Allowance for Bad Debts
					Amount	Actions Taken		
The Company	ASE	Subsidiary	\$ 297,326 (Notes 5)	-	\$ -	-	\$ -	\$ -
ASE	Universal Scientific Industrial Co., Ltd. Universal Global Scientific Industrial Co., Ltd.	Consolidated subsidiary	1,186,213 (Note 5)	4	107,889	Continued collection	415,941	-
		Consolidated subsidiary	485,369 (Note 5)	4	65,274	Continued collection	258,278	-
ASE Electronics Inc.	ASE	Parent company	621,792 (Note 5)	4	-	-	232,267	-
	ASE Electronics (M) Sdn. Bhd.	Consolidated subsidiary	132,432 (Note 5)	5	8,913	Continued collection	61,564	-
	The Company	Ultimate parent company	1,530,000 (Notes 3.5)	-	-	-	220,000	-
ASE Holdings (Singapore) PTE Ltd.	ASE	Parent company	5,681,350 (Notes 3.5)	-	-	-	-	-
ISE Labs, Inc.	ASE	Parent company	929,734 (Note 3.5)	4	-	-	-	-
	J&R Holding Limited	Parent company	368,520 (Note 3.5)	-	-	-	-	-
A.S.E. Holding Limited	J&R Holding Limited	Consolidated subsidiary	1,566,210 (Note 3.5)	-	-	-	153,550	-
ASE Test, Inc.	ASE	Parent company	3,180,231 (Note 4.5)	-	-	-	1,197,604	-
	The Company	Ultimate parent company	1,550,000 (Notes 3.5)	-	-	-	-	-
ASE Test Limited	USI Enterprise Limited	Consolidated subsidiary	4,176,560 (Note 3.5)	-	-	-	-	-
	J&R Holding Limited	Parent company	4,818,399 (Note 3.5)	-	-	-	-	-
	ASE	Parent company	4,821,470 (Note 3.5)	-	-	-	-	-
	ASE Japan Co., Ltd.	Consolidated subsidiary	122,840 (Note 3.5)	-	-	-	-	-
ASE (U.S.) Inc.	ASE	Parent company	332,728 (Note 3.5)	11	-	-	82,562	-
ASE (Korea) Inc.	ASE	Parent company	9,213,000 (Note 3.5)	-	-	-	1,228,400	-
Global Advanced Packaging Technology Ltd.	ASE	Parent company	26,932,670 (Note 3.5)	-	-	-	-	-
	USI Enterprise Limited	Consolidated subsidiary	829,170 (Note 3.5)	-	-	-	-	-
ASE Mauritius Inc.	ASE	Parent company	1,381,950 (Note 3.5)	-	-	-	-	-
ASE Investment (KunShan) Limited	ASE Assembly & Test (Shanghai) Limited	Consolidated subsidiary	132,804 (Note 3.5)	-	-	-	-	-
	ASE (Shanghai) Inc.	Consolidated subsidiary	222,569 (Note 3.5)	-	-	-	44,744	-
	Siliconware Technology (Suzhou) Limited	Consolidated subsidiary	1,553,008 (Note 3.5)	-	-	-	532,908	-
Alto Enterprises Limited	ASE	Parent company	1,136,270 (Note 3.5)	-	-	-	-	-
ASE (Shanghai) Inc.	ASE	Parent company	652,954 (Note 5)	4	-	-	26,789	-
	Advanced Semiconductor Engineering (HK) Limited	Subsidiary	126,293 (Note 5)	3	-	-	-	-
Advanced Semiconductor Engineering (China) Ltd.	Siliconware Technology (Suzhou) Limited	Consolidated subsidiary	1,024,843 (Note 3.5)	-	-	-	-	-
	ASE Assembly & Test (Shanghai) Limited	Consolidated subsidiary	1,269,882 (Note 3.5)	-	-	-	-	-

(Continued)

Company Name	Related Party	Relationships	Ending Balance (Note 1)	Turnover Rate (Note 2)	Overdue (Note 1)		Amounts Received in Subsequent Period	Allowance for Bad Debts
					Amount	Actions Taken		
Shanghai Ding Hui Real Estate Development Co., Ltd.	Shanghai Ding Wei Real Estate Development Co., Ltd.	Subsidiary	\$ 1,995,698 (Note 3.5)	-	\$ -	-	\$ -	\$ -
	KunShan Ding Hong Real Estate Development Co., Ltd.	Subsidiary	359,983 (Note 3.5)	-	-	-	138,488	-
	Shanghai Ding Yu Real Estate Development Co., Ltd.	Subsidiary	447,649 (Note 3.5)	-	-	-	-	-
	Shanghai Dingyao Estate Development Co.,Ltd.	Subsidiary	456,365 (Note 3.5)	-	-	-	142,624	-
	ISE labs, China. Ltd.	Consolidated subsidiary	486,235 (Note 3.5)	-	-	-	486,235	-
Shanghai Ding Yu Real Estate Development Co., Ltd.	Shanghai Dingyao Estate Development Co.,Ltd.	Consolidated subsidiary	178,831 (Note 5)	-	-	-	36,777	-
Real Tech Holdings Limited	USI Enterprise Limited	Subsidiary	1,197,690 (Note 3.5)	-	-	-	-	-
USI Enterprise Limited	USI Inc.	Parent company	1,855,352 (Note 3.5)	-	-	-	-	-
Universal Scientific Industrial Co., Ltd	Universal Global Scientific Industrial Co., Ltd.	Parent company	1,315,840 (Note 3.5)	-	-	-	-	-
USI Electronics (Shenzhen) Co., Ltd.	Universal Global Technology (Huizhou) Co., Ltd	Consolidated subsidiary	1,240,056 (Note 3.5)	5	-	-	-	-
	Universal Global Industrial Co., Limited	Consolidated subsidiary	550,284 (Note 5)	-	-	-	100	-
Universal Global Technology (Huizhou) Co., Ltd	Universal Global Industrial Co., Limited	Consolidated subsidiary	1,523,460 (Note 5)	-	-	-	620,146	-
Universal Global Scientific Industrial Co., Ltd.	Universal Scientific Industrial Co., Ltd	Subsidiary	153,057 (Note 5)	6	-	-	-	-
Universal Global Technology Co., Limited	Universal Scientific Industrial De Mexico S.A. De C.V.	Subsidiary	1,842,600 (Note 3.5)	-	-	-	-	-
	Universal Global Technology (Kunshan) Co., Ltd.	Consolidated subsidiary	537,056 (Note 5)	-	-	-	84,320	-
	Universal Scientific Industrial (Shanghai) Co., Ltd.	Parent company	704,009 (Note 5)	-	-	-	202,142	-
	Universal Scientific Industrial (France)	Subsidiary	973,153 (Note 3.5)	-	-	-	-	-
	ASTEELFLASH USA CORP.	Subsidiary	217,220 (Note 3.5)	-	-	-	-	-
	FINANCIERE AFG	Subsidiary	1,578,490 (Note 3.5)	-	-	-	-	-
	ASTEELFLASH FRANCE	Subsidiary	771,294 (Note 3.5)	-	-	-	-	-
Universal Global Technology (Kunshan) Co., Ltd.	Universal Global Industrial Co., Limited	Consolidated subsidiary	3,857,368 (Note 5)	-	-	-	1,569,151	-
	SUMA-USI Electronics Co., Ltd.	Investments in joint ventures accounted for using the equity method	120,191 (Note 5)	-	-	-	-	-
Universal Scientific Industrial (Shanghai) Co., Ltd.	UNIVERSAL SCIENTIFIC INDUSTRIAL VIETNAM COMPANY LIMITED	Subsidiary	1,381,950 (Note 3.5)	-	-	-	307,100	-
	Universal Global Technology (Shanghai) Co., Ltd	Subsidiary	187,506 (Note 5)	3	-	-	39,369	-
	Universal Global Technology (Huizhou) Co., Ltd	Subsidiary	2,214,614 (Note 3.5)	-	-	-	-	-
	Universal Global Industrial Co., Limited	Subsidiary	1,044,677 (Note 3)	-	-	-	465,288	-
	Universal Global Scientific Industrial Co., Ltd.	Subsidiary	247,602 (Note 5)	23	-	-	155,272	-
	Universal Scientific Industrial De Mexico S.A. De C.V.	Subsidiary	922,380 (Note 3.5)	-	-	-	393	-
USI Inc.	Universal Global Scientific Industrial Co., Ltd.	Subsidiary	206,129 (Note 5)	-	-	-	-	-
Universal Global Technology (Shanghai) Co., Ltd	Universal Global Technology (Kunshan) Co., Ltd.	Consolidated subsidiary	1,336,048 (Note 3.5)	-	-	-	2,734	-
Universal Global Industrial Co., Limited	Universal Global Technology (Huizhou) Co., Ltd	Consolidated subsidiary	253,314 (Note 5)	-	-	-	142,255	-
	Universal Global Scientific Industrial Co., Ltd.	Consolidated subsidiary	5,585,556 (Note 5)	-	-	-	2,398,383	-
USI America Inc.	ASTEELFLASH USA CORP.	Consolidated subsidiary	123,946 (Note 3.5)	-	-	-	-	-
Universal Scientific Industrial (France)	ASTEELFLASH TUNISIE S.A.	Subsidiary	416,057 (Note 3.5)	-	-	-	-	-
	ASTEELFLASH HERSFELD GmbH	Subsidiary	298,708 (Note 3.5)	-	-	-	-	-

(Continued)

Company Name	Related Party	Relationships	Ending Balance (Note 1)	Turnover Rate (Note 2)	Overdue (Note 1)		Amounts Received in Subsequent Period	Allowance for Bad Debts
					Amount	Actions Taken		
Asteelflash Suzhou Co., Ltd.	Universal Global Technology Co., Limited	Parent company	\$ 1,639,088 (Notes 3,5)	-	\$ -	-	\$ -	-
	ASTEELFLASH TUNISIE S.A.	Consolidated subsidiary	371,704 (Notes 3,5)	-	-	-	-	-
FINANCIERE AFG	ASTEELFLASH (BEDFORD) LIMITED	Subsidiary	137,445 (Note 3,5)	-	-	-	-	-
	ASTEELFLASH USA CORP	Subsidiary	120,849 (Note 3,5)	-	-	-	-	-
	ASTEELFLASH PLZEN S.R.O.	Subsidiary	139,310 (Note 3,5)	-	-	-	-	-
	ASTEELFLASH TUNISIE S.A.	Subsidiary	633,939 (Note 5)	-	-	-	-	-
ASTEELFLASH MEXICO SOCIEDAD SA de CV	ASTEELFLASH USA CORP	Consolidated subsidiary	142,972 (Note 5)	3	-	-	-	-
ASTEELFLASH USA CORP	ASTEELFLASH MEXICO SOCIEDAD SA de CV	Consolidated subsidiary	125,037 (Note 5)	-	-	-	-	-
ASTEELFLASH TUNISIE S.A.	ASTEELFLASH FRANCE	Consolidated subsidiary	148,270 (Note 5)	5	-	-	-	-
ASTEELFLASH FRANCE	FINANCIERE AFG	Parent company	106,688 (Note 5)	-	-	-	-	-
SPIL	Siliconware Technology (Suzhou) Limited	Subsidiary	3,371,975 (Note 3,5)	3	5,351	Continued collection	246,205	-
	The Company	Ultimate parent company	1,000,000 (Note 3,5)	-	-	-	-	-

Note 1: Include trade receivables and other receivables.

Note 2: Exclude other receivables.

Note 3: Intercompany loan (refer to Table 1) and receivables of selling machinery and equipment.

Note 4: Turnkey transaction.

Note 5: All the transactions had been eliminated when preparing consolidated financial statements.

(Concluded)

ASE TECHNOLOGY HOLDING CO., LTD. AND SUBSIDIARIES

TABLE 8

NAMES, LOCATION, AND RELATED INFORMATION OF INVESTEEES OVER WHICH THE COMPANY EXERCISES SIGNIFICANT INFLUENCE
FOR THE YEAR ENDED DECEMBER 31, 2022
(Amounts In Thousands of New Taiwan Dollars, Unless Specified Otherwise)

Investor Company	Investee Company	Location	Main Businesses and Products	Original Investment Amount		Balance as of December 31, 2022			Net Income (Losses) of the Investee	Share of Profits/Losses of Investee (Note 1)	Note
				December 31, 2022	December 31, 2021	Shares	Percentage of Ownership	Carrying Value			
The Company	ASE	Taiwan	Engaged in the packaging and testing of semiconductors	\$ 183,660,039	\$ 183,660,039	5,994,143,764	100	\$ 142,475,904	\$ 36,960,792	\$ 36,904,160	Subsidiary
	SPIL	Taiwan	Engaged in assembly, testing and turnkey services of integrated circuits	173,657,530	173,657,530	3,785,748,878	100	164,635,609	22,714,468	18,184,959	Subsidiary
	USI Inc.	Taiwan	Investment activities	33,362,556	33,362,556	2,926,735,620	100	45,114,733	8,368,562	8,294,004	Subsidiary
	ASE Social Enterprise Co., Ltd	Taiwan	Engaged in social services	50,000	-	5,000,000	100	50,103	104	104	Subsidiary
ASE	A.S.E. Holding Limited	Bermuda	Investment activities	US\$ 268,966 thousand	US\$ 283,966 thousand	228,966	100	20,287,809	1,318,034	(Note 2)	Subsidiary
	J & R Holding Limited	Bermuda	Investment activities	US\$ 279,693 thousand	US\$ 479,693 thousand	235,128	100	80,435,250	1,249,069	(Note 2)	Subsidiary
	ASE Marketing & Service Japan Co., Ltd.	Japan	Engaged in marketing and customer service of packaging and testing of semiconductors	JPY 60,000 thousand	JPY 60,000 thousand	1,200	100	40,051	3,600	(Note 2)	Subsidiary
	Omniquest Industrial Limited	British Virgin Islands	Investment activities	US\$ 254,604 thousand	US\$ 254,604 thousand	254,604,067	71	12,896,006	1,161,039	(Note 2)	Subsidiary
	Innosource Limited	British Virgin Islands	Investment activities	US\$ 86,100 thousand	US\$ 86,100 thousand	86,100,000	100	4,901,074	271,567	(Note 2)	Subsidiary
	HCK	Taiwan	Engaged in the leasing of real estate properties	\$ 390,470	\$ 390,470	35,497,273	27	244,516	(52,145)	(Note 2)	Associate
	HIC	Taiwan	Engaged in the development, construction and leasing of real estate properties	2,845,913	2,845,913	68,629,782	26	1,603,973	305,126	(Note 2)	Associate
	ASE Test, Inc.	Taiwan	Engaged in the testing of semiconductors	20,698,867	20,698,867	1,131,452,502	100	30,631,529	6,203,204	(Note 2)	Subsidiary
	Lucchu Development Corporation	Taiwan	Engaged in the development of real estate properties	1,366,238	1,366,238	145,178,015	67	1,421,195	3,260	(Note 2)	Subsidiary
	Deca Technologies Inc.	U.S.A	Holding company with group engaged in the development of wafer level packaging and interconnect technology	US\$ 54,402 thousand	US\$ 54,402 thousand	8,592,129	18	54,040	(21,255)	(Note 2)	Associate
	AMPI	Taiwan	Engaged in integrated circuit	\$ 178,861	\$ 178,861	8,327,113	8	81,350	244,086	(Note 2)	Subsidiary
	ASE Electronics (M) Sdn. Bhd.	Malaysia	Engaged in the packaging and testing of integrated circuits	US\$ 187,894 thousand	-	159,715,000	100	6,297,312	987,359	(Note 2)	Subsidiary
	ASE Singapore Pte. Ltd.	Singapore	Engaged in the testing of semiconductors	US\$ 195,137 thousand	-	30,100,000	100	6,200,044	750,652	(Note 2)	Subsidiary
ASE Test, Inc.	Alto Enterprises Limited	British Virgin Islands	Investment activities	US\$ 188,000 thousand	US\$ 188,000 thousand	188,000,000	100	4,813,455	499,450	(Note 2)	Subsidiary
	Super Zone Holdings Limited	Hong Kong	Investment activities	US\$ 100,000 thousand	US\$ 100,000 thousand	100,000,000	100	3,167,629	95,735	(Note 2)	Subsidiary
	Lucchu Development Corporation	Taiwan	Engaged in the development of real estate properties	\$ 372,504	\$ 372,504	40,981,245	19	40,1076	3,260	(Note 2)	Subsidiary
	TLJ Intertech Inc.	Taiwan	Engaged in information software services	89,998	89,998	2,119,080	60	58,343	7,276	(Note 2)	Subsidiary
A.S.E. Holding Limited	AMPI	Taiwan	Engaged in integrated circuit	475,000	475,000	47,500,000	43	359,997	244,086	(Note 2)	Subsidiary
	ASE Test Limited	Singapore	Investment activities	US\$ 72,866 thousand	US\$ 84,889 thousand	8,839,316	10	US\$ 106,956 thousand	US\$ 77,885 thousand	(Note 2)	Subsidiary
	ASE Investment (Labuan) Inc.	Malaysia	Investment activities	US\$ 169,643 thousand	US\$ 169,643 thousand	169,642,842	70	US\$ 496,659 thousand	US\$ 49,365 thousand	(Note 2)	Subsidiary
	ASE Technology Partners, Limited	British Cayman Islands	Investment activities	US\$ 430 thousand	US\$ 320 thousand	430,001	100	US\$ 376 thousand	(US\$ 22 thousand)	(Note 2)	Subsidiary
ASE Technology Partners, Limited	INTEGRATED SOLUTIONS ENTERPRISE EUROPE	Belgium	Engaged in trading activity	US\$ 3,002 thousand	US\$ 3,002 thousand	186	100	US\$ 4,397 thousand	US\$ 1,798 thousand	(Note 2)	Subsidiary
	ASE Technology Acquisition Corporation	British Cayman Islands	Investment activities	US\$ 380 thousand	US\$ 300 thousand	5,750,000	100	US\$ 356 thousand	(US\$ 12 thousand)	(Note 2)	Subsidiary
	ASE Test Limited	Singapore	Investment activities	US\$ 858,556 thousand	US\$ 964,524 thousand	77,928,405	90	US\$ 1,058,449 thousand	US\$ 77,885 thousand	(Note 2)	Subsidiary
	Omniquest Industrial Limited	British Virgin Islands	Investment activities	US\$ 30,200 thousand	US\$ 30,200 thousand	30,200,000	8	US\$ 51,501 thousand	US\$ 38,312 thousand	(Note 2)	Subsidiary
J & R Holding Limited	I&R Industrial Inc.	Taiwan	Engaged in leasing equipment	US\$ 16,886 thousand	US\$ 16,886 thousand	4,207,353	100	US\$ 1,505 thousand	US\$ 5 thousand	(Note 2)	Subsidiary
	ASE Japan Co., Ltd.	Japan	Engaged in the packaging and testing of semiconductors	US\$ 25,606 thousand	US\$ 25,606 thousand	7,200	100	US\$ 50,026 thousand	(US\$ 7,608 thousand)	(Note 2)	Subsidiary
	ASE (U.S.) Inc.	U.S.A	After-sales service and sales support	US\$ 4,600 thousand	US\$ 4,600 thousand	1,000	100	US\$ 23,863 thousand	US\$ 1,667 thousand	(Note 2)	Subsidiary
	Global Advanced Packaging Technology Limited	British Cayman Islands	Investment activities	US\$ 647,384 thousand	US\$ 647,384 thousand	376,040,939	100	US\$ 1,602,725 thousand	(US\$ 22,237 thousand)	(Note 2)	Subsidiary
ASE Investment (Labuan) Inc.	ASE (Korea) Inc.	Korea	Engaged in the manufacturing of substrates and components of telecomm	US\$ 234,050 thousand	US\$ 234,050 thousand	20,741,363	100	US\$ 707,427 thousand	US\$ 49,126 thousand	(Note 2)	Subsidiary
ASE Test Limited	ASE Holdings (Singapore) Pte Ltd	Singapore	Investment activities	US\$ 65,520 thousand	US\$ 65,520 thousand	71,428,902	100	US\$ 188,316 thousand	US\$ 30,943 thousand	(Note 2)	Subsidiary
	ASE Test Holdings, Ltd.	British Cayman Islands	Investment activities	US\$ 222,399 thousand	US\$ 222,399 thousand	5	100	US\$ 110,038 thousand	US\$ 2,790 thousand	(Note 2)	Subsidiary
	ASE Investment (Labuan) Inc.	Malaysia	Investment activities	US\$ 72,304 thousand	US\$ 72,304 thousand	72,304,040	30	US\$ 211,640 thousand	US\$ 49,365 thousand	(Note 2)	Subsidiary
	ASE Singapore Pte. Ltd.	Singapore	Engaged in the testing of semiconductors	US\$ - thousand	US\$ 55,815 thousand	-	-	US\$ - thousand	US\$ - thousand	(Note 2)	Subsidiary

(Continued)

Investor Company	Investee Company	Location	Main Businesses and Products	Original Investment Amount		Balance as of December 31, 2022			Net Income (Losses) of the Investee	Share of Profits/Losses of Investee (Note 1)	Note
				December 31, 2022	December 31, 2021	Shares	Percentage of Ownership	Carrying Value			
ASE Test Holdings, Ltd.	ISE Labs, Inc.	U.S.A	Engaged in the testing of semiconductors	US\$ 221,145 thousand	US\$ 221,145 thousand	26,250,000	100	US\$ 110,037 thousand	US\$ 2,790 thousand	(Note 2)	Subsidiary
ISE Labs, Inc.	ISE Service, Inc.	U.S.A	Engaged in wafer procurement and customer product management services	US\$ 0.001 thousand	US\$ 0.001 thousand	1,000	100	US\$ 3,655 thousand	US\$ 3,271 thousand	(Note 2)	Subsidiary
	Chipletz, Inc.	U.S.A	Engaged in fabless substrate design	US\$ 8,000 thousand	US\$ 8,000 thousand	3,245,436	21	US\$ 4,742 thousand	(US\$ 4,218 thousand)	(Note 2)	Associate
ASE Holdings (Singapore) Pte Ltd.	ASE Electronics (M) Sdn. Bhd.	Malaysia	Engaged in the packaging and testing of integrated circuits	US\$ - thousand	US\$ 60,000 thousand	-	-	US\$ - thousand	US\$ - thousand	(Note 2)	Subsidiary
Omniquest Industrial Limited	ASE Corporation	British Cayman Islands	Investment activities	US\$ 356,284 thousand	US\$ 356,284 thousand	356,284,067	100	US\$ 611,308 thousand	US\$ 38,316 thousand	(Note 2)	Subsidiary
ASE Corporation	ASE Mauritius Inc.	Mauritius	Investment activities	US\$ 217,800 thousand	US\$ 217,800 thousand	217,800,000	100	US\$ 459,630 thousand	US\$ 16,414 thousand	(Note 2)	Subsidiary
	ASE Labuan Inc.	Malaysia	Investment activities	US\$ 126,184 thousand	US\$ 126,184 thousand	126,184,067	100	US\$ 147,699 thousand	US\$ 21,388 thousand	(Note 2)	Subsidiary
ASE Labuan Inc.	ASE Electronics Inc.	Taiwan	Engaged in the production of substrates	US\$ 125,813 thousand	US\$ 125,813 thousand	398,981,900	100	US\$ 147,163 thousand	US\$ 21,397 thousand	(Note 2)	Subsidiary
Innosource Limited	Omniquest Industrial Limited	British Virgin Islands	Investment activities	US\$ 74,000 thousand	US\$ 74,000 thousand	74,000,000	21	US\$ 126,123 thousand	US\$ 38,312 thousand	(Note 2)	Subsidiary
ASE (Shanghai) Inc.	Advanced Semiconductor Engineering (HK) Limited	Hong Kong	Engaged in the trading of substrates	US\$ 1,000 thousand	US\$ 1,000 thousand	-	100	US\$ 10,282 thousand	US\$ 3 thousand	(Note 2)	Subsidiary
USI Inc.	Huntington Holdings International Co. Ltd.	British Virgin Islands	Holding company	\$ 8,370,606	\$ 8,370,606	255,856,840	100	\$ 61,652,572	\$ 9,648,485	(Note 2)	Subsidiary
Huntington Holdings International Co., Ltd.	Unitech Holdings International Co. Ltd.	British Virgin Islands	Holding company	US\$ 3,000 thousand	US\$ 3,000 thousand	3,000,000	100	US\$ 7,896 thousand	(US\$ 4,572 thousand)	(Note 2)	Subsidiary
	Real Tech Holdings Limited	British Virgin Islands	Holding company	US\$ 149,151 thousand	US\$ 149,151 thousand	149,151,000	100	US\$ 1,996,245 thousand	US\$ 328,039 thousand	(Note 2)	Subsidiary
	Universal ABIT Holding Co., Ltd.	British Cayman Islands	Holding company	US\$ 28,125 thousand	US\$ 28,125 thousand	90,000,000	100	US\$ 13 thousand	US\$ - thousand	(Note 2)	Subsidiary
Real Tech Holdings Limited	USI Enterprise Limited	Hong Kong	Engaged in the services of investment advisory and warehousing management	US\$ 210,900 thousand	US\$ 210,900 thousand	210,900,000	100	US\$ 1,950,417 thousand	US\$ 327,952 thousand	(Note 2)	Subsidiary
Universal Scientific Industrial (Shanghai) Co., Ltd.	Universal Global Technology Co., Limited	Hong Kong	Holding company	RMB 2,796,632 thousand	RMB 2,189,946 thousand	3,187,660,985	100	RMB 6,943,204 thousand	RMB 1,038,298 thousand	(Note 2)	Subsidiary
	FINANCIERE AFG	France	Holding company	RMB 393,342 thousand	RMB 393,342 thousand	8,317,462	10	RMB 429,018 thousand	RMB 221,854 thousand	(Note 2)	Subsidiary
Universal Global Technology Co., Limited	Universal Global Industrial Co., Limited	Hong Kong	Engaged in trading and investing activity	US\$ 11,000 thousand	US\$ 11,000 thousand	85,800,000	100	US\$ 15,533 thousand	US\$ 1,261 thousand	(Note 2)	Subsidiary
	Universal Global Electronics Co., Ltd.	Hong Kong	Engaging in ordering and outsourcing, selling electronic products, and providing technical consulting services	US\$ 51,000 thousand	US\$ 51,000 thousand	51,000,000	100	US\$ 61,288 thousand	US\$ 8,368 thousand	(Note 2)	Subsidiary
	M-Universe Investments Pte. Ltd.	Singapore	Holding company	US\$ 58,688 thousand	US\$ 58,688 thousand	59,157,419	42	US\$ 68,078 thousand	US\$ 16,500 thousand	(Note 2)	Associate
	Universal Global Scientific Industrial Co., Ltd.	Taiwan	Engaged in the manufacturing of components of telecom and cars and provision of related R&D services	US\$ 62,235 thousand	US\$ 62,235 thousand	198,000,000	100	US\$ 373,720 thousand	US\$ 96,743 thousand	(Note 2)	Subsidiary
	USI Japan Co., Ltd.	Japan	Engaged in the manufacturing and sale of computer peripherals, integrated chip and other related accessories	US\$ 885 thousand	US\$ 885 thousand	6,400	100	US\$ 1,022 thousand	US\$ 34 thousand	(Note 2)	Subsidiary
	Universal Scientific Industrial De Mexico S.A. De C.V.	Mexico	Engaged in the assembling of motherboards and computer components	US\$ 63,963 thousand	US\$ 63,963 thousand	1,258,077,325	100	US\$ 75,835 thousand	US\$ 5,437 thousand	(Note 2)	Subsidiary
	USI America Inc.	U.S.A	Engaged in the manufacturing and processing of motherboards and wireless network communication and provision of related technical service	US\$ 9,500 thousand	US\$ 9,500 thousand	250,000	100	US\$ 7,375 thousand	US\$ 423 thousand	(Note 2)	Subsidiary
	Universal Scientific Industrial (France)	France	Holding company	US\$ 372,200 thousand	US\$ 372,200 thousand	321,374,822	100	US\$ 395,591 thousand	US\$ 24,545 thousand	(Note 2)	Subsidiary
	Universal Scientific Industrial Vietnam Company Limited	Vietnam	Engaged in IC assembly for wearable devices	US\$ 100,000 thousand	US\$ 80,000 thousand	100,000,000	100	US\$ 99,414 thousand	US\$ 6,666 thousand	(Note 2)	Subsidiary
Universal Global Industrial Co., Limited	Universal Scientific Industrial De Mexico S.A. De C.V.	Mexico	Engaged in the assembling of motherboards and computer components	US\$ - thousand	US\$ - thousand	1	-	US\$ - thousand	US\$ 5,437 thousand	(Note 2)	Subsidiary
Universal Global Scientific Industrial Co., Ltd.	Universal Scientific Industrial Co., Ltd.	Taiwan	Engaged in the manufacturing, processing and sale of computers, computer peripherals	\$ 1,791,208	\$ 1,791,208	139,972,740	100	\$ 3,917,167	\$ 309,954	(Note 2)	Subsidiary
	MUTEK Electronics Co., Ltd.	Taiwan	Engaged in the manufacturing computer and peripheral equipment and electronics components	29,400	-	2,940,000	49	26,591	(5,733)	(Note 2)	Associate

(Continued)

Investor Company	Investee Company	Location	Main Businesses and Products	Original Investment Amount		Balance as of December 31, 2022			Net Income (Losses) of the Investee	Share of Profits/Losses of Investee (Note 1)	Note
				December 31, 2022	December 31, 2021	Shares	Percentage of Ownership	Carrying Value			
Universal Global Electronics Co., Ltd.	Universal Scientific Industrial Poland Sp. z o.o.	Poland	Engaged in the design, manufacturing and processing of electronic products	US\$ 34,656 thousand	US\$ 34,656 thousand	1,617,046	100	US\$ 39,834 thousand	US\$ 7,323 thousand	(Note 2)	Subsidiary
Universal Scientific Industrial (France)	FINANCIERE AFG	France	Holding company	EUR 318,899 thousand	EUR 318,899 thousand	71,530,174	90	EUR 361,468 thousand	EUR 31,127 thousand	(Note 2)	Subsidiary
SPIL	SPIL (B.V.I.) Holding Limited	British Virgin Islands	Investment activities	US\$ 199,400 thousand	US\$ 199,400 thousand	199,400,000	100	\$ 19,931,969	\$ 3,302,014	(Note 2)	Subsidiary
	Siliconware Investment Co., Ltd.	Taiwan	Investment activities	\$ -	\$ 2,401,000	-	-	-	-	(Note 4)	Subsidiary
	ChipMOS Technologies Inc.	Taiwan	Engaged in the packaging and testing of semiconductors	1,309,699	1,309,699	78,910,390	11	2,754,679	(Note 3)	(Note 2)	Associate
	Vertical Circuits, Inc.	U.S.A	Engaged in the packaging of semiconductors	US\$ 5,000 thousand	US\$ 5,000 thousand	15,710,000	31	-	-	(Note 2)	Associate
	Yann Yuan Investment Co., Ltd.	Taiwan	Investment activities	\$ 2,400,000	\$ -	144,000,000	28	7,616,780	1,325,247	(Note 2)	Associate
	Siliconware Investment Co., Ltd.	Taiwan	Investment activities	\$ -	\$ 2,400,000	-	-	-	-	(Note 4)	Associate
SPIL (B.V.I.) Holding Limited	Siliconware USA, Inc.	U.S.A	Communications and relationship maintenance with companies headquartered in North America	US\$ 1,250 thousand	US\$ 1,250 thousand	1,250,000	100	\$ 340,208	\$ 36,731	(Note 2)	Subsidiary
	SPIL (Cayman) Holding Limited	British Cayman Islands	Investment activities	US\$ 201,200 thousand	US\$ 201,200 thousand	201,200,000	100	19,715,597	3,264,678	(Note 2)	Subsidiary

(Concluded)

Note 1: The share of profits/losses of investee includes the effect of unrealized gross profit on intercompany transaction.

Note 2: The share of profits/losses of investee company is not reflected herein as such amount is already included in the share of profits/losses of the investor company.

Note 3: Please refer to the Market Observation Post System website.

Note 4: Siliconware Investment Co., Ltd. were merged by SPIL in March, 2022,

ASE TECHNOLOGY HOLDING CO., LTD. AND SUBSIDIARIES

INFORMATION ON INVESTMENT IN MAINLAND CHINA

FOR THE YEAR ENDED DECEMBER 31, 2022

(Amounts In Thousands of New Taiwan Dollars, Unless Specified Otherwise)

TABLE 9

Investee Company	Main Business Activities	Paid-in Capital	Investment Method	Accumulated amount of remittance from Taiwan to Mainland China as of January 1, 2022	Amount remitted from Taiwan to Mainland China/Amount remitted back to Taiwan for the year ended December 31, 2022		Accumulated amount of remittance from Taiwan to Mainland China as of December 31, 2022	Net income of investee for the year ended December 31, 2022	Ownership held by the Company (direct or indirect)	Investment income (loss) recognised by the Company for the year ended December 31, 2022	Book value of investments in Mainland China as of December 31, 2022	Accumulated amount of investment income remitted back to Taiwan as of December 31, 2022
					Remitted to Mainland China	Remitted back to Taiwan						
ASE (Shanghai) Inc.	Engaged in the production of substrates	\$ 4,349,312 (US\$ 148,496 thousand) (Note 7)	Note 1 (1)	\$ 4,782,216 (US\$ 149,800 thousand) (Note 7)	\$ -	\$ -	\$ 4,782,216 (US\$ 149,800 thousand)	\$ 381,739 (US\$ 12,399 thousand) (Note 3)	100	\$ 381,739 (US\$ 12,399 thousand) (Note 3)	\$ 13,081,986 (US\$ 425,985 thousand)	None
ASE Assembly & Test (Shanghai) Limited	Engaged in the packaging and testing of semiconductors	3,117,117 (US\$ 103,580 thousand)	Note 1 (2)	2,574,458 (US\$ 80,000 thousand)	-	-	2,574,458 (US\$ 80,000 thousand)	(78,689) (US\$ -2,752 thousand) (Note 2)	100	(78,689) (US\$ -2,752 thousand) (Note 2)	12,980,674 (US\$ 422,686 thousand)	None
Suzhou ASEN Semiconductors Co., Ltd..etc four companies	Engaged in the packaging and testing of semiconductors	- (Note 7)	Note 1	13,574,763 (US\$ 429,600 thousand) (Note 7)	-	-	13,574,763 (US\$ 429,600 thousand)	-	-	-	-	None
Shanghai Ding Hui Real Estate Development Co., Ltd.	Engaged in the development, construction and sale of real estate properties	16,345,070 (RMB 3,600,000 thousand)	(Note 2)	- (Note 1.2)	-	-	- (Note 1.2)	(787,891) (RMB -178,834 thousand) (Note 3)	100	(792,296) (RMB -179,837 thousand) (Note 3)	19,085,419 (RMB 4,328,307 thousand)	None
Shanghai Ding Wei Real Estate Development Co., Ltd.	Engaged in the development, construction and sale of real estate properties	8,061,489 (RMB 1,798,000 thousand)	(Note 2)	- (Note 1.2)	-	-	- (Note 1.2)	(342,046) (RMB -77,568 thousand) (Note 3)	100	(342,046) (RMB -77,568 thousand) (Note 3)	5,661,568 (RMB 1,283,965 thousand)	None
Shanghai Ding Yu Real Estate Development Co., Ltd.	Engaged in the development, construction and sale of real estate properties	4,936,538 (RMB 1,100,000 thousand)	(Note 2)	- (Note 1.2)	-	-	- (Note 1.2)	(328,625) (RMB -74,512 thousand) (Note 3)	100	(328,625) (RMB -74,512 thousand) (Note 3)	4,254,845 (RMB 964,939 thousand)	None
Kun Shan Ding Hong Real Estate Development Co., Ltd.	Engaged in the development, construction and sale of real estate properties	3,139,662 (RMB 670,000 thousand)	(Note 2)	- (Note 1.2)	-	-	- (Note 1.2)	(29,858) (RMB -6,771 thousand) (Note 3)	100	(29,858) (RMB -6,771 thousand) (Note 3)	2,848,858 (RMB 646,081 thousand)	None
Advanced Semiconductor Engineering (China) Ltd.	Engage in the packaging and testing of semiconductors	3,149,000 (US\$ 100,000 thousand)	Note 1 (3)	3,149,000 (US\$ 100,000 thousand)	-	-	3,149,000 (US\$ 100,000 thousand)	95,754 (US\$ 3,225 thousand) (Note 2)	100	95,754 (US\$ 3,225 thousand) (Note 2)	3,167,531 (US\$ 103,143 thousand)	None
ASE Investment (Kun Shan) Limited	Holding company	3,705,121 (US\$ 122,000 thousand)	Note 1 (4)	3,717,318 (US\$ 122,000 thousand) (Note 8)	-	-	3,717,318 (US\$ 122,000 thousand)	430,242 (US\$ 14,156 thousand) (Note 2)	100	430,242 (US\$ 14,156 thousand) (Note 2)	3,083,294 (US\$ 100,400 thousand)	None
Wuxi Tongzhi Microelectronics Co., Ltd.	Engage in the packaging and testing of semiconductors	356,682 (RMB 73,461 thousand)	(Note 2)	- (Note 1.2)	-	-	- (Note 1.2)	58,700 (RMB 13,275 thousand) (Note 2)	100	58,700 (RMB 13,275 thousand) (Note 2)	467,550 (RMB 106,034 thousand)	None
Shanghai Ding Qi Property Management Co., Ltd.	Engaged in the management of real estate properties	5,078 (RMB 1,000 thousand)	(Note 2)	- (Note 1.2)	-	-	- (Note 1.2)	(18,732) (RMB -4,283 thousand) (Note 3)	100	(18,732) (RMB -4,283 thousand) (Note 3)	29,399 (RMB -6,667 thousand)	None
Shanghai Dingfan Business Management Co., Ltd	Commercial complex management services and department shore trading	9,487 (RMB 2,000 thousand)	(Note 2)	- (Note 1.2)	-	-	- (Note 1.2)	(1,300) (RMB -295 thousand) (Note 3)	100	(1,300) (RMB -295 thousand) (Note 3)	1,642 (RMB 372 thousand)	None
Shanghai Ding Xu Property Management Co., Ltd.	Engaged in the management of real estate properties	22,860 (RMB 5,000 thousand)	(Note 2)	- (Note 1.2)	-	-	- (Note 1.2)	10,353 (RMB 2,345 thousand) (Note 3)	100	10,353 (RMB 2,345 thousand) (Note 3)	48,094 (RMB 10,907 thousand)	None

(Continued)

Investee Company	Main Business Activities	Paid-in Capital	Investment Method	Accumulated amount of remittance from Taiwan to Mainland China as of January 1, 2022	Amount remitted from Taiwan to Mainland China/Amount remitted back to Taiwan for the year ended December 31, 2022		Accumulated amount of remittance from Taiwan to Mainland China as of December 31, 2022	Net income of investee for the year ended December 31, 2022	Ownership held by the Company (direct or indirect)	Investment income (loss) recognised by the Company for the year ended December 31, 2022	Book value of investments in Mainland China as of December 31, 2022	Accumulated amount of investment income remitted back to Taiwan as of December 31, 2022
					Remitted to Mainland China	Remitted back to Taiwan						
ISE labs, China, Ltd.	Engage in the packaging and testing of semiconductors	432,703 (RMB 100,000 thousand)	(Note 2)	- (Note 1.2)	-	-	- (Note 1.2)	9,949 (RMB 2,239 thousand) (Note 2)	100	9,949 (RMB 2,239 thousand) (Note 2)	443,554 (RMB 100,592 thousand)	None
Shanghai Dingyao Estate Development Co.,Ltd.	Engaged in the management of real estate properties	42,142 (RMB 10,000 thousand)	(Note 2)	- (Note 1.2)	-	-	- (Note 1.2)	(52,132) (RMB -11,956 thousand) (Note 3)	100	(58,132) (RMB -13,312thousand) (Note 3)	(250,351) (RMB -56,776 thousand)	None
USI Electronics (Shenzhen) Co., Ltd	Engaged in the processing and sales of computer and communication peripherals as well as business in import and export of goods and technology	2,270,625 (US\$ 75,000 thousand)	Note 1 (5)	1,180,746	-	-	1,180,746	823,885 (RMB 186,786 thousand) (Note 4)	78	658,066 (US\$ 22,305 thousand) (Note 4)	5,375,361 (US\$ 175,036 thousand)	\$ 1,842,387 (US\$ 62,297 thousand)
Universal Scientific Industrial (Shanghai) Co., Ltd.	Engaged in the designing, manufacturing and sale of electronic components	10,783,527 (RMB 2,206,864 thousand)	Note 1 (5)	1,668,233	-	-	1,668,233	13,500,531 (US\$ 450,069 thousand) (Note 4)	78	10,542,781 (US\$ 351,457 thousand) (Note 4)	54,202,990 (US\$ 1,764,995 thousand)	2,230,984 (US\$ 74,333 thousand)
Universal Global Technology (Kunshan) Co., Ltd.	Engaged in the designing and manufacturing of electronic components	2,488,323 (RMB 550,000 thousand)	(Note 2)	- (Note 1.2)	-	-	- (Note 1.2)	1,829,789 (RMB 414,922 thousand) (Note 4)	78	1,428,409 (RMB 323,921 thousand) (Note 4)	6,342,911 (RMB 1,438,498 thousand)	None
Universal Global Technology (Shanghai) Co., Ltd.	Engaged in the processing and sales of computer and communication peripherals as well as business in import and export of goods and technology	6,652,140 (RMB 1,330,000 thousand)	(Note 2)	- (Note 1.2)	-	-	- (Note 1.2)	1,939,104 (RMB 439,658 thousand) (Note 4)	78	1,514,602 (RMB 343,409 thousand) (Note 4)	7,020,292 (RMB 1,592,120 thousand)	None
Universal Global Electronics (Shanghai) Co., Ltd.	Engaged in the sale of electronic components and telecommunications equipment	240,850 (RMB 50,000 thousand)	(Note 2)	- (Note 1.2)	-	-	- (Note 1.2)	16,577 (RMB 3,744 thousand) (Note 4)	78	12,948 (RMB 2,924 thousand) (Note 4)	227,076 (RMB 51,498 thousand)	None
SUMA-USI	Engaged in the design and production of electronic products	963,033 (RMB 220,000 thousand)	(Note 2)	- (Note 1.2)	-	-	- (Note 1.2)	213,568 (RMB 48,589 thousand)	38	81,704 (RMB 18,589 thousand)	381,278 (RMB 86,469 thousand)	None
Universal Global Technology (Huizhou) Co., Ltd	Engaged in the reserch and manufacturing of new electroic applications, communication, computers and other electronics products and also provided auxiliary technical services as well as import and export services	3,492,881 (RMB 800,000 thousand)	(Note 2)	- (Note 1.2)	-	-	- (Note 1.2)	21,692 (RMB 4,724 thousand) (Note 4)	78	8,902 (RMB 1,163 thousand) (Note 4)	2,709,402 (RMB 614,461 thousand)	None
USI Science and Technology (Shenzhen) Co., Ltd.	Engaged in the design of electronic components, service of technical advisory; wholesale of electronic components and communication peripherals as well as business in import and export of goods and management of properties.	65,795 (RMB 15,000 thousand)	(Note 2)	- (Note 1.2)	-	-	- (Note 1.2)	11,789 (RMB 2,658 thousand) (Note 4)	78	9,210 (RMB 2,076 thousand) (Note 4)	64,934 (RMB 14,726 thousand)	None
ASTEELFLASH SUZHOU CO., LTD.	Engaged in the design, manufacturing and processing of electronic products	512,640 (US\$ 18,000 thousand)	(Note 3)	- (Note 1.3)	-	-	- (Note 1.3)	589,952 (US\$ 19,713 thousand) (Note 10)	78	460,486 (US\$ 15,386 thousand) (Note 10)	4,435,209 (US\$ 144,422 thousand)	None
Questyle Audio Engineering Co., Ltd	Research and development on technology and sales of electronic products, digital products, audio equipment and spare parts, domestic trading; import and export business.	29,416 (RMB 6,623 thousand)	(Note 2)	- (Note 1.2)	-	-	- (Note 1.2)	- (Note 11)	5	- (Note 11)	9,041 (RMB 2,050 thousand)	None
Siliconware Technology (Suzhou) Limited	Engage in the packaging and testing of semiconductors	8,243,861 (US\$ 248,816 thousand)	Note 1 (6)	6,774,513 (US\$ 195,000 thousand)	-	-	6,774,513 (US\$ 195,000 thousand)	3,219,051 (Note 2)	100	3,261,699 (Note 2)	19,176,644	None

(Continued)

Investee Company	Accumulated Investment in Mainland China as of December 31, 2021	Investment Amounts Authorized by Investment Commission, MOEA	Upper Limit on Investment
ASE	\$ 15,203,097 (US\$471,400 thousand)	\$ 10,905,250 (US\$ 337,284 thousand) (Note 7)	\$ - (Note 5)
ASE Test, Inc.	8,878,838 (US\$288,000 thousand)	3,149,000 (US\$ 100,000 thousand)	18,374,240 (Note 6)
USI Inc.	2,848,979	32,402,458 (US\$ 1,027,240 thousand)	- (Note 5)
SPIL	6,774,513 (US\$195,000 thousand)	8,189,882 (US\$ 268,989 thousand) (Note 12)	- (Note 5)

- Note 1: The investment methods are as follows:
- Investments through a holding company registered in a third region. The holding companies are as follow:
 - ASE Mauritius Inc., ASE Corporation, Omniquest Industrial Limited, Innosource Limited and J&R Holding Limited.
 - Global Advanced Packaging Technology Limited and J&R Holding Limited.
 - Super Zone Holdings Limited.
 - Alto Enterprises Limited.
 - Real Tech Holdings Limited and Huntington Holdings International Co. Ltd.
 - SPIL (Cayman) Holding Limited.
 - Invested by companies in mainland China.
 - Invested in other way.

Note 2: The basis for investment income (loss) recognition is from the financial statements audited and attested by R.O.C. parent company’s CPA.

Note 3: The basis for investment income (loss) recognition is from the financial statements audited and attested by international accounting firm which has cooperative relationship with accounting firm in R.O.C.

Note 4: The basis for investment income (loss) recognition is from the financial statements audited and attested by other CPA in the same accounting firm with R.O.C. parent company’s CPA.

Note 5: Pursuant to the Jing-Shen-Zi Letter No. 09704604680 of the Ministry of Economic Affairs, R.O.C amended 'Guidelines Governing the Review of Investment or Technical Cooperation in the Mainland Area' dated August 29, 2008 and effective August 1 of the same year, as the Company has obtained the certificate of being qualified for operating headquarters, issued by the Industrial Development Bureau, MOEA, and meet the criteria of multinational enterprise, the ceiling amount of the investment in Mainland China is not applicable to the Company.

Note 6: The upper limit on investment of ASE Test, Inc. is calculated as follow: \$ 30,623,734 × 60% = 18,374,240.

- Note 7: ASE Inc and ASE Test Inc. has US\$134,116 thousand and US\$188,000 thousand difference between MOEA approved investment amount and accumulated outflow of investment from Taiwan includes:
- US\$141,600 thousand and US\$188,000 thousand were recognized by the MOEA as an decrease in net investment due to equity transferring ASE (Kunshan) Inc., ASE (WeiHai) Inc., ASE Advanced Semiconductor (Shanghai) Limited. and Suzhou ASEN Semiconductors Co., Ltd. to ASMPT Hong Kong Holding Limited.
 - US\$707 thousand and US\$6,777 thousand were recognized by the MOEA as an increase in net investment due to transferring of ASE (Shanghai) Inc.’s equity from ASE Assembly & Test (Shanghai) Limited and ASE Module (Shanghai) Inc. to ASE Mauritius Inc. and due to the merger of ASE Module (Shanghai) Inc. by ASE (Shanghai) Inc., respectively.

(Continued)

Note 8: ASE Test Inc. through a holding company registered in a third region indirectly invested ASE Investment (Kunshan) Limited and ASE Investment (Kunshan) Limited invested ASE (Kunshan) Inc.

Note 9: ASE Investment (Kunshan) Limited decreased capital by cash 20,000 thousand and returned to ASE Assembly & Test (Shanghai) Limited.

Note 10: The difference of US\$73,989 thousand between the MOEA approved investment amount and accumulated outflow of investment from Taiwan was capital increased by earnings.

Note 11: The basis for investment income (loss) recognition is from the financial statements audited and attested by other CPA.

(Concluded)

TABLE 10

ASE TECHNOLOGY HOLDING CO., LTD.

**INFORMATION OF MAJOR SHAREHOLDERS
DECEMBER 31, 2022**

Name of Major Shareholder	Shares	
	Number of Shares	Percentage of Ownership (%)
A.S.E. Enterprises Limited	684,327,886	15.66
Citibank Taiwan: custody of ASE Depository Certificates	314,327,740	7.19
HSBC:custody of the Company's investment account of value investing company	265,024,820	6.06

Note 1: The information of major shareholders presented in this table is provided by Taiwan Depository & Clearing Corporation based on the number of ordinary shares and preferred shares held by shareholders with ownership of 5% or greater, that have been issued without physical registration (included treasury shares) by the Company as of the last business day for the current quarter. The share capital in the parent financial statements may differ from the actual number of shares that have been issued without physical registration because of different preparation basis.

Note 2: If a shareholder delivers their shareholdings to the trust, the above information will be disclosed by the individual trustee who opened the trust account. For shareholders who declare insider shareholdings with ownership greater than 10% in accordance with Security and Exchange Act, the shareholdings include shares held by shareholders and those delivered to the trust over which shareholders have rights to determine the use of trust property. For information relating to insider shareholding declaration, please refer to Market Observation Post System.

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STATEMENT 1

ASE TECHNOLOGY HOLDING CO., LTD.

STATEMENT OF CHANGES IN INVESTMENTS ACCOUNTED FOR USING THE EQUITY METHOD
FOR THE YEAR ENDED DECEMBER 31, 2022
(In Thousands of New Taiwan Dollars, Unless Stated Otherwise)

Investees	Balance, Beginning of Year		Increase in Investment (Note 1)		Decrease in Investment (Note 1)		Balance, End of Year			Net Assets Value (Note 2)		
	Shares	Amount	Shares	Amount	Shares	Amount	Shares	%	Amount	Unit Price (NT Dollar)	Total Amount	Collateral
Ordinary shares												
Unlisted company												
ASE	5,994,143,764	\$ 139,413,170	-	\$ 3,062,734	-	\$ -	5,994,143,764	100	\$ 142,475,904	\$ 24.97	\$ 149,655,622	Nil
SPIL	3,651,748,878	164,686,535	134,000,000	-	-	(50,926)	3,785,748,878	100	164,635,609	25.97	98,304,970	Nil
USIINC	2,717,514,202	34,735,115	209,221,418	10,379,618	-	-	2,926,735,620	100	45,114,733	15.03	43,980,405	Nil
ASESOCIAL	-	-	5,000,000	50,103	-	-	5,000,000	100	50,103	10.02	50,103	Nil
		\$ 338,834,820		\$ 13,492,455		(\$ 50,926)			\$ 352,276,349		\$ 291,991,100	

Note 1: Increase and decrease in investments during the year consisted of acquisition of subsidiaries, the share of profit (loss) and other comprehensive income (loss) of subsidiaries, cash dividends and stock dividends distributed by subsidiaries.

Note 2: Unit price of net assets was calculated based on the subsidiaries' financial statements and the shareholdings the Company held.

ASE TECHNOLOGY HOLDING CO., LTD.

STATEMENT OF LONG-TERM LOANS
AS OF DECEMBER 31, 2022
(In Thousands of New Taiwan Dollars)

Creditor	Credit Amount Dominated in Original Currency, Contract Period and Payment Term	Range of Interest Rates (%)	Balance, End of Year	Collateral
Revolving bank loans				
Bank of Taiwan	Repayable in December 2024	1.51	5,000,000	Nil
Yuanta Bank	Repayable in June 2024	1.43~1.52	3,280,000	Nil
Cathay United	Repayable in April 2024	1.55	2,000,000	Nil
Fubon Bank	Repayable in December 2024	1.60	655,000	Nil
Standard Chartered Bank	Repayable in December 2024	1.52	640,000	Nil
Long-term bills payable				
Ta Ching Bills Finance Corporation	Repayable in March 2024	0.94	<u>2,000,000</u> 13,575,000	Nil
	Less: Unamortized discounts		<u>257</u>	
			<u>\$ 13,574,743</u>	

STATEMENT 3

ASE TECHNOLOGY HOLDING CO., LTD.

**STATEMENT OF GENERAL AND ADMINISTRATIVE EXPENSES
FOR THE YEAR ENDED DECEMBER 31, 2022
(In Thousands of New Taiwan Dollars)**

Item	Amount
Payroll and related expense	\$ 781,836
Professional fees	65,853
Insurance fees	62,805
Others (Note)	<u>227,649</u>
	<u>\$1,138,143</u>

Note: The amount of each item in others does not exceed 10% of the account balance.

ASE TECHNOLOGY HOLDING CO., LTD.

STATEMENT OF EMPLOYEE BENEFITS EXPENSE BY FUNCTION
FOR THE YEAR ENDED DECEMBER 31, 2022 AND 2021
(In Thousands of New Taiwan Dollars)

	Year Ended December 31	
	2022	2021
	Classified as Operating Expenses	Classified as Operating Expenses
Employee benefits expense		
Salary	\$ 534,294	\$ 341,646
Labor and health insurance	18,337	16,554
Pension	3,914	3,596
Compensation to directors	247,542	194,277
Others	<u>62,022</u>	<u>64,537</u>
	<u>\$ 866,109</u>	<u>\$ 620,610</u>

1. As of December 31, 2022 and 2021, the Company had 106 and 102 employees, respectively. There were both 9 non-employee directors.
2. The company's ordinary shares are listed on the stock exchange and additional information is as follows:
 - a. Average labor cost for the years ended December 31, 2022 and 2021 were NT\$6,377 thousand and NT\$4,584 thousand, respectively.
 - b. Average salary for the years ended December 31, 2022 and 2021 were NT\$5,508 thousand and NT\$3,674 thousand, respectively.
 - c. The average salary increased by 49.9% year over year.
 - d. The company has set up an audit committee, and no compensation was paid to the supervisor.

(Continued)

- e. The company's salary and compensation policy (including directors, managers and employees):

The board of directors of the Company shall perform an internal performance evaluation of the board of directors at least once a year, and an external independent professional institution or a panel of external experts and scholars shall perform an external performance evaluation of the board of directors once every three years. Reasonable compensation shall be distributed after comprehensive consideration, and the remuneration policy for directors and managers shall be inspected from time to time according to the actual operating conditions as well as relevant laws and regulations.

The compensation of the Company's independent directors is set at a fixed amount per person annually. For those that do not serve for a full year, the compensation will be calculated in proportion to the number of days of the term that were actually served. The additional compensation of the Company's independent directors who are also the members of the Company's Compensation Committee is set at a fixed amount per person annually. For those that do not serve for a full year, the additional compensation will be calculated in proportion to the number of days of the term that were actually served.

The compensation of the Company's CEO and General Manager is approved by the board of directors, and the compensation of Vice Presidents is determined and paid according to the industry standards. The compensation is regularly evaluated and compared with that of the talent competitors in the same industry every year, so as to ensure the competitiveness of the compensation. The bonus shall be paid according to the Company's earnings and personal performance to achieve the purpose of talent seeking and retention.

The compensation policy applicable to the Company's management is "Distribution Rules of Employees' Compensation" which is as the same as that of other employees of the Company.

Pursuant to the Company's Articles of Incorporation, 0.01% (inclusive) to 1% (inclusive) of the profits shall be allocated as compensation to employees and 0.75% (inclusive) or less of the profits should be allocated as remuneration to directors if the Company is profitable. The Compensation Committee will evaluate the remuneration of directors and management on a regular basis according to the corporate governance trend report and the overall compensation market competitiveness report.

(Concluded)



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