

2024 Half Year Report



SEAL SQ
semiconductors + quantum

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1. INTRODUCTION

1.1 CEO LETTER TO SHAREHOLDERS: SEALSQ Mid-Year Update and Outlook

Dear Valued Shareholders,

I am pleased to share with you our impressive progress and milestones we have achieved since the beginning of the year, and provide you with insights into our business strategy, future outlook, and the exciting opportunities ahead.

2024: A YEAR OF STRATEGIC TRANSITION AND FUTURE POSITIONING

As expected, preliminary unaudited H1 2024 financials and operational results, including \$5 million in revenue reported for the period, reflect the temporary slowdown in traditional semiconductor demand. However, it is important to emphasize that this is in line with our strategic outlook for 2024. This is a year of preparation and realignment as SEALSQ focuses on delivering its next-generation post-quantum semiconductor and ASIC solutions, along with the establishment of new personalization centers.

The semiconductor industry faced a series of significant challenges in 2023, including inflationary pressures, geopolitical tensions, inventory surpluses, persistent supply chain disruptions, sluggish demand in the PC and mobile device markets, and a shortage of skilled talent. These combined factors led to a global revenue decline for the industry of 8.2% compared to 2022.

Moving into 2024, while some challenges remain, the industry's outlook is optimistic. Industry experts anticipate a return to double-digit revenue growth for the sector, signaling a strong recovery and renewed momentum. Alongside the industry, SEALSQ expects 2025 to be the year that brings semiconductors onto another cyclical upswing.

Despite these temporary headwinds, SEALSQ reported a robust cash position of \$19 million and a promising new business pipeline valued at \$71 million as of June 30, 2024. This financial strength, combined with advancements we are making in post-quantum technologies, positions SEALSQ well for a strong rebound in coming years.

1. Semiconductor Industry Association, 2024, "Global Semiconductor Sales Decrease 8.2% in 2023; Market Rebounds Late in Year", accessed on February 05, 2024, [<https://www.semiconductors.org/>]

Advancing Post-Quantum Innovation and Strategic ASIC Development

Our investments and focus on the QUASAR post-quantum project are yielding significant progress. We have moved beyond the design phase and initiated the production phase of engineering samples of our new QS7001™ quantum-resistant hardware platform. These samples are expected to be delivered by 2024 year-end, marking a critical milestone in our development roadmap. The QS7001™ RISC V quantum-resistant platform will serve as the foundation for SEALSQ's next-generation Post Quantum Secure Microcontroller and TPM products: VaultIQ™. These chips will meet the demanding Common Criteria EAL5+ certification level and run CRYSTAL's post-quantum algorithms "Kyber" and "Dilithium" with NIST FIPS 140-3 certification.

Simultaneously, SEALSQ has initiated a strategic move to leverage this powerful hardware architecture by engaging with several large electronic manufacturers to develop custom quantum-resistant ASICs tailored to specific customer needs. By entering the post-quantum ASIC market, we are not only enhancing our commercial and industrial strategy, but paving the way for a significant new pipeline of business opportunities and revenue.

From a financial perspective, ASIC development contracts typically include significant customer payoffs that cover non-recurring engineering development expenses. This initiative aligns seamlessly with our ongoing project to build Semiconductor Design and Personalization Centers, ensuring that our engineering resources directly support the growth of our ASIC activities.

Strategic Diversification Through Landmark Partnerships

During the first half of 2024, SEALSQ entered into several strategic projects that will drive diversified revenue streams. Among these initiatives is a significant Memorandum of Understanding (MOU) signed on November 19th with DP World, a global leader in international logistics and operations based in the Jebel Ali Free Zone. This MOU marks the beginning of a collaborative venture aimed at transforming the logistics industry through innovative technology by integrating a single-window enterprise multi-vendor platform for sea, air, and land operations.

The MOU sets the stage for integrating IoT-enabled devices and sensors into smart containers, which will be tracked and traced by the WISat constellation and earth communication infrastructures. This initiative is expected to revolutionize global track-and-trace capabilities for shipping containers, enhancing transparency, security, and operational efficiency through a seamless, secure platform utilizing hybrid IoT communications.

A Strategy to Decentralize the Global Semiconductor, Cryptocurrency, AI, and IoT Sectors

In line with our vision to drive technological innovation, SEALSQ has set forth a strategy aimed at incentivizing the creation of Semiconductor Personalization Centers that will contribute to the decentralization of the global semiconductor, cryptocurrency, AI, and IoT sectors. This initiative involves the development of Semiconductor Personalization Centers through Public-Private Partnerships (PPP) and the introduction of SEALCoins to support this advanced venture.

We are currently in negotiation for three major projects in Europe, the Middle East, and the Far East to establish Open Semiconductors Assembly and Test (OSAT) Centers. These centers will be operated by experienced hardware designers who will create the chip designs using RISC-V technology. The chips will be built locally at SEALSQ centers and will meet the highest security standards and certifications from bodies such as Common Criteria and NIST. This initiative is expected to enhance the global supply chain's resilience and foster innovation at a localized level.

Expanding into the U.S.

Establishing SEALSQ USA Ltd and the OSAT Center in Arizona

In line with our long-term strategy, SEALSQ is gradually moving its operations to the United States, beginning with the establishment of SEALSQ USA Ltd in Phoenix, Arizona. This move is part of our broader plan to create an OSAT Center in the U.S. by the end of 2025. The U.S.-based OSAT center will offer crucial testing services, including wafer tests and final tests, alongside assembly services such as QFN, BGA, WLCSP, and more.

Arizona was selected strategically due to its leading position in the global semiconductor industry. Arizona has emerged as a hub for some of the world's top semiconductor companies, creating an ecosystem rich in collaboration, innovation, and growth. Proximity to industry leaders offers SEALSQ significant advantages, including potential partnerships and competitive industry insights.

This strategic move positions SEALSQ to leverage Arizona's comprehensive semiconductor ecosystem to drive growth, innovation, and market competitiveness in the U.S.

Looking Ahead

While 2024 is set to be a year of transition, it is also one of immense strategic importance. We have taken proactive steps to ensure that our development projects remain on track and well-funded, positioning us to capture significant opportunities in years to come. We are confident that the combination of our strong cash position, ongoing customer engagement and forthcoming launch of innovative post-quantum solutions will lead to a period of renewed growth and success.

We thank you for your continued trust and support as we navigate this transformational phase. We are excited about what lies ahead and remain committed to delivering long-term value for our stakeholders.

Sincerely,

Carlos Moreira
CEO, SEALSQ Corp

1.2 INTRODUCING SEALSQ

As a fabless semiconductor manufacturer, SEALSQ specializes in designing, developing, and globally marketing secure semiconductors that serve as the bedrock of digital trust. However, our offerings extend beyond mere hardware. We provide an encompassing ecosystem of trust through our PKI as-a-service platform, offering highly trusted certificates and key management solutions. Seamlessly integrated with our chips, these services are tailor-made to suit our customers' diverse requirements, ensuring robust security at every level.

Analysts estimate the secure hardware market to exceed 5 billion units in 2024, yet only a few global suppliers exist. Thus, and despite a very challenging first six months for some players in the semiconductor industry, we have secured a significant number of new business opportunities during H1 2024, reflecting the strength of SEALSQ's innovation and vertical value proposition that integrates tamperproof semiconductors with managed cryptography to bridge physical and digital security.

Particularly, we have made important steps towards the establishment of a Semiconductors Design, Personalization & Testing facility in Spain, in partnership with the Spanish Government. This facility would aim to offer a comprehensive array of testing services, including wafer and final tests, as well as assembly services for various semiconductor packages such as QFN, BGA, WLCSP, and others. This center would employ RISC-V technology for chip design, focusing on local manufacturing to meet the highest standards of security and certification from authoritative bodies like Common Criteria and NIST.

The creation of Semiconductors Design, Personalization & Testing facilities is also aligned with our product strategy aiming at developing custom chip designs for large end-users based on the architecture of our new Quantum Resistant platform. The first engineering samples of this new QVault-TPM chip are in production (see section 2.1. *Product Portfolio Evolutions* for detail). Business and technical discussions have started with new and existing customers and already offer a positive outlook over a potential long-term multi-million-dollar recurring revenue ASIC project with a major player in the technology space.

1.3 MANAGEMENT DISCUSSION & ANALYSIS OF FINANCIAL CONDITION AND RESULTS OF OPERATIONS

The following Management Discussion and Analysis ("MD&A") is intended to provide a reader of SEALSQ's financial statements with a narrative explanation from management's perspective of the financial and other significant factors that have impacted and could impact the company's performance



1.3.1 H1 2024 Key Financial Milestones

The key highlights of the six months ended June 30, 2024 ("H1 2024") are:

- **\$ 4.8 million revenue as a result of a transitional year**
- **\$18.9 million cash balance**
- **Investments in R&D for the development of our post-quantum chip and next generations:**
we continue to support our R&D work with \$2.4 million invested in R&D in H1 2024. This

investment is essential to develop our next-generation product range and support our growth in future years.

A summary of the key performance metrics of the Group is set out in the table below:

US GAAP (Million US\$)	H1 2024	H1 2023
Net sales	4.8	14.8
Gross profit	0.9	7.8
Operating loss as reported	(8.9)	(0.3)
Net loss as reported	(10.8)	(0.9)
Cash and cash equivalents	18.9	6.9

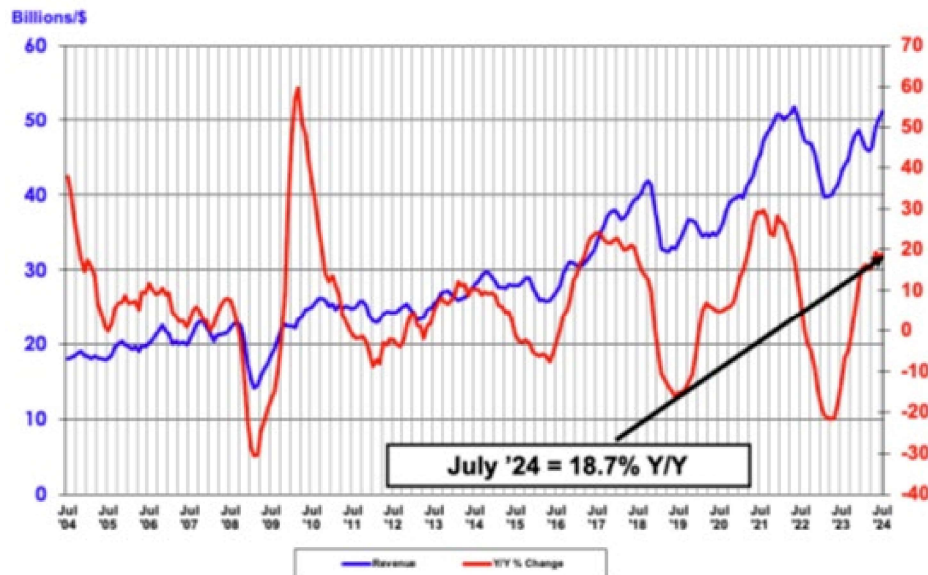
1.3.2 Discussion & Analysis

Revenue

SEALSQ revenue for H1 2024 was \$4.8 million, compared to \$14.8 million in the six months ended June 30, 2023 (“**H1 2023**”). This sharp decrease is in line with our expectations. We had announced that 2024 would be a year of transition for the Group and the decrease in revenue is the expected outcome of the transitional period.

Additionally, revenue growth in 2023 still benefited from the exceptional market conditions that the COVID-19 pandemic created, where the shortage in raw material pushed customers to make long-term commitments to secure their supply. This also led some of our customers to build stocks of our products for 2023 and 2024. However, the market is now back to normal, supply is plentiful, competition has increased back to pre-COVID level so customers do not need to commit to long-term forecast to secure their microchip supply and can instead flex their purchases to fit. As a result, demand shrunk significantly in 2023 as shown in the table thereafter from the World Semiconductor Trade Statistics (WSTS), and our revenue is adversely impacted in 2024 by our customers using their stock before placing new orders and spreading their order commitment over shorter periods.

Worldwide Semiconductor Revenues Year-to-Year Percent Change



Source: WSTS

As customers use their stock, we expect revenue to be higher in the second half of 2024, although total revenue for the year 2024 is not expected to be on the same scale as 2023.

Why is 2024 considered a year of transition?

2024 is expected to be a year of transition for the Group because the Group is developing its next-generation secure microcontrollers range built on the new Secure RISC-V CPU with a state-of-the-art secure firmware stack on it, compliant with the Trusted Computing Group definition of a Trusted Platform Module 2.0 (TPM 2.0) and with the NIST FIPS 140.3 certification requirements, under the project name QUASAR for QUANTum resistant Secure ARchitecture (see section 2.1. *Product Portfolio Evolutions* for detail).

Management believes that the QUASAR R&D project is essential to ensure that the Group remains competitive in the future because customers and IT providers are turning to more secure equipment. For instance, one of Windows 11's operating system requirements is TPM 2.0 implementation. Microsoft has stated that this is to help increase security against firmware

attacks¹. Additionally, the United States Department of Defense (DoD) specifies that "new computer assets (e.g., server, desktop, laptop, thin client, tablet, smartphone, personal digital assistant, mobile phone) procured to support DoD will include a TPM version 1.2 or higher where required by Defense Information Systems Agency (DISA) Security Technical Implementation Guides (STIGs) and where such technology is available"². We have involved our customers in this transition to make sure that our new product range will suit their needs. With this strategy, we expect to get their buy-in for our long-term product strategy but, in the short term, this has also led some of our customers to also prepare the transition into the next generation products and we expect some hold back on volumes during this transition.

In the semiconductor industry, the development of a new product range involves complex engineering which takes months. The QUASAR project was launched in 2022. The design phase was completed in Q2 2024 as planned, with the first engineering samples currently in production and scheduled to be available by Q4 2024. The first samples of QVault-TPM are planned to be available in Q1 2025 and full production is expected in 2026.

Revenue by region

Our operations are global in scope, and we generate revenue from selling our products and services across various regions. Our operations in North America contribute the largest part of our revenues. In H1 2024, the contribution to revenue from Europe, Middle East & Africa has proportionately decreased more significantly due to higher stock levels of our products.

Our revenue by geographic region for the six months ended June 30, 2024, and June 30, 2023, respectively is set forth in the following table:

Net sales by region USD'000	Unaudited 6 months ended June 30,			
	2024		2023	
Europe, Middle East & Africa	880	18%	4,421	30%
North America	3,057	64%	8,374	57%
Asia Pacific	890	18%	1,956	13%
Total net sales	4,827	100%	14,751	100%

¹Warren, Tom (2021-06-25). "Why Windows 11 is forcing everyone to use TPM chips". The Verge. Retrieved November 13, 2021.

² US Department of Defense. Instruction 8500.01. March 14, 2014. p. 43.

Gross Profit

Our gross profit margin decreased by 33 percentage points from 52% in H1 2023 to 19% in H1 2024. This decrease in gross profit margin is expected to be temporary and is essentially due to the costs of inventory that remain high, with some incompressible fixed costs, whilst our customers are using their own stock and we are therefore shipping less parts until customers can take delivery of new products. This is illustrated by the increase in our Days Sales of Inventory (DSI) from 145 in the year 2023 to 187 in H1 2024. As customers use up the stock they have built and progressively resume ordering new products, the gross profit margin is expected to rise back to previous average levels.

Research & development expenses

Our research and development ("R&D") expenses includes expenses related to the research of new technology, products and applications, as well as their development and proof of concept, and the development of further application for our existing products and technology. They include salaries, bonuses, pension costs, stock-based compensation, depreciation and amortization of capitalized assets, costs of material and equipment that do not meet the criteria for capitalization, as well as any tax credit relating to R&D activities, among others.

Our R&D expenses increased by USD 0.9 million between H1 2024 and H1 2023. As we are working on the development of our next-generation products and solutions, including our post-quantum QUASAR program, R&D remains a large part of our operating expenses with USD 2.4 million spent in the six months ended June 30, 2024, representing 24% of total operating expenses. Our Group being technology-driven, the level of our R&D expenses reflects our engagement to act as a leader in semiconductor security solutions and future applications.

Research tax credits are provided by the French government to give incentives for companies to perform technical and scientific research. Our subsidiary WISeKey Semiconductors is eligible to receive such tax credits. The credit is deductible from the entity's income tax charge for the year or payable in cash the following year, whichever event occurs first.

Selling & marketing expenses

Our selling & marketing ("S&M") expenses include advertising and sales promotion expenses such as salaries, bonuses, pension costs, stock-based compensation, business development consultancy services, and costs of supporting material and equipment that do not meet the criteria for capitalization, among others.

With a total of USD 2.7 million net of stock-based compensation, our S&M expenses increased by USD 0.3 million in comparison with our H1 2023 S&M expenses of USD 2.4 million net of stock-

based compensation. This increase reflects our continued efforts to build a stronger sales force, with an increased presence in the U.S., to support our revenue growth.

General & administrative expenses

Our general & administrative ("G&A") expenses cover all other charges necessary to run our operations and supporting functions, and include salaries, bonuses, pension costs, stock-based compensation, lease and building costs, insurance, legal, professional, accounting and auditing fees, depreciation and amortization of capitalized assets, and costs of supporting material and equipment that do not meet the criteria for capitalization, among others.

Net of stock-based compensation, our G&A expenses of USD 4.7 million has increased by USD 0.6 million in comparison with the USD 4.1 million G&A expense net of stock-based compensation for the six months ended June 30, 2023. The increase is mainly due to additional legal and audit expenses in relation to the various SEC filings required by USD 0.9 million and USD 0.2 million respectively. These increases have been partially offset by a reduction in professional fees of USD 0.5 million relating to one-off costs incurred in 2023 for the initial partial spin-off and listing on the Nasdaq of the Company.

Our G&A expenses are expected to remain high due to SEALSQ initiatives to expand our geographical footprint and revenue streams. These initiatives require specific professional expertise and legal advice which contribute to our G&A cost base.

Operating Results

As a result of the factors described in the above sections, our USD 8.9 million operating loss for the six months ended June 30, 2024, increased by USD 8.6 million compared to our USD 0.3 million operating loss for the six months ended June 30, 2023.

The main factor behind this increase in operating loss is the decrease in gross profit by USD 6.9 million whilst the Group has boosted its R&D efforts by USD 0.9 million and incurred additional G&A expenses to focus its SEC and financial reporting.

Net Results

In the six months ended June 30, 2024, the Company made a net loss of USD 10.8 million. This compares to a net loss position of USD 0.9 million for the six months ended June 30, 2023.

In H1 2024, the Group incurred an exceptional income tax charge of USD 1.3 million in relation to its deferred income tax assets. The Group assessed that the recoverability of its deferred tax assets would spread over more years than initially calculated and that, as a result, the valuation allowance should be increased to reflect the expected delay in recoverability which resulted in an income tax expense of USD 1.3 million.

Also, the cost of its Share Purchase Agreements with L1 Capital Global Opportunities Master Fund and Anson Investments Master Fund added a total of USD 0.5 million to the Group's non-operating expenses in debt discount amortization.

These expenses combined with the factors impacting on our operating loss account for the deterioration of our net result.

Liquidity and Capital Resources

Cash and cash equivalents as at June 30, 2024 totaled USD 18.9 million, compared to USD 6.9 million as at December 31, 2023. The most significant sources of funding of the Group are customer sales, external funding and research tax credits provided by the French government.

In H1 2024, a total of USD 20 million was funded by the Share Purchase Agreements with L1 Capital Global Opportunities Master Fund and Anson Investments Master Fund. We anticipate that our ability to resort to external funding in future will be closely linked to the performance of the SEALSQ ordinary shares on the Nasdaq.

Consolidated Income Statement of SEALSQ Corp

USD'000, except earnings per share	Unaudited 6 months ended June 30,		Year-on-Year Variance
	2024	2023	
Net sales	4,828	14,751	(9,923)
Cost of sales	(3,667)	(6,760)	3,093
Depreciation of production assets	(228)	(201)	(27)
Gross profit	933	7,790	(6,857)
Other operating income	-	9	(9)
Research & development expenses	(2,393)	(1,492)	(901)
Selling & marketing expenses	(2,653)	(2,441)	(212)
General & administrative expenses	(4,777)	(4,145)	(632)
Total operating expenses	(9,823)	(8,069)	(1,754)
Operating loss	(8,890)	(279)	(8,611)
Non-operating income	465	180	285
Gain / (loss) on debt extinguishment	(100)	-	(100)
Interest and amortization of debt discount	(557)	(143)	(414)
Non-operating expenses	(372)	(313)	(59)
Loss before income tax expense	(9,454)	(555)	(8,611)
Income tax expense	(1,304)	(320)	(984)
Net loss	(10,758)	(875)	(9,883)

2. BUSINESS UPDATE



2.1 PRODUCT PORTFOLIO EVOLUTIONS

2.1.1 Launch of the QS7001 quantum resistant hardware platform



In 2022, we proudly launched the QUASAR (QUAntum resistant Secure ARchitecture) project, our next-generation secure microcontrollers built on the new Secure RISC-V CPU. The design phase was completed in Q2 2024 with the first engineering samples of the **QS7001** currently in production and scheduled to be available by Q4 2024. The product has been launched by the Sales and Marketing teams and has immediately triggered market interest with several high potential opportunities under discussion.

This project marks a significant step forward into the Post Quantum Cryptography era, implementing a hybrid solution that combines traditional algorithms like ECC and RSA with the Post Quantum algorithms selected by NIST, in line with France's National Cybersecurity Agency (ANSSI) recommendations.

The QS7001 also serves as the base architecture supporting our new ASICs strategy focusing on offering customizable state-of-the-art secure hardware to major OEMs and technology players.

Note: Post Quantum Cryptography & QUASAR Project

Post-quantum cryptography (PQC) involves developing cryptographic methods that are secure against attacks by quantum computers. As quantum computers advance, they may break many current cryptographic methods, such as Rivest-Shamir-Adleman (RSA) and Elliptic Curve Cryptography (ECC). PQC seeks to create new cryptographic techniques resilient to quantum attacks.

Examples include lattice-based cryptography, which relies on the complexity of the Shortest Vector Problem (SVP) and can be used for digital signatures, key exchange, and encryption. Another example is code-based cryptography, which uses the difficulty of decoding certain algebraic error-correcting codes for secure digital signatures, key exchanges, and encryption schemes.

This PQC toolbox will help mitigate the security threats posed by quantum computers, enabling hybrid solutions by 2025, as recommended by the French ANSSI. Additionally, SEALSQ plans to enhance its PKI offerings with new post-quantum features for the IoT market, including secure authentication, brand protection, network communications, future FIDO evolutions, and various web-connected smart devices that analyze and process environmental data. SEALSQ is executing this project under the name “QUASAR” (QUAntum resistant Secure ARchitecture).

2.1.2 Post Quantum TPM Program Update

A Trusted Platform Module (TPM) is a hardware-based security device that provides secure cryptographic functions and storage for encryption keys, passwords, and digital certificates. Defined by the Trusted Computing Group (TCG)—an international industry consortium—TPM is implemented on computer motherboards or as an integrated part of the system’s hardware. It is designed to secure hardware through integrated cryptographic keys and can perform cryptographic operations like digital signing and key generation.

The QUASAR project is not limited to designing and building a post quantum secure hardware platform, but also aims at running a state-of-the art secure firmware stack on it, compliant with the Trusted Computing Group definition of a Trusted Platform Module 2.0 (TPM 2.0) and with the NIST FIPS 140.3 certification requirements.

Following the completion of the QS7001 hardware platform design, the team is focusing on the upcoming launch of the QVault-TPM, the first samples of which should be available in Q1 2025. Sales and Marketing activities around this new product have already started, anticipating the long selling cycle, and have already triggered many business discussions with existing and new customers.

Note: TPM vs Secure Elements

While both TPM and Secure Elements provide critical security services, their applications, performance characteristics, and focus areas differ significantly, with TPMs aiming for overall system security and Secure Elements targeting more specific high-security applications.

Primarily used in PCs, laptops, and servers to ensure the integrity of the system by protecting against unauthorized access and tampering. TPMs are geared towards securing a broader computing environment. Secure Element (SEs) are typically found in mobile devices, smart cards, and IoT devices, SEs are used to perform secure transactions and authenticate user access,

focusing on specific applications like mobile payments, SIM functionality, or device authentication.

2.1.3 Provisioning with SEALBOX

Innovative solution for IoT device provisioning at manufacturing stage, SEALBOX has been launched during the CSA Member Meeting taking place in Singapore last month of March.

SEALBOX aims to address the current challenges in the IoT device provisioning process. This process of securely generating and provisioning device identity and data requires manufacturers to use a Public Key Infrastructure (PKI) to create and install a unique digital certificate. While it presents difficulties to both manufacturers and integrators, this process is crucial to guarantee device authentication and security.



Providing each device with a distinct identity is also now enforced by prominent standards such as Matter, EV-charging, OPC-UA Industry 4.0, US Cyber Trust Mark, and the European Cyber Resilient Act.

SEALBOX has been designed to help overcome these challenges, offering a fully integrated, secure, and flexible solution to automate the generation and provisioning of trusted certificates, as well as firmware data provisioning, during the device's manufacturing phase.

Deployed in production and connected to a factory programmer, SEALBOX is natively connected to the INeS PKI cloud platform. The secure box automates the certificates generation and recovery from INeS, ensures certificates secure storage in production, and enables the secure provisioning of private keys and certificates up to the IoT device based on any kind of MCU or MPU. It is also capable of provisioning additional essential data like device firmware under a secure framework.

The launch of SEALBOX marks SEALSQ's further penetration down the value-chain. By adding another layer to its vertical suite of security products and services, SEALSQ is well-positioned to help IoT Device Makers seamlessly achieve all market standards compliance.

2.1.4 PKI & root-of-Trust: GSMA Root-CI Accreditation

SEALSQ leverages the WiseKey Root Certificate Authority which has attained GSMA Root CI accreditation in Q1 2024.

This resulted in the fact that SEALSQ PKI can now enable eUICC and Subscription Management entities to identify and authenticate within the GSMA remote provisioning Consumer ecosystem, facilitating security and interoperability.

SEALSQ's comprehensive offering aims to streamline the process for eUICC manufacturers and SM-DP+/SM-DS Service Providers, aiding them in achieving a faster time to market. This approach is achieved through cost-effective and simplified design processes for obtaining GSMA PKI Certificates.

SEALSQ further enhances the proposition by enabling companies to swiftly access certificates compliant with the new version 3 in line with SGP.22 v3.0 and SGP.14 v2.1 standard. This service is facilitated through INeS, a managed "PKI as a Service" platform, which eliminates the need for hardware infrastructure investments.

The adoption of eSIM specifications and remote SIM provisioning is poised to significantly enhance interoperability and security-by-design within the cellular industry. This aligns with SEALSQ's mission to foster a safer connected world.

By partnering with SEALSQ, GSMA participants can now expect to:

- Accelerate their time to market by securing GSMA PKI Certificates for eSIM compliant version 3 consumer products.
- Benefit from flexible deployment options, such as on-premises, hosted, or batch issuance.
- Simplify the management of certificates via the SEALSQ INeS CMS Platform for consumers.
- Rely on SEALSQ's GSMA Root CI, recognized as a WebTrust accredited CA, ensuring a high level of trust and security.

Note: About GSMA

The GSMA is a global organization unifying the mobile ecosystem to discover, develop and deliver innovation foundational to positive business environments and societal change. Representing mobile operators and organizations across the mobile ecosystem and adjacent industries, the GSMA delivers for its members across three broad pillars: Connectivity, Industry Solutions and Events.

2.1.5 Other PKI Services: CertifyID TLS/SSL Server Certificates

SEALSQ launched in Q2 a complete Marketing and Sales program to develop the business around CertifyID TLS Manager under the SEALSQ brand. CertifyID is a PKI for TLS Software as a Service solution initially developed by WiseKey.

The solution is cost competitive and offers a strong value proposition on the B2B market, with a go-to-market strategy focused on servicing very large userbases for multinational organizations and IT service partners or resellers, while also being able to accommodate individual users.

It provides centralized management of digital certificates, without the hassle or building and maintaining a PKI. Administrators can easily obtain digital certificates that can be easily installed on their servers. It offers advanced life-cycle management and automation features, a critical point as certificate lifetime tends to shorten while renewal tasks remain time-consuming.

Most importantly, SEALSQ's Root Certification authority stands approved by Microsoft, Apple, Mozilla, Google, Adobe and many others. As it happens, Entrust, a large player in the SSL/TLS industry has recently lost the approval of Google due to security concerns. Resulting in a million-dollar business opportunity that SEALSQ is actively addressing at commercial and marketing levels.

Note: About TLS/SSL Certificates

TLS and SSL Certificates are used to enhance the security over the IP networks (Internet and Intranet) implementing the TLS or SSL protocols, authenticating the servers or devices and encrypting its communications, using Public Key cryptography and digital signatures. When accessing a TLS/SSL-Protected Server the users will know that they are connecting to a genuine server, owned by the company providing the service, and that the data transferred is confidential.

2.2 SALES & MARKETING



2.2.1 H1 2024: A harvest of new business opportunities

SEALSQ's business activity in H1 2024 has shown promising opportunities for new projects: Over the past six months, we have more than doubled the number of projects under development globally compared to H1 2023, reaching 27 new projects.

We are bolstering our presence in Smart Home devices projects, where Matter certification is a prerequisite. SEALSQ is now engaged in several projects in this field, including electronic door openers, shutter controls, heater controls, and air-conditioner controllers, primarily in Europe and Asia. In these projects, SEALSQ offers customers either a comprehensive solution that includes a secure element with PKI services or a solution with PKI services only. Additionally, SEALSQ continues to expand its presence in the Smart Metering market in Japan, India, and the USA.

We anticipate significant growth in our activities in the coming months by entering new PKI markets such as the GSMA certificates market and the TLS/SSL certificates market.

2.2.2 Marketing outlook: Brand awareness & Lead Generation

During H1 2024, SEALSQ has initiated an ambitious digital marketing program to develop brand awareness, increase product visibility and generate leads across United States, EMEA and Asia key target markets.

The program involves several advertising campaigns across social media (LinkedIn, X and YouTube) and Google Ads, aiming successively at traffic and then lead conversion. It features over 30 solid professional contents providing valuable insights and information on key technical subjects related to SEALSQ Business like Compliance to IoT security regulation worldwide, EV Charging or Matter Smart Home standard. The initiative also features SEO web content optimizations to improve visibility and traffic in the long run.

The Campaign started at the end of June 2024 and is delivering results aligned with expectations. It is planned to generate over one million views and twenty-five thousand clicks.

2.3 ORGANIZATION



2.3.1 ISO27001 & CISCO supplier Audit Renewals

During the first half of 2024, SEALSQ renewed both ISO 27001 and CISCO Security certification. Auditors reported for the 8th consecutive time no deviation or non-conformity to the security guidelines.

2.3.2 Human Resources

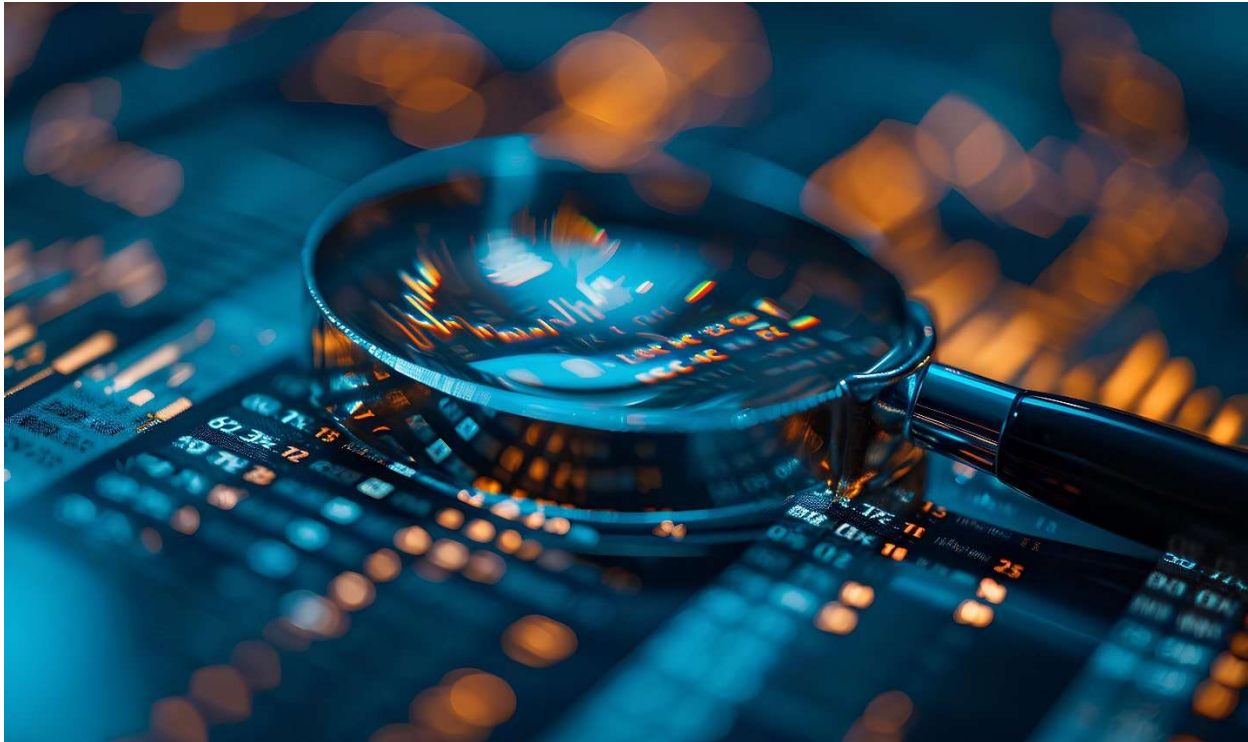
Since January 2024, the company has successfully rolled out the recruitment strategy as planned, to align with its strategic development.

In the back office, we have fortified our innovation and technical development teams by hiring up to seven new employees for engineering positions: Validation Engineer, Test Engineer, Tools & Provisioning Engineer, Validation Engineer, Security Engineer, Design Engineer and Full Stack Developer.

We also reinforced our internal service departments with one IT Developer, and one Quality & Environment engineer.

On the sales front, we have expanded our team globally with two additional Field Application Engineers (one in France and one in Taiwan) and appointed a new Vice President of Sales in the US.

2.4 STRATEGIC OUTLOOK FOR H2 2024 and 2025



2.4.1 IoT Market: Security Regulations Compliance

SEALSQ is strategically positioned with its comprehensive security services and product offerings to support device manufacturers in achieving compliance with IoT regulations. This positions the company to capitalize on the substantial business opportunities presented by the growing demand for secure IoT solutions in response to evolving regulatory requirements.

The landscape of IoT security regulations is rapidly evolving to address growing cybersecurity concerns. In the US, the Cyber Trust Mark, introduced by the FCC in 2023, mandates IoT device manufacturers to embed secure identities, implement encryption, and utilize Public Key Infrastructure (PKI). This regulation is set to be enforced by mid-2025, aiming to ensure consumer products meet stringent security standards. The EU's Cyber Resilience Act, proposed in 2022 and expected to be enforced by 2025, requires manufacturers to ensure devices are designed with security in mind from the outset, including secure boot mechanisms and regular software updates. The UK's Product Security and Telecommunications Infrastructure (PSTI) Act, which will

come into full effect in 2024, enforces similar requirements, focusing on secure identity and encryption, and obligating manufacturers to maintain a vulnerability disclosure policy. In Singapore, the Cybersecurity Labelling Scheme (CLS), operational since 2020, was enhanced in 2023 to require higher-level security features like PKI and secure communication protocols. These regulations collectively push IoT device manufacturers towards more robust security practices, emphasizing the need for built-in security features and ongoing maintenance to protect against evolving threats.

The tightening of IoT security regulations has significantly impacted the business of IoT security, particularly for vendors of secure elements and Public Key Infrastructure (PKI) solutions. With mandatory requirements for secure identities, encryption, and PKI becoming standard, the demand for secure elements, such as hardware security modules (HSMs) and secure microcontrollers, has surged. The global market for IoT security was valued at \$12.5 billion in 2022 and is projected to grow at a CAGR of 22.4% from 2023 to 2030³. PKI vendors are also seeing increased opportunities as manufacturers seek to comply with regulations mandating digital certificates and secure key management. This has led to a proliferation of PKI services tailored for IoT, including scalable cloud-based solutions. The regulatory push has spurred innovation and competition, driving vendors to develop advanced, cost-effective security solutions. Consequently, the market for IoT security solutions is experiencing robust growth, with significant investment in research and development to stay ahead of emerging threats and regulatory changes.

In summary, evolving IoT security regulations are driving a dynamic, rapidly growing market for secure elements and PKI vendors, with the global market expected to continue its strong growth trajectory.

2.4.1 TPM Market

The TPM standard was originally thought and designed for PC (Hard Drive encryption, boot pw storage). WINDOWS™ 11 made it mandatory for the PC world

³ [Industrial Internet of Things Market Size & Share Report 2030 \(grandviewresearch.com\)](https://www.grandviewresearch.com/industry-analysis/Industrial-Internet-of-Things-Market)

In 2023, 550 million units⁴ were shipped. This is a very fast-growing market, with a CAGR of 33,4%⁵. Demand for TPMs is primarily driven by utilities/Industrial IoT (IIoT) and connected car applications. The market for IoT cybersecurity is massive with more than 12 billion IoT devices connected in 2021 and expected to grow to 27 billion units in 2025 with CAGR of 22%⁶. McKinsey predicts an annual US\$12.6 trillion in economic value by 2030⁷.

2.4.2 ASICS Activity: A first Multimillion-dollar deal

ASICs are specialized integrated circuits designed to perform specific functions or tasks within a particular application domain. They offer advantages such as higher performance, lower power consumption, and reduced size and cost compared to alternative solutions like field-programmable gate arrays (FPGAs) or general-purpose microcontrollers.

SEALSQ has strategically initiated discussions with select large electronic manufacturers to leverage the new chip's advanced hardware architecture by developing custom quantum-resistant chips derived from the QS7001 and incorporating ASIC customer requirements. This move into the post-quantum ASIC segment represents a significant step in SEALSQ's commercial and industrial strategy, creating a new pipeline of business opportunities and revenue.

Financially, ASIC development contracts typically include customer payments to cover non-recurring engineering development expenses. Industrially, this aligns with SEALSQ's project to establish a Semiconductor Design and Personalization center, utilizing its engineering resources to support the upcoming ASIC activities.

Overall, the ASIC market is characterized by steady growth, driven by technological advancements and increasing demand for customized solutions across various industries.

⁴ EUROSMART association – Secure Elements Global market estimates, Dec 2022

⁵ ABI Research - Which Security Solutions Are Being Used to Curb the IoT Cyber Risk- Sept 2023

⁶ State of IoT – Spring 2022", IoT Analytics, May 2022

⁷ "The Internet of Things: Catching up to an accelerating Opportunity", McKinsey & Co, November 2021

Market Size: The global application specific integrated circuit market size accounted for USD 19.34 billion in 2023 and it is expected to hit around USD 39.86 billion by 2033 with a registered CAGR of 7.5% from 2024 to 2033⁸

- **Application Areas:** ASICs find applications in telecommunications, automotive, consumer electronics, industrial automation, and healthcare.
- **Technology Trends:** Advancements in process nodes and packaging technologies enable higher integration, improved performance, and lower power consumption, particularly for AI, IoT, and 5G applications.
- **Emerging Markets:** Demand is rising for low-power ASICs in IoT and sensor applications, as well as for ASICs used in ADAS, autonomous vehicles, and EVs in the automotive sector.
- **Security Concerns:** ASIC vendors are integrating hardware-based security features such as encryption and authentication to address cybersecurity threats, especially in IoT and cloud computing.

2.4.3 Design & Personalization Center

Significant progress has been made on the project of creating Semiconductor Design, Test and Personalization Centers. The first project is taking shape in Spain under the name of Quantix EdgeS, a joint venture involving WISEKey, SEALSQ and local partners. This new consortium is in very advanced stage of discussions with the Spanish Government to secure over 20M€ funding under Spain's Strategic Project for the Economic Recovery and Transformation of Microelectronics and Semiconductors (PERTE Chip). The venture aligns with Spain's strategic emphasis on digital transformation, aiming to enhance the nation's semiconductor capabilities. The PERTE Chip initiative seeks to mobilize €12.25 billion in public investment by 2027 to turn Spain into a global chip hub, reinforcing the national microelectronics and semiconductor industry's design and production capabilities.

Quantix EdgeS is poised to become a key player in critical sectors such as smart cities, IT infrastructure, smart embedded systems, and 5G networks. Leveraging WISEKey's global cybersecurity expertise, SEALSQ's semiconductor and PKI technology knowledge, and their local partners footprint in the IoT ecosystem, the project aims to drive Spain's digital transformation and economic diversification. By establishing a Cybersecurity and Semiconductor Customization

⁸ [Industrial Internet of Things Market Size & Share Report 2030 \(grandviewresearch.com\)](https://www.grandviewresearch.com/industry-analysis/Industrial-Internet-of-Things-Market)

Center in Murcia through Public-Private Partnerships (PPP), Quantix EdgeS seeks to mitigate global semiconductor dependency and attract high-value talent, fostering innovation and enhancing Spain's competitive advantage in the digital economy.

Aside from this first project, SEALSQ is also carrying out negotiations to build similar concepts with public and private investors in other countries.

3. CONSOLIDATED FINANCIAL STATEMENTS

Condensed Consolidated Financial Statements

of SEALSQ Corp (unaudited)

As at June 30, 2024

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1. Condensed Consolidated Statements of Comprehensive Loss

USD'000, except earnings per share	Unaudited 6 months ended June 30,		Note ref.
	2024	2023	
Net sales	4,828	14,751	23
Cost of sales	(3,667)	(6,760)	
Depreciation of production assets	(228)	(201)	
Gross profit	933	7,790	
Other operating income	-	9	
Research & development expenses	(2,393)	(1,492)	
Selling & marketing expenses	(2,653)	(2,441)	
General & administrative expenses	(4,777)	(4,145)	
Total operating expenses	(9,823)	(8,069)	
Operating loss	(8,890)	(279)	
Non-operating income	465	180	25
Gain / (loss) on debt extinguishment	(100)	-	
Interest and amortization of debt discount	(557)	(143)	18
Non-operating expenses	(372)	(313)	26
Loss before income tax expense	(9,454)	(555)	
Income tax expense	(1,304)	(320)	27
Net loss	(10,758)	(875)	
Earnings per Ordinary Share (USD)			
Basic	(0.37)	(0.06)	29
Diluted	(0.37)	(0.06)	29
Earnings per F Share (USD)			
Basic	(1.87)	(0.29)	29
Diluted	(1.87)	(0.29)	29
Other comprehensive loss, net of tax:			
Foreign currency translation adjustments	(8)	(4)	
Other comprehensive loss	(8)	(4)	
Comprehensive loss	(10,766)	(879)	

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

2. Condensed Consolidated Balance Sheets

USD'000, except par value	As at June 30, 2024 (unaudited)	As at December 31, 2023 (unaudited)	Note ref.
ASSETS			
Current assets			
Cash and cash equivalents	18,858	6,895	7
Accounts receivable, net of allowance for credit losses	1,565	5,053	8
Inventories	2,772	5,231	9
Prepaid expenses	471	605	
Government assistance	1,826	1,718	10
Other current assets	625	765	11
Total current assets	26,117	20,267	
Noncurrent assets			
Deferred income tax assets	1,775	3,077	27
Deferred tax credits	63	-	
Property, plant and equipment, net of accumulated depreciation	3,013	3,230	12
Intangible assets, net of accumulated amortization	-	-	13
Operating lease right-of-use assets	1,181	1,278	14
Other noncurrent assets	85	83	15
Total noncurrent assets	6,117	7,668	
TOTAL ASSETS	32,234	27,935	
LIABILITIES			
Current Liabilities			
Accounts payable	6,904	6,963	16
Indebtedness to related parties, current	-	1,278	19
Deferred revenue, current	2	-	23
Current portion of obligations under operating lease liabilities	355	336	14
Income tax payable	-	2	
Other current liabilities	34	138	17
Total current liabilities	7,295	8,717	
Noncurrent liabilities			
Bonds, mortgages and other long-term debt	1,734	1,654	18
Convertible note payable, noncurrent	9,313	1,519	18
Indebtedness to related parties, noncurrent	7,478	9,695	19
Operating lease liabilities, noncurrent	754	893	14
Employee benefit plan obligation	436	426	20
Total noncurrent liabilities	19,715	14,187	
TOTAL LIABILITIES	27,010	22,904	

USD'000, except par value	As at June 30, 2024 (unaudited)	As at December 31, 2023 (unaudited)	Note ref.
Commitments and contingent liabilities			21
SHAREHOLDERS' EQUITY			
Common stock - Ordinary Shares	227	154	22
Par value - USD 0.01			
Authorized - 200,000,000 and 200,000,000			
Issued and outstanding - 22,734,630 and 15,446,807			
Common stock - F Shares	75	75	22
Par value - USD 0.05			
Authorized - 10,000,000 and 10,000,000			
Issued and outstanding - 1,499,700 and 1,499,700			
Additional paid-in capital	35,616	24,730	
Accumulated other comprehensive income / (loss)	776	784	
Accumulated deficit	(31,470)	(20,712)	
Total shareholders' equity	5,224	5,031	
TOTAL LIABILITIES AND EQUITY	32,234	27,935	

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

3. Condensed Consolidated Statements of Changes in Shareholders' Equity

USD'000 (except for share numbers)	Unaudited 6 months ended June 30,						Total equity (deficit)
	Number of Ordinary Shares	Number of F Shares	Share Capital	Additional paid-in capital	Accumulated deficit	Accumulated other comprehensive income / (loss)	
As at December 31, 2022	7,501,400	1,499,700	150	16,731	(17,444)	775	(a) 212
Reverse recapitalization under common control	100	-	-	(188)	-	-	(188)
Indebtedness to related parties	-	-	-	209	-	-	209
Comprehensive income / (loss)	-	-	-	-	(874)	(4)	(878)
As at June 30, 2023	7,501,500	1,499,700	150	16,752	(18,318)	771	(645)
As at December 31, 2023	15,446,807	1,499,700	229	24,730	(20,712)	784	5,031
Stock-based compensation	-	-	-	42	-	-	42
L1 SPA	3,317,719	-	33	5,057	-	-	5,090
Anson SPA	3,970,104	-	40	5,787	-	-	5,827
Comprehensive income / (loss)	-	-	-	-	(10,758)	(8)	(10,766)
As at June 30, 2024	22,734,630	1,499,700	302	35,616	(31,470)	776	5,224
(a) Adjusted for rounding							

The accompanying notes are an integral part of these condensed consolidated financial statements

4. Condensed Consolidated Statements of Cash Flows

USD'000	Unaudited 6 months ended June 30,	
	2024	2023
Cash Flows from operating activities:		
Net loss	(10,758)	(875)
Adjustments to reconcile net income to net cash provided by (used in) operating activities:		
Depreciation of property, plant & equipment	301	273
Amortization of intangible assets	-	1
Interest and amortization of debt discount	557	143
Loss on debt extinguishment	100	-
Inventory valuation allowance	243	257
Bad debt expense	19	-
Income tax expense, net of cash paid	1,304	320
Other non-cash expenses / (income)		
Expenses settled in equity	131	-
Unrealized and non-cash foreign currency transactions	(42)	-
Changes in operating assets and liabilities, net of effects of businesses acquired		
Decrease (increase) in accounts receivables	3,488	(1,252)
Decrease (increase) in inventories	2,108	(2,081)
Decrease (increase) in other current assets and prepaids, net	275	(52)
Decrease (increase) in government assistance	(107)	(488)
Decrease (increase) in other noncurrent assets, net	(2)	(5)
Increase (decrease) in accounts payable	(58)	2,095
Increase (decrease) in deferred revenue, current	2	-
Increase (decrease) in income taxes payable	(2)	(2)
Increase (decrease) in other current liabilities	(105)	77
Increase (decrease) in defined benefit pension liability	10	33
Increase (decrease) in interest on debt owed to related parties	(35)	-
Increase (decrease) in net balance owed to shareholders and their affiliates, excluding debt and interest on debt	(2,218)	658
Net cash provided by (used in) operating activities	(4,789)	(898)
Cash Flows from investing activities:		
Sale (acquisition) of property, plant and equipment	(89)	(1,677)
Net cash provided by (used in) investing activities	(89)	(1,677)
Cash Flows from financing activities:		
Proceeds from debt	-	209
Repayment of indebtedness to related parties	(1,407)	-
Payment of debt issue costs	(1,217)	-
Proceeds from convertible loan issuance	19,350	-
Net cash provided by (used in) financing activities	16,726	209
Effect of exchange rate changes on cash and cash equivalents	115	169
Cash and cash equivalents		
Net increase (decrease) during the period	11,963	(2,197)
Balance, beginning of period	6,895	4,057
Cash and cash equivalents balance, end of period	18,858	1,860
Supplemental cash flow information		
Cash paid for incomes taxes	-	-
Non-cash conversion of convertible loans into common stock	10,725	-
ROU assets obtained from operating lease	62	65

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

5. Notes to the Condensed Consolidated Financial Statements

Note 1. The SEALSQ Group

SEALSQ Corp, together with its consolidated subsidiaries (“SEALSQ” or the “Group” or the “SEALSQ Group”), has its headquarters in Tortola, BVI. SEALSQ Corp, the parent of the SEALSQ Group, was incorporated in April 2022 and is listed on the NASDAQ Capital Market exchange with the valor symbol “LAES” since May 23, 2023.

On January 1, 2023, SEALSQ Corp acquired SEALSQ France (formerly WISeKey Semiconductors SAS), a private joint stock company (French Simplified Joint Stock Company), and its subsidiaries. Prior to that acquisition, SEALSQ did not have any operations. As further described in the notes below, the acquisition qualified as a reverse recapitalization.

SEALSQ designs, develops and markets secure semiconductors worldwide as a fabless manufacturer. It provides added security and authentication layers on its semiconductors which can be tailored to customers’ needs. As an advanced chip designer, the Group holds the intellectual property (IP) for the semiconductors it sells.

SEALSQ is also accredited as a Product Attestation Authority (PAA) and, as such, can issue MATTER Device Attestation Certificates (DAC).

The Group anticipates being able to generate profits in the near future thanks to the increased focus on the security and authentication of IT components and networks.

Note 2. Future operations and going concern

The Group recorded a loss from operations in this reporting period and the accompanying condensed consolidated financial statements have been prepared assuming that the Group will continue as a going concern.

The Group incurred a net operating loss of USD 8.9 million in the six months ended June 30, 2024 and had positive working capital of USD 18.8 million as at June 30, 2024, calculated as the difference between current assets and current liabilities. Based on the Group’s cash projections up to September 30, 2025, SEALSQ has sufficient liquidity to fund operations.

We note that, historically, the Group has been dependent on financing to augment the operating cash flow to cover its cash requirements.

Based on the foregoing, Management believe it is correct to present these figures on a going concern basis.

Note 3. Basis of presentation

The condensed consolidated financial statements are prepared in accordance with the Generally Accepted Accounting Principles in the United States of America (“US GAAP”) as set forth in the Financial Accounting Standards Board’s (FASB) Accounting Standards Codification (ASC). All amounts are in United States dollars (“USD”) unless otherwise stated.

These unaudited condensed consolidated financial statements should be read in conjunction with the consolidated financial statements and notes thereto included in the Group’s annual financial statements for the year ended December 31, 2023, as filed in the 20-F on March 21, 2024.

The Group’s interim period results do not necessarily indicate the results that may be expected for any other interim period or for the full fiscal year. The significant accounting policies applied in the annual consolidated financial statements of the Group as of December 31, 2023, contained in the Group’s Annual Report have been applied consistently in these unaudited condensed consolidated financial statements.

Note 4. Summary of significant accounting policies

Recent Accounting Pronouncements

Adoption of new FASB Accounting Standard in the current year – Prior-Year Financial Statements not restated:

As of January 1, 2024, the Group adopted Accounting Standards Update (ASU) 2023-01 Leases (Topic 842): Common Control Arrangements which requires all companies to amortize leasehold improvements associated with common control leases over the asset’s useful life to the common control group regardless of the lease term. ASU 2023-01 requires leasehold improvements associated with leases between entities under common control to be amortized over the useful life of the improvements until the lessee ceases to control the use of the underlying asset through a lease, at which time the remaining value of the leasehold improvement would be accounted for as a transfer between entities under common control.

There was no impact on the Group’s results upon adoption of the standard.

New FASB Accounting Standard to be adopted in the future:

In November 2023, the FASB issued ASU No 2023-07, Segment Reporting (Topic 280): Improvements to Reportable Segment Disclosures, which enhances current segment disclosures and requires additional disclosures of significant segment expenses.

Summary: The amendments improve reportable segment disclosure requirements, primarily through enhanced disclosures about significant segment expenses. In addition, the amendments enhance interim disclosure requirements, clarify circumstances in which an entity can disclose multiple segment measures of profit or loss, provide new segment disclosure requirements for entities with a single reportable segment, and contain other disclosure requirements.

Effective Date: ASU 2023-07 is effective for public business entities for fiscal years beginning after December 15, 2023, and interim periods within fiscal years beginning after December 15, 2024. Early adoption is permitted.

The Group expects to adopt all the aforementioned guidance when effective. Management is assessing the impact of the aforementioned guidance on its consolidated financial statements but does not expect it to have a material impact.

In December 2023, the FASB issued ASU 2023-09, Income Taxes (Topic 740): Improvements to Income Tax Disclosures, which establishes new income tax disclosure requirements in addition to modifying and eliminating certain existing requirements.

Summary: The intent of this standard is to enhance the decision usefulness of income tax disclosures. The standard applies to all entities subject to ASC Topic 740, Income Taxes. In addition, entities will be required to disclose the amount of income taxes paid (net of refunds received) disaggregated by federal, state, and foreign taxes. They will also disclose the amount of income taxes paid (net of refunds) disaggregated by individual jurisdictions in which income taxes paid is equal to or greater than five percent of total income taxes paid. The standard also outlines additional disclosure requirements for all entities and specific updates for public business entities.

Effective Date: ASU 2023-09 is effective for public business entities for fiscal years beginning after December 15, 2024. Early adoption is permitted.

The Group expects to adopt all the aforementioned guidance when effective. Management is assessing the impact of the aforementioned guidance on its consolidated financial statements but does not expect it to have a material impact.

Note 5. Concentration of credit risks

Financial instruments that are potentially subject to credit risk consist primarily of cash and cash equivalents and trade accounts receivable. Our cash is held with large financial institutions. Management believes that the financial institutions that hold our investments are financially sound and accordingly, are subject to minimal credit risk. Deposits held with banks may exceed the amount of insurance provided on such deposits.

The Group sells to large, international customers and, as a result, may maintain individually significant trade accounts receivable balances with such customers during the year. We generally do not require collateral on trade accounts receivable. Summarized below are the clients whose revenue were 10% or higher than the respective total consolidated net sales for the 6 months ended June 30, 2024 or 2023, and the clients whose trade accounts receivable balances were 10% or higher than the respective total consolidated trade accounts receivable balance as at June 30, 2024 and, or December 31, 2023. In addition, we note that some of our clients are contract manufacturers for the same companies; should these companies reduce their operations or change contract manufacturers, this would cause a decrease in our customer orders which would adversely affect our operating results.

	Revenue concentration (% of total net sales)		Receivables concentration (% of total accounts receivable)	
	Unaudited 6 months ended June 30,		As at June 30,	As at December 31,
	2024	2023	2024 (unaudited)	2023
Multinational electronics contract manufacturing company	4%	22%	-	15%
Multinational telecommunication & hardware manufacturing company	-	-	-	12%
International digital security company	1%	12%	-	-
International software services provider	1%	5%	-	14%
International computer and hardware manufacturer	22%	3%	65%	12%
International equipment and software manufacturer	-	3%	-	19%
International electronic components manufacturer	12%	8%	-	-

Note 6. Fair value measurements

ASC 820 establishes a three-tier fair value hierarchy for measuring financial instruments, which prioritizes the inputs used in measuring fair value. These tiers include:

- Level 1, defined as observable inputs such as quoted prices in active markets;
- Level 2, defined as inputs other than quoted prices in active markets that are either directly or indirectly observable; and
- Level 3, defined as unobservable inputs in which little or no market data exists, therefore requiring an entity to develop its own assumptions.

	As at June 30, 2024 (unaudited)		As at December 31, 2023		Fair value level	Note ref.
USD'000	Carrying amount	Fair value	Carrying amount	Fair value		
<i>Fair Value of Financial Instruments</i>						
Accounts receivable	1,565	1,565	5,053	5,053	3	8
Accounts payable	6,904	6,904	6,963	6,963	3	16
Indebtedness to related parties, current	-	-	1,278	1,278	3	19
Bonds, mortgages and other long-term debt	1,734	1,734	1,654	1,654	3	18
Convertible note payable, noncurrent	9,313	10,413	1,519	1,846	3	18
Indebtedness to related parties, noncurrent	7,478	7,478	9,695	9,695	3	19

In addition to the methods and assumptions we use to record the fair value of financial instruments as discussed in the Fair Value Measurements section above, we used the following methods and assumptions to estimate the fair value of our financial instruments:

- Accounts receivable – carrying amount approximated fair value due to their short-term nature.
- Accounts payable – carrying amount approximated fair value due to their short-term nature.
- Indebtedness to related parties, current – carrying amount approximated fair value.
- Bonds, mortgages and other long-term debt - carrying amount approximated fair value.
- Convertible note payable, noncurrent – fair value is calculated based on the present value of the future cash flows as of the reporting date.
- Indebtedness to related parties, noncurrent - carrying amount approximated fair value.

Note 7. Cash and cash equivalents

Cash consists of deposits held at major banks.

Note 8. Accounts receivable

The breakdown of the accounts receivable balance is detailed below:

USD'000	As at June 30, 2024 (unaudited)	As at December 31, 2023
Trade accounts receivable	1,634	5,103
Allowance for credit losses	(69)	(50)
Total accounts receivable net of allowance for credit losses	1,565	5,053

Note 9. Inventories

Inventories consisted of the following:

USD'000	As at June 30, 2024 (unaudited)	As at December 31, 2023
Raw materials	635	1,025
Work in progress	151	4,206
Finished goods	1,986	-
Total inventories	2,772	5,231

Note 10. Government assistance

SEALSQ France SAS (formerly WISeKey Semiconductors SAS) is eligible for research tax credits provided by the French government. As at June 30, 2024, and December 31, 2023, the receivable balances in respect of these research tax credits owed to the Group were respectively USD 1,825,698 and USD 1,718,248. The credit is deductible from the entity's income tax charge for the year or payable in cash the following year, whichever event occurs first. The balance as at June 30, 2024 is the aggregate of USD 749,860 (at closing rate) tax credit earned in relation to the six month period ended June 30, 2024 and USD 1,075,838 (at closing rate) in relation to the year 2023. Refundable R&D tax credits are considered to be government assistance in line with ASC 832.

Note 11. Other current assets

Other current assets consisted of the following:

USD'000	As at June 30, 2024 (unaudited)	As at December 31, 2023
Value-Added Tax Receivable	390	415
Advanced payment to suppliers	209	346
Deposits, current	5	4
Other current assets	21	-
Total other current assets	625	765

Note 12. Property, plant and equipment

Property, plant and equipment, net consisted of the following:

USD'000	As at June 30, 2024 (unaudited)	As at December 31, 2023
Machinery & equipment	13,309	13,275
Office equipment and furniture	2,321	2,321
Computer equipment and licenses	760	710
Total property, plant and equipment gross	16,390	16,306
<i>Accumulated depreciation for:</i>		
Machinery & equipment	(10,476)	(10,241)
Office equipment and furniture	(2,300)	(2,279)
Computer equipment and licenses	(601)	(556)
Total accumulated depreciation	(13,377)	(13,076)
Total property, plant and equipment, net	3,013	3,230
Depreciation charge for the 6 months ended June 30,	301	273

In the six months ended June 30, 2024, SEALSQ Corp did not identify any events or changes in circumstances indicating that the carrying amount of any asset may not be recoverable. As a result, the Group did not record any impairment charge on Property, plant and equipment in the six months ended June 30, 2024.

The useful economic life of property plant and equipment is as follow:

- Office equipment and furniture: 2 to 5 years
- Production masks 5 years
- Production tools 3 years
- Licenses 3 years
- Software 1 year

Note 13. Intangible assets

Intangible assets and future amortization expenses consisted of the following:

USD'000	As at June 30, 2024 (unaudited)	As at December 31, 2023
<i>Intangible assets subject to amortization:</i>		
Patents	2,281	2,281
License agreements	1,699	1,699
Other intangibles	923	923
Total intangible assets gross	4,903	4,903
<i>Accumulated amortization for:</i>		
Patents	(2,281)	(2,281)
License agreements	(1,699)	(1,699)
Other intangibles	(923)	(923)
Total accumulated amortization	(4,903)	(4,903)
Total intangible assets subject to amortization, net	-	-
Total intangible assets, net	-	-
Amortization charge for the 6 months ended June 30,	-	1

The useful economic life of intangible assets is as follow:

- Patents: 5 to 10 years
- License agreements: 1 to 3 years
- Other intangibles: 5 years

Note 14. Leases

The Group has historically entered into a number of lease arrangements under which it is the lessee. As at June 30, 2024, the SEALSQ Group holds four operating leases. The operating leases relate to premises. We do not sublease. All of our operating leases include multiple optional renewal periods which are not reasonably certain to be exercised.

During the six months ended June 30, 2024 and 2023, we recognized rent expenses associated with our leases as follows:

USD'000	Unaudited 6 months ended June 30,	
	2024	2023
<i>Operating lease cost:</i>		
Fixed rent expense	171	172
Short-term lease cost	-	-
Net lease cost	171	172
Lease cost - Cost of sales	-	-
Lease cost - General & administrative expenses	171	172
Net lease cost	171	172

In the six months ended June 30, 2024, and in the year ended December 31, 2023, we had the following cash and non-cash activities associated with our leases:

USD'000	As at June 30, 2024	As at December 31, 2023
<i>Cash paid for amounts included in the measurement of lease liabilities:</i>		
Operating cash flows from operating leases	169	314
<i>Non-cash investing and financing activities :</i>		
Net lease cost	171	172
<i>Additions to ROU assets obtained from:</i>		
New operating lease liabilities	62	66

The following table provides the details of right-of-use assets and lease liabilities as at June 30, 2024, and as at December 31, 2023:

USD'000	As at June 30, 2024	As at December 31, 2023
Right-of-use assets:		
Operating leases	1,181	1,278
Total right-of-use assets	1,181	1,278
Lease liabilities:		
Operating leases	1,109	1,229
Total lease liabilities	1,109	1,229

As at June 30, 2024, future minimum annual lease payments were as follows, which corresponds to the future minimum lease payments under legacy ASC 840 in line with ASU 2018-11.

Year	USD'000 Operating	USD'000 Short-term	USD'000 Finance	USD'000 Total
2024	170	-	-	170
2025	332	-	-	332
2026	303	-	-	303
2027	298	-	-	298
2028 and beyond	163	-	-	163
Total future minimum lease payments	1,266	-	-	1,266
Less effects of discounting	(157)	-	-	(157)
Lease liabilities recognized	1,109	-	-	1,109

As at June 30, 2024 the weighted-average remaining lease term was 3.95 years for operating leases.

For our operating leases, we calculated an estimate rate based upon the estimated incremental borrowing rate of the entity holding the lease. The weighted average discount rate associated with operating leases as at June 30, 2024 was 5.43%.

Note 15. Other noncurrent assets

Other noncurrent assets consisted of noncurrent deposits. Deposits are primarily made up of rental deposits on the premises rented by the Group.

Note 16. Accounts payable

The accounts payable balance consisted of the following:

USD'000	As at June 30, 2024 (unaudited)	As at December 31, 2023
Trade creditors	2,470	3,299
Accounts payable to shareholders	1,982	1,378
Accounts payable to Board Members	224	-
Accounts payable to underwriters, promoters, and employees	812	1,150
Other accounts payable	1,416	1,136
Total accounts payable	6,904	6,963

Accounts payable to shareholders consist of short-term payables due to WISEKey International Holding AG in relation to interest on outstanding loans and the recharge of management services (see Notes 19 and 30).

Accounts payable to underwriters, promoters and employees consist primarily of payable balances to employees in relation to holidays, bonus and 13th month accruals across the Group.

Other accounts payable are mostly accruals of social charges in relation to the accrued liability to employees.

Note 17. Other current liabilities

Other current liabilities consisted of the following:

USD'000	As at June 30, 2024 (unaudited)	As at December 31, 2023
Other tax payable	6	13
Customer contract liability, current	28	125
Total other current liabilities	34	138

Note 18. Bonds, mortgages and other long-term debt***Production Capacity Investment Loan Agreement***

In November 2022, SEALSQ entered into a loan agreement with a third-party client to borrow funds for the purpose of increasing their production capacity. Under the terms of the Agreement, the client has lent to SEALSQ a total of USD 2 million. The loan will be reimbursed by way of a volume rebate against future sales volumes of certain products from the SEALSQ Group to the client during the period from July 1, 2023, through to December 31, 2025. The volume rebate is based upon quarterly sales volumes in excess of a base limit on a yearly projected basis. Any amount still outstanding as at December 31, 2025 shall fall due for repayment on that date. The loan does not bear any interest and there were no fees or costs attributed to the loan.

At inception in November 2022, a debt discount totaling USD 511,128 was booked to additional paid-in capital.

As at June 30, 2024, SEALSQ has not repaid any amount. The loan balance remains USD 2 million with an unamortized debt discount balance of USD 266,044, thus leaving a carrying value of USD 1,733,956.

The Group recorded a debt discount amortization expense of USD 80,160 in the six months ended June 30, 2024.

Share Purchase Agreement with L1 Capital Global Opportunities Master Fund

On July 11, 2023, the Group entered into a Securities Purchase Agreement (the "L1 SPA") with L1 Capital Global Opportunities Master Fund Ltd ("L1") pursuant to which L1 may enter into a private placement of up to a maximum amount of USD 10 million, divided into two equal tranches, in the form of Senior Unsecured Original Issue 4% Discount Convertible Promissory Notes. The Notes shall have a 24-month maturity and bear interest at a rate of 4% per annum, subject to adjustment. The Notes will be convertible into Ordinary Shares of SEALSQ, partially or in full, at an initial conversion price equal to the lesser of (i) a fixed conversion price of USD 30 per Ordinary Share, which, on the six-month anniversary of the tranche closing date, may reset at 130% of the daily volume weighted average price ("VWAP") of the Ordinary Shares for the trading day immediately preceding the reset date and (ii) 92% of the lowest daily VWAP of the Ordinary Shares during the ten trading days immediately preceding the conversion notice of the Note, with a floor price of USD 2.50. The covenants include the requirement for the Group to maintain a minimum cash balance of USD 4 million and to ensure that indebtedness of the Group does not exceed 15% of the average market capitalization.

Due to L1's option to convert the loan in part or in full at any time before maturity, the L1 SPA was assessed as a share-settled debt instrument with an embedded put option. In line with ASC 480-10-55-43 and ASC 480-10-55-44, because the value that L1 will predominantly receive at settlement does not vary with the value of the shares, the settlement provision is not considered a conversion option. We assessed the put option under ASC 815 and concluded that it is clearly and closely related to its debt host and therefore did not require bifurcation. Per ASC 480-10-25, the L1 SPA was accounted for as a liability measured at fair value using the discounted cash flow method at inception.

Additionally, per the terms of the L1 SPA, upon each tranche closing under the L1 SPA, SEALSQ will grant L1 the option to acquire Ordinary Shares of SEALSQ at an initial exercise price of USD 30, which may reset at 120% of the closing VWAP on the six-month anniversary of the tranche closing date. The number of warrants granted at each tranche subscription is calculated as 30% of the principal amount of each tranche divided by the VWAP of the Ordinary Shares of SEALSQ on the trading day immediately preceding the tranche closing date. Each warrant agreement has a 5-year exercise period starting on the relevant tranche closing date. In line with ASC 470-20-25-2, for each tranche closing, the proceeds from the convertible notes with a detachable warrant were allocated to the two elements based on the relative fair values of the debt instrument without the warrant and of the warrant at time of issuance. When assessed as an equity instrument, the warrant agreement is fair valued at grant using the Black-Scholes model and the market price of the Ordinary Shares on the tranche closing date. The fair value of the debt is calculated using the discounted cash flow method.

The first tranche of USD 5 million was funded on July 12, 2023, by L1. SEALSQ issued to L1 (i) a Senior Original Issue 4% Discount Convertible Promissory Note of USD 5 million (the "First L1 Note"), convertible into SEALSQ's Ordinary Shares, and (ii) 122,908 warrants on the Ordinary Shares of SEALSQ with a 5-year maturity (the "First L1 Warrant"). SEALSQ also created a capital reserve of 8,000,000 Ordinary Shares from its duly authorized Ordinary Shares for issuance under the First L1 Note and the First L1 Warrant. Debt issue costs made up of legal expenses totaling USD 114,832 and a commission of USD 250,000 to the placement agent were due upon issuance of the First L1 Note, and a fee of USD 200,000 representing 4% of the principal value of the First L1 Note was paid to L1 at closing.

The First L1 Warrant was assessed as an equity instrument and was fair valued at grant at an amount of USD 632,976 using the Black-Scholes model and the market price of the Ordinary Shares of SEALSQ on the date of grant of USD 11.42. The fair value of the debt was calculated using the discounted

cash flow method as USD 4,987,363. Applying the relative fair value method per ASC 470-20-25-2, the recognition of the warrant agreement created a debt discount on the debt host in the amount of USD 563,112, with the credit entry recorded in additional paid-in capital ("**APIC**"), and the debt issue costs created a debt discount on the debt host in the amount of USD 323,744 and a debit to APIC of USD 41,088. Including the fee paid to L1, a total debt discount of USD 1,086,856 was recorded against the First L1 Note's principal amount.

During the year ended December 31, 2023, L1 converted a total of USD 4 million of the First L1 Note, resulting in the delivery of a total of 3,940,630 Ordinary Shares of SEALSQ. A debt discount charge of USD 210,290 was amortized to the income statement and unamortized debt discounts totaling USD 705,572 were booked to APIC on conversions in line with ASC 470-02-40-4.

On January 9, 2024, SEALSQ and L1 entered into an Amendment to the Securities Purchase Agreement (the "**First L1 Amendment**"), to amend some of the original terms and conditions of the L1 SPA. As per the First L1 Amendment, L1 may enter into a private placement of up to a maximum amount of USD 10 million, divided into two equal tranches, in the form of Senior Unsecured Original Issue 4% Discount Convertible Promissory Notes. The Notes shall have a 24-month maturity and bear interest at a rate of 4% per annum, subject to adjustment. The Notes will be convertible into Ordinary Shares of SEALSQ, partially or in full, at an initial conversion price equal to the lesser of (i) a fixed conversion price of USD 4 per Ordinary Share, which, on the six-month anniversary of the tranche closing date, may reset at 130% of the daily VWAP of the Ordinary Shares for the trading day immediately prior to the reset date and (ii) 92% of the lowest daily volume VWAP of the Ordinary Shares during the ten trading days immediately preceding the conversion notice of the Note, with a floor price of USD 0.55.

Additionally, per the terms of the L1 Amendment, upon each tranche closing under the L1 SPA, SEALSQ will grant L1 the option to acquire Ordinary Shares of SEALSQ at an initial exercise price of USD 4, with no option to reset. The number of warrants granted at each tranche subscription is calculated as 30% of the principal amount of each tranche divided by the VWAP of the Ordinary Shares of SEALSQ on the trading day immediately preceding the tranche closing date.

The second tranche of USD 5 million was funded on January 11, 2024, by L1. SEALSQ issued to L1 (i) a Senior Original Issue 4% Discount Convertible Promissory Note of USD 5 million (the "**Second L1 Note**"), convertible into SEALSQ's Ordinary Shares, and (ii) 1,144,339 warrants on the Ordinary Shares of SEALSQ with a 5-year maturity (the "**Second L1 Warrant**"). SEALSQ also created a capital reserve of 45,000,000 Ordinary Shares from its duly authorized Ordinary Shares for issuance under the Second L1 Note and the Second L1 Warrant. Debt issue costs made up of legal expenses totaling USD 70,279 and a commission of USD 250,000 to the placement agent were due upon issuance of the Second L1 Note, and a fee of USD 200,000 representing 4% of the principal value of the Second L1 Note was paid to L1 at closing.

The Second L1 Warrant was assessed as an equity instrument and was fair valued at grant at an amount of USD 709,490 using the Black-Scholes model and the market price of the Ordinary Shares of SEALSQ on the date of grant of USD 1.60. The fair value of the debt was calculated using the discounted cash flow method as USD 4,594,061. Applying the relative fair value method per ASC 470-20-25-2, the recognition of the warrant agreement created a debt discount on the debt host in the amount of USD 668,882, with the credit entry recorded in APIC, and the debt issue costs created a debt discount on the debt host in the amount of USD 277,433 and a debit to APIC of USD 42,846. Including the fee paid to L1, a total debt discount of USD 1,146,315 was recorded against the Second L1 Note's principal amount.

On March 1, 2024, SEALSQ and L1 entered into the Second Amendment to the Securities Purchase Agreement (the "**Second L1 Amendment**"), to amend some of the terms and conditions of the L1 SPA. As per the Second L1 Amendment, L1 may enter into a private placement of up to a maximum amount of USD 10 million, divided into two equal tranches, in the form of Senior Unsecured Original Issue 2.5% Discount Convertible Promissory Notes. The Notes shall have a 24-month maturity and bear interest at a rate of 4% per annum, subject to adjustment. The Notes will be convertible into Ordinary Shares of SEALSQ, partially or in full, at an initial conversion price equal to the lesser of (i) a fixed conversion price of USD 5.5 per Ordinary Share, which, on the six-month anniversary of the tranche closing date, may reset at 130% of the daily VWAP of the Ordinary Shares for the trading day immediately prior to the reset date and (ii) 93% of the lowest daily volume VWAP of the Ordinary Shares during the ten trading days immediately preceding the conversion notice of the Note, with a floor price of USD 0.55.

Additionally, per the terms of the L1 Second Amendment, upon each tranche closing under the L1 SPA, SEALSQ will grant L1 the option to acquire Ordinary Shares of SEALSQ at an initial exercise price of USD 5.5, with no option to reset. The number of warrants granted at each tranche subscription is calculated as 30% of the principal amount of each tranche divided by the VWAP of the Ordinary Shares of SEALSQ on the trading day immediately preceding the tranche closing date.

The third tranche of USD 5 million was funded on March 1, 2024, by L1. SEALSQ issued to L1 (i) a Senior Original Issue 2.5% Discount Convertible Promissory Note of USD 5 million (the "**Third L1 Note**"), convertible into SEALSQ's Ordinary Shares, and (ii) 768,679 warrants on the Ordinary Shares of SEALSQ with a 5-year maturity (the "**Third L1 Warrant**"). Debt issue costs made up of legal expenses totaling USD 53,184 and a commission of USD 250,000 to the placement agent were due upon issuance of the Third L1 Note, and a fee of USD 125,000 representing 2.5% of the principal value of the Third L1 Note was paid to L1 at closing.

The Third L1 Warrant was assessed as an equity instrument and was fair valued at grant at an amount of USD 553,449 using the Black-Scholes model and the market price of the Ordinary Shares of SEALSQ on the date of grant of USD 1.98. The fair value of the debt was calculated using the discounted cash flow method as USD 4,549,701. Applying the relative fair value method per ASC 470-20-25-2, the recognition of the warrant agreement created a debt discount on the debt host in the amount of USD 542,262, with the credit entry recorded in APIC, and the debt issue costs created a debt discount on the debt host in the amount of USD 270,303 and a debit to APIC of USD 32,881. Including the fee paid to L1, a total debt discount of USD 937,565 was recorded against the First L1 Note's principal amount.

During the six months ended June 30, 2024, L1 converted a total of USD 1 million of the First L1 Note and USD 3.9 million of the Second L1 Note, resulting in the delivery of a total of 3,317,720 Ordinary Shares of SEALSQ. A debt discount charge of USD 246,825 was amortized to the income statement and unamortized debt discounts totaling USD 1,009,178 were booked to APIC on conversion in line with ASC 470-02-40-4. As at June 30, 2024, the unconverted balance was USD 1.1 million on the Second L1 Note and USD 5 million on the Third L1 Note, and the unamortized debt discount balance was USD 998,871, hence a carrying value of USD 5,101,129.

Share Purchase Agreement with Anson Investments Master Fund

On July 11, 2023, the Group entered into a Securities Purchase Agreement (the “**Anson SPA**”) with Anson Investments Master Fund LP (“**Anson**”) pursuant to which Anson may enter into a private placement of up to a maximum amount of USD 10 million, divided into two equal tranches, in the form of Senior Unsecured Original Issue 4% Discount Convertible Promissory Notes. The Notes shall have a 24-month maturity and bear interest at a rate of 4% per annum, subject to adjustment. The Notes will be convertible into Ordinary Shares of SEALSQ, partially or in full, at an initial conversion price equal to the lesser of (i) USD 30 per Ordinary Share, which, on the six-month anniversary of the tranche closing date, may reset at 130% of the daily VWAP of the Ordinary Shares for the trading day immediately prior to the reset date and (ii) 92% of the lowest daily VWAP of the Ordinary Shares during the ten trading days immediately preceding the notice of partial or full conversion of the Note, with a floor price of USD 2.50. The covenants include the requirement for the Group to maintain a minimum cash balance of USD 4 million and to ensure that indebtedness of the Group does not exceed 15% of the average market capitalization.

Due to Anson’s option to convert the loan in part or in full at any time before maturity, the Anson SPA was assessed as a share-settled debt instrument with an embedded put option. In line with ASC 480-10-55-43 and ASC 480-10-55-44, because the value that Anson will predominantly receive at settlement does not vary with the value of the shares, the settlement provision is not considered a conversion option. We assessed the put option under ASC 815 and concluded that it is clearly and closely related to its debt host and therefore did not require bifurcation. Per ASC 480-10-25, the Anson SPA was accounted for as a liability measured at fair value using the discounted cash flow method at inception.

Additionally, per the terms of the Anson SPA, upon each tranche closing under the Anson SPA, SEALSQ will grant Anson the option to acquire Ordinary Shares of SEALSQ at an initial exercise price of USD 30, which may reset at 120% of the closing VWAP on the six-month anniversary of the tranche closing date. The number of warrants granted at each tranche subscription is calculated as 30% of the principal amount of each tranche divided by the VWAP of the Ordinary Shares of SEALSQ on the trading day immediately preceding the tranche closing date. Each warrant agreement has a 5-year exercise period starting on the relevant tranche closing date. In line with ASC 470-20-25-2, for each tranche closing, the proceeds from the convertible notes with a detachable warrant were allocated to the two elements based on the relative fair values of the debt instrument without the warrant and of the warrant at time of issuance. When assessed as an equity instrument, the warrant agreement is fair valued at grant using the Black-Scholes model and the market price of the Ordinary Shares on the tranche closing date. The fair value of the debt is calculated using the discounted cash flow method.

The first tranche of USD 5 million was funded on July 12, 2023, by Anson. SEALSQ issued to Anson (i) a Senior Original Issue 4% Discount Convertible Promissory Note of USD 5 million (the “**First Anson Note**”), convertible into SEALSQ’s Ordinary Shares, and (ii) 122,908 warrants on the Ordinary Shares of SEALSQ with a 5-year maturity (the “**First Anson Warrant**”). SEALSQ also created a capital reserve of 8,000,000 Ordinary Shares from its duly authorized Ordinary Shares for issuance under the First Anson Note and the First Anson Warrant. Debt issue costs made up of legal expenses totaling USD 64,832 and a commission of USD 250,000 to the placement agent were due upon issuance of the First Anson Note, and a fee of USD 200,000 representing 4% of the principal value of the First Anson Note was paid to Anson at closing.

The First Anson Warrant was assessed as an equity instrument and was fair valued at grant at an amount of USD 632,976 using the Black-Scholes model and the market price of the Ordinary Shares of SEALSQ on the date of grant of USD 11.42. The fair value of the debt was calculated using the discounted cash flow method as USD 4,987,363. Applying the relative fair value method per ASC 470-20-25-2, the recognition of the warrant agreement created a debt discount on the debt host in the amount of USD 563,112, with the credit entry recorded in APIC, and the debt issue costs created a debt discount on the debt host in the amount of USD 279,375 and a debit to APIC of USD 35,457. Including the fee paid to Anson, a total debt discount of USD 1,042,487 was recorded against the First Anson Note’s principal amount.

During the year ended December 31, 2023, Anson converted a total of USD 4,175,000 of the First Anson Note, resulting in the delivery of a total of 3,996,493 Ordinary Shares of SEALSQ. A debt discount charge of USD 198,984 was amortized to the income statement and unamortized debt discounts totaling USD 708,062 were booked to APIC on conversions in line with ASC 470-02-40-4. Additionally, on July 10, 2023, the Group issued 8,184 new Ordinary Shares to Anson as a result of a share ledger correction, thus a total delivery for the year of 4,004,677 Ordinary Shares.

On January 9, 2024, SEALSQ and Anson entered into an Amendment to the Securities Purchase Agreement (the “**First Anson Amendment**”), to amend some of the original terms and conditions of the Anson SPA. As per the First Anson Amendment, Anson may enter into a private placement of up to a maximum amount of USD 10 million, divided into two equal tranches, in the form of Senior Unsecured Original Issue 4% Discount Convertible Promissory Notes. The Notes shall have a 24-month maturity and bear interest at a rate of 4% per annum, subject to adjustment. The Notes will be convertible into Ordinary Shares of SEALSQ, partially or in full, at an initial conversion price equal to the lesser of (i) a fixed conversion price of USD 4 per Ordinary Share, which, on the six-month anniversary of the tranche closing date, may reset at 130% of the daily VWAP of the Ordinary Shares for the trading day immediately prior to the reset date and (ii) 92% of the lowest daily volume VWAP of the Ordinary Shares during the ten trading days immediately preceding the conversion notice of the Note, with a floor price of USD 0.55.

Additionally, per the terms of the Anson Amendment, upon each tranche closing under the Anson SPA, SEALSQ will grant Anson the option to acquire Ordinary Shares of SEALSQ at an initial exercise price of USD 4, with no option to reset. The number of warrants granted at each tranche subscription is calculated as 30% of the principal amount of each tranche divided by the VWAP of the Ordinary Shares of SEALSQ on the trading day immediately preceding the tranche closing date.

The Second tranche of USD 5 million was funded on January 10, 2024, by Anson. SEALSQ issued to Anson (i) a Senior Original Issue 4% Discount Convertible Promissory Note of USD 5 million (the **"Second Anson Note"**), convertible into SEALSQ's Ordinary Shares, and (ii) 1,144,339 warrants on the Ordinary Shares of SEALSQ with a 5-year maturity (the **"Second Anson Warrant"**). SEALSQ also created a capital reserve of 45,000,000 Ordinary Shares from its duly authorized Ordinary Shares for issuance under the Second Anson Note and the Second Anson Warrant. Debt issue costs made up of legal expenses totaling USD 55,279 and a commission of USD 250,000 to the placement agent were due upon issuance of the Second Anson Note, and a fee of USD 200,000 representing 4% of the principal value of the Second Anson Note was paid to Anson at closing.

The Second Anson Warrant was assessed as an equity instrument and was fair valued at grant at an amount of USD 709,490 using the Black-Scholes model and the market price of the Ordinary Shares of SEALSQ on the date of grant of USD 1.60. The fair value of the debt was calculated using the discounted cash flow method as USD 4,594,171. Applying the relative fair value method per ASC 470-20-25-2, the recognition of the warrant agreement created a debt discount on the debt host in the amount of USD 668,868, with the credit entry recorded in APIC, and the debt issue costs created a debt discount on the debt host in the amount of USD 264,441 and a debit to APIC of USD 40,838. Including the fee paid to Anson, a total debt discount of USD 1,133,309 was recorded against the Second Anson Note's principal amount.

On March 1, 2024, SEALSQ and Anson signed a second Amendment to Securities Purchase Agreement (the **"Second Anson Amendment"**), to amend some of the terms and conditions of the Anson SPA. As per the Second Anson Amendment, Anson may enter into a private placement of up to a maximum amount of USD 10 million, divided into two equal tranches, in the form of Senior Unsecured Original Issue 2.5% Discount Convertible Promissory Notes. The Notes shall have a 24-month maturity and bear interest at a rate of 4% per annum, subject to adjustment. The Notes will be convertible into Ordinary Shares of SEALSQ, partially or in full, at an initial conversion price equal to the lesser of (i) a fixed conversion price of USD 5.5 per Ordinary Share, which, on the six-month anniversary of the tranche closing date, may reset at 130% of the daily VWAP of the Ordinary Shares for the trading day immediately prior to the reset date and (ii) 93% of the lowest daily volume VWAP of the Ordinary Shares during the ten trading days immediately preceding the conversion notice of the Note, with a floor price of USD 0.55.

Additionally, per the terms of the Anson Second Amendment, upon each tranche closing under the Anson SPA, SEALSQ will grant Anson the option to acquire Ordinary Shares of SEALSQ at an initial exercise price of USD 5.5, with no option to reset. The number of warrants granted at each tranche subscription is calculated as 30% of the principal amount of each tranche divided by the VWAP of the Ordinary Shares of SEALSQ on the trading day immediately preceding the tranche closing date.

The Third tranche of USD 5 million was funded on March 1, 2024, by Anson. SEALSQ issued to Anson (i) a Senior Original Issue 2.5% Discount Convertible Promissory Note of USD 5 million (the **"Third Anson Note"**), convertible into SEALSQ's Ordinary Shares, and (ii) 768,679 warrants on the Ordinary Shares of SEALSQ with a 5-year maturity (the **"Third Anson Warrant"**). Debt issue costs made up of legal expenses totaling USD 38,184 and a commission of USD 250,000 to the placement agent were due upon issuance of the Third Anson Note, and a fee of USD 125,000 representing 2.5% of the principal value of the Third Anson Note was paid to Anson at closing.

The Third Anson Warrant was assessed as an equity instrument and was fair valued at grant at an amount of USD 553,449 using the Black-Scholes model and the market price of the Ordinary Shares of SEALSQ on the date of grant of USD 1.98. The fair value of the debt was calculated using the discounted cash flow method as USD 4,549,701. Applying the relative fair value method per ASC 470-20-25-2, the recognition of the warrant agreement created a debt discount on the debt host in the amount of USD 542,262, with the credit entry recorded in APIC, and the debt issue costs created a debt discount on the debt host in the amount of USD 256,930 and a debit to APIC of USD 31,254. Including the fee paid to Anson, a total debt discount of USD 924,192 was recorded against the Third Anson Note's principal amount.

During the six months ended June 30, 2024, Anson converted a total of USD 825,000 of the First Anson Note, and USD 5 million of the Second Anson Note, resulting in the delivery of a total of 3,970,104 Ordinary Shares of SEALSQ. A debt discount charge of USD 200,923 was amortized to the income statement and unamortized debt discounts totaling USD 1,204,299 were booked to APIC on conversion in line with ASC 470-02-40-4.

As at June 30, 2024, the unconverted balance on the Third Anson Note was USD 5 million and the unamortized debt discount balance was USD 787,720, hence a carrying value of USD 4,212,280.

Note 19. Indebtedness to related parties

On October 1, 2016, the SEALSQ Group entered into a Revolving Credit Agreement (the “**Revolving Credit**”) with its parent WISEKey International Holding Ltd to borrow funds within a credit period starting on October 1, 2016, and ending on December 31, 2017, when all outstanding funds would become immediately due and payable. Outstanding loan amounts under the Revolving Credit bore an interest rate of 3% per annum. Repayments before the end of the credit period were permitted. On November 1, 2017, the Group and WISEKey entered into the First Amendment to the Revolving Credit Agreement extending the credit period by 2 years to December 31, 2019. On March 16, 2021, the Group and WISEKey entered into the Second Amendment to the Revolving Credit Agreement extending the credit period by another 2 years to December 31, 2022. On November 1, 2022, the Group and WISEKey entered into the Third Amendment to the Revolving Credit Agreement pursuant to which the interest rate was amended to 2.5% per annum.

On April 1, 2019, the SEALSQ Group entered into a loan agreement with WISECoin AG, an affiliate of WISEKey, pursuant to which WISECoin AG commits to loan EUR 250,000 to the SEALSQ Group, at an interest rate of 3% per annum, amended to 2.5% on November 3, 2022. The loan has no maturity date.

On October 1, 2019, the SEALSQ Group entered into a loan agreement with WISECoin AG pursuant to which WISECoin AG commits to loan USD 2,750,000 to the SEALSQ Group, at an interest rate of 3% per annum, amended to 2.5% on November 3, 2022. The loan has no maturity date.

On November 12, 2020, WISEKey provided a Funding Commitment to extend shareholder loans (each the “**Shareholder Loan**”) to the Group for a maximum aggregate amount of USD 4 million to be drawn down over six months from the date of the commitment, in instalments of between USD 1 million and USD 1.5 million. The Shareholder Loans bore interest of 3% per annum. There were no set repayment dates for the Shareholder Loans.

On April 1, 2021, the Group entered into a Debt Remission Agreement (the “**Debt Remission**”) with WISEKey pursuant to which an outstanding amount of EUR 5 million (USD 5,871,714 at historical rate) owed to WISEKey was remitted without any compensation from the Group. Per the terms of the Debt Remission, WISEKey will have the right to reinstate the debt and ask for repayment in fiscal years when SEALSQ France (formerly WISEKey Semiconductors SAS) achieves a positive income before income tax expense, in an amount calculated based on the income before income tax expense and as agreed by the parties. As such, because of the repayment clause, the loan amount covered by the Debt Remission continues to be shown as noncurrent liabilities included in the line Indebtedness to related parties, noncurrent. The outstanding amount under the Debt Remission is revalued at each period end at the applicable closing rate. On December 20, 2023, the Group and WISEKey entered into an agreement to write off EUR 2 million (USD 2,191,282 at historical rate) of the outstanding Debt Remission amount. Therefore, as at June 30, 2024, an amount of EUR 3 million (USD 3,211,668) remained outstanding under the Debt Remission.

On June 28, 2021, the Group entered into a Debt Transfer Agreement with its parent, WISEKey, and an affiliate of WISEKey, WISEKey SA, pursuant to which WISEKey extended a loan of USD 1,463,664 to the Group to repay an overdue creditor balance in that same amount owed to WISEKey SA. The loan bore interest at the rate of 3% per annum and was repayable by December 31, 2022.

On December 31, 2021, the Group entered into a Debt Transfer Agreement with WISEKey pursuant to which WISEKey extended a loan of USD 1,910,754 to the Group with an interest rate of 3% per annum, repayable on December 31, 2023.

On June 30, 2022, the Group entered into a Debt Transfer Agreement with WISEKey pursuant to which WISEKey extended a loan of USD 444,542 to the Group with an interest rate of 3% per annum, repayable on December 31, 2024.

On August 31, 2022, the Group entered into a Debt Transfer Agreement with WISEKey and WISEKey SA pursuant to which WISEKey extended a loan of USD 381,879 to the Group with an interest rate of 3% per annum, repayable on December 31, 2024.

On December 15, 2022, and in view of the negative equity position of the Group, WISEKey as then sole shareholder of the SEALSQ Group resolved to recapitalize the Group by forfeiting EUR 7 million (USD 7,348,397 at historical rate) out of the loans outstanding in exchange for the issuance of 175,000 new shares in SEALSQ France, par value EUR 1. Under French law, such a recapitalization is only possible if the loans to be forfeited are immediately repayable. Therefore, respectively on November 1, 2022 and November 3, 2022, the Group entered into a First Amendment to the Debt Transfer Agreements and into the Fourth Amendment to the Revolving Credit Agreement pursuant to which the loans owed under the Debt Transfer Agreements dated June 28, 2021, December 31, 2021, June 30, 2022 and August 31, 2022 as well as all amounts due under the Revolving Credit became due and payable on November 30, 2022.

Because of the requirement under French law, we analyzed the amendment of the maturity of the loans and Revolving Credit as being part of the substance of the recapitalization transaction. We assessed the recapitalization as a capital transaction between related parties in line with ASC 470-50 and, therefore, in the year ended December 31, 2022, recorded a credit entry of USD 183,710 in share capital corresponding to the new issue of 175,000 shares and a credit of USD 7,164,687 to additional paid-in capital, with a total debit entry of USD 7,348,397 to Indebtedness to related parties, noncurrent.

On December 31, 2022, the Group entered into a Debt Transfer Agreement with WISEKey pursuant to which WISEKey extended a loan of USD 283,754 to the Group with an interest rate of 3% per annum, repayable on December 31, 2024.

As at December 31, 2022, the Group owed WISEKey USD 1,198,746 in loans under the various agreements and the unamortized debt discount balance was USD 35,340, hence a carrying value of USD 1,163,406 as at December 31, 2022.

On January 1, 2023, the SEALSQ Group entered into a loan agreement with WISEKey (the “**New Loan**”) which replaced all outstanding loan agreements. Per the terms of the New Loan, WISEKey extended a loan to the SEALSQ Group of up to USD 5 million, with an interest rate of 2.5% per annum, repayable on or around December 31, 2024. A first tranche loan of USD 1,407,497 was drawn on January 1, 2023, which was made up of the balance of USD 1,198,746 outstanding from previous loan agreements as at December 31, 2022 and an additional loan amount of USD 208,751. We determined the New Loan to be a troubled debt restructuring under ASC 470-60, where the future undiscounted cash flows of the New Loan were more than the net carrying value of USD 1,163,406 of the original debt with WISEKey. Therefore, in line with ASC 470-60, we recorded the New Loan with a new effective interest rate of 12.3% established based on the carrying value of the original debt and the revised cash flows. A total interest rate accrual of USD 244,091 was recorded as a debit to Indebtedness to related parties, current at inception and the unamortized debt discount balance on the previously outstanding loans of USD 35,340 was extinguished, hence a net credit to APIC of USD 208,751. In line with ASC 470-60, no gain was recorded in the income statement.

All entities in the SEALSQ Group are subject to management fees from WISEKey and WISEKey’s affiliates. Where the payment terms have been defined, the classification between current and noncurrent follows the payment terms, however, where there is no set payment date for these fees, they have been classified as noncurrent.

As at December 31, 2023, the Group owed WISEKey and WISEKey’s affiliates noncurrent debts in an aggregate amount of USD 9,695,576, made up of loans and unpaid management fees, and a current debt in an amount of USD 1,407,497. The unamortized effective interest balance of the current debt was USD 129,691, hence a carrying value of the current debt of USD 1,277,806 as at December 31, 2023. In the year 2023, an aggregate effective interest expense of USD 114,400 was recorded in the income statement.

As at December 31, 2023, the Group also held an accounts payable balance of USD 1,377,871 with WISEKey in relation to interest on outstanding loans and the recharge of management services, classified as accounts payable to shareholders.

In 2024, the group repaid the current debt owed to WISEKey in full for a total amount of USD 1,449,911, made up of a loan of USD 1,407,497, and related interests. The unamortized effective interest balance of the current debt of USD 129,691 was recognized in the income statement as interest and amortization of debt discount in an amount of USD 29,406 and as loss on debt extinguishment in an amount of USD 100,285.

The group also repaid some of the noncurrent debts owed to WISEKey.

As at June 30, 2024, the Group owed WISEKey and WISEKey’s affiliates noncurrent debts in an aggregate amount of USD 7,477,594, made up of loans and unpaid management fees. In the six months ended June 30, 2024, an aggregate effective interest expense of USD 44,943 was recorded in the income statement.

As at June 30, 2024, the Group also held an accounts payable balance of USD 1,981,933 with WISEKey in relation to interest on outstanding loans and the recharge of management services, classified as accounts payable to shareholders.

Note 20. Employee benefit plans

Defined benefit post-retirement plan

As at June 30, 2024, the Group maintained one defined benefit post retirement plan for the employees of SEALSQ France SAS (formerly WISEKey Semiconductors SAS).

The plan is and was considered a defined benefit plan and accounted for in accordance with ASC 715 Compensation – Retirement Benefits. This model allocates pension costs over the service period of employees in the plan. The underlying principle is that employees render services ratably over this period, and therefore, the income statement effects of pensions should follow a similar pattern. ASC 715 requires recognition of the funded status or difference between the fair value of plan assets and the projected benefit obligations of the pension plan on the balance sheet, with a corresponding adjustment recorded in the net loss. If the projected benefit obligation exceeds the fair value of the plan assets, then that difference or unfunded status represents the pension liability.

The Group records net service cost as an operating expense and other components of defined benefit plans as a non-operating expense in the statement of comprehensive loss.

The liabilities and annual income or expense of the pension plan are determined using methodologies that involve several actuarial assumptions, the most significant of which are the discount rate and the long-term rate of asset return (based on the market-related value of assets). The fair value of plan assets is determined based on prevailing market prices.

The defined benefit pension plan maintained by SEALSQ France SAS, and its obligations to employees in terms of retirement benefits, is limited to a lump sum payment based on remuneration and length of service, determined for each employee. The plan is not funded, which means that there are no plan assets.

The pension liability calculated as at June 30, 2024 is based on annual personnel costs and assumptions as of December 31, 2023.

The expected future cash flows to be paid by the Group for employer contribution for the year ended December 31, 2024, are USD 38,000.

Movement in Funded Status USD'000	6 months ended June 30,	
	2024	2023
Net Service cost	18	19
Interest cost / (credit)	6	7
Total Net Periodic Benefit Cost / (credit)	24	26
Employer contributions paid in the period	(19)	(13)
Total Cashflow	(19)	(13)

Note 21. Commitments and contingencies

Lease commitments

The future payments due under leases are shown in Note 14.

Guarantees

Our software and hardware product sales agreements generally include certain provisions for indemnifying customers against liabilities if our products infringe a third party's intellectual property rights. Certain of our product sales agreements also include provisions indemnifying customers against liabilities in the event we breach confidentiality or service level requirements. It is not possible to determine the maximum potential amount under these indemnification agreements due to our lack of history of prior indemnification claims and the unique facts and circumstances involved in each particular agreement. To date, we have not incurred any costs as a result of such indemnifications and have not accrued any liabilities related to such obligations in our condensed consolidated financial statements.

Note 22. Stockholders' equity

Stockholders' equity consisted of the following:

	SEALSQ Corp		SEALSQ Corp	
	As at June 30, 2024		As at December 31, 2023	
Share Capital	<i>Ordinary Shares</i>	<i>F Shares</i>	<i>Ordinary Shares</i>	<i>F Shares</i>
Par value per share	USD 0.01	USD 0.05	USD 0.01	USD 0.05
Share capital (in USD)	227,346	74,985	154,468	74,985
Total number of authorized shares	200,000,000	10,000,000	200,000,000	10,000,000
Total number of fully paid-in issued shares	22,734,630	1,499,700	15,446,807	1,499,700
Total number of fully paid-in outstanding shares	22,734,630	1,499,700	15,446,807	1,499,700
Total share capital (in USD)	302,331		229,453	

Note 23. Revenue

• Nature of goods and services

The Group generates revenues from the sale of semiconductors secure chips and from Digital Certificates, Software as a Service, Software license and Post-Contract Customer Support (PCS) for cybersecurity applications. Products and services are sold principally separately but may also be sold in bundled packages.

For bundled packages, the Group accounts for individual products and services separately if they are distinct – i.e. if a product or service is separately identified from other items in the bundled package and if a customer can benefit from it. The consideration is allocated between separate products and services in a bundle based on their stand-alone selling prices. The stand-alone selling prices are determined based on the list prices when available or estimated based on the Adjusted Market Assessment approach (e.g. licenses), or the Expected Cost-Plus Margin approach (e.g., PCS).

The following is a description of the principal activities from which the Group generates its revenue across all reportable segments.

Product and services	Nature, timing of satisfaction of performance obligations and significant payment terms
Semiconductors secure chips	Although they may be sold in connection with other services of the Group, they always represent distinct performance obligations. The Group recognizes revenue when a customer takes possession of the chips, which usually occurs when the goods are delivered. Customers typically pay once goods are delivered.
SaaS	The Group's SaaS arrangements cover the provision of cloud-based certificates for authentication purposes such as Device Attestation Certificates (DACs) for MATTER Protocol, IoT Device to Cloud Authentication, or Device-to-Device Authentication. The Group recognizes revenue on a straight-line basis over the service period which is usually yearly renewable. Where lifelong certificates are issued, the Group recognizes revenue when the certificate is delivered and usable by the customer. Customers usually pay ahead of the service period; the paid amounts which have not yet been recognized as revenue are shown as deferred revenue on the balance sheet.
Software and INeS Certificate Management Platform	The Group provides software for certificates life-cycle management and signing and authentication solutions through its INeS Certificate Management Platform. The Group recognizes revenue when the software has been delivered or the platform has been set up, and PCS revenue over the service period which is usually one-year renewable. Customers pay upon delivery of the software or over the PCS.
Implementation, integration and other services	The Group provides services to implement and integrate multi-element cybersecurity solutions. Most of the time the solution elements are off-the-shelf non-customized components which represent distinct performance obligations. Implementation and integration services are payable when rendered, while other revenue elements are payable and recognized as per their specific description in this section.

Disaggregation of revenue

The following table shows the Group's revenues disaggregated by product or service type:

Disaggregation of revenue	Revenue recognized	At one point in time		Total	
(unaudited)		6 months ended June 30,		6 months ended June 30,	
USD'000		2024	2023	2024	2023
Secure Microcontrollers Segment					
Secure chips	Upon delivery	3,872	10,156	3,872	10,156
Total Secure Microcontrollers Segment		3,872	10,156	3,872	10,156
All Other Segment					
Secure chips	Upon delivery	956	4,595	956	4,595
Total All Other Segment		956	4,595	956	4,595
Total Revenue		4,828	14,751	4,828	14,751

For the six months ended June 30, 2024 and 2023, the Group recorded no revenues related to performance obligations satisfied in prior periods.

The following table shows the Group's revenues disaggregated by geography, based on our customers' billing addresses:

Net sales by region USD'000	Unaudited 6 months ended June 30,	
	2024	2023
Secure Microcontrollers Segment		
North America	2,950	7,956
Europe, Middle East and Africa	589	1,388
Asia Pacific	333	812
Total Secure Microcontrollers segment revenue	3,872	10,156
All Other Segment		
North America	108	418
Europe, Middle East and Africa	291	3,033
Asia Pacific	557	1,144
Total All Other segment revenue	956	4,595
Total net sales	4,828	14,751

Contract assets, deferred revenue and contract liability

Our contract assets, deferred revenue and contract liability consist of:

USD'000	As at June 30,	As at December 31,
	2024 (unaudited)	2023
Trade accounts receivable		
Trade accounts receivable - Secure Microcontrollers Segment	1,255	3,553
Trade accounts receivable - All Other Segment	310	1,550
Total trade accounts receivable	1,565	5,103
Customer contract liabilities		
Customer contract liabilities - current	28	125
Total customer contract liabilities	28	125
Deferred revenue		
Deferred revenue - Secure Microcontrollers Segment	2	-
Total deferred revenue	2	-

Increases or decreases in trade accounts receivable, contract assets, deferred revenue and contract liability were primarily due to normal timing differences between our performance and customer payments.

Remaining performance obligations

As of June 30, 2024, approximately USD 1,799 is expected to be recognized from remaining performance obligations for contracts. We expect to recognize revenue for these remaining performance obligations in 2024 and 2025.

Note 24. Stock-based compensation

Employee stock option plans

The F Share Option Plan ("FSOP") and the Employee Share Option Plan ("ESOP") were approved respectively on January 19, 2023, and September 15, 2023 by the Board of directors of SEALSQ.

Grants

In the 12 months to December 31, 2023, the Group granted a total of 77 options exercisable in F Shares.

The options granted consisted of 77 options with immediate vesting granted to employees, none of which had been exercised as of June 30, 2024.

The options granted were valued at grant date using the Black-Scholes model.

There was no grant of options on Ordinary Shares under the ESOP in the year ended December 31, 2023.

In the 6 months to June 30, 2024, the Group granted a total of 36,937 options exercisable in Ordinary Shares.

The options granted consisted of 36,937 options with immediate vesting granted to Board members, none of which had been exercised as of June 30, 2024.

The options granted were valued at grant date using the Black-Scholes model.

There was no grant of options on F Shares under the FSOP in the six months ended June 30, 2024.

Stock option charge to the income statement

The Group calculates the fair value of options granted by applying the Black-Scholes option pricing model. Expected volatility is based on the other companies (in the same industry and of a similar size) share price volatility.

In the six months ended June 30, 2024, a total charge of USD 42,095 for options granted to Board members was recognized in the consolidated income statement calculated by applying the Black-Scholes model at grant, in relation to options.

The following assumptions were used to calculate the compensation expense and the calculated fair value of stock options granted:

Assumption	June 30, 2024	June 30, 2023
Dividend yield	None	None
Risk-free interest rate used (average)	1.00%	1.00%
Expected market price volatility	65.31%	73.19%
Average remaining expected life of stock options on F Shares (years)	5.69	6.69
Average remaining expected life of stock options on Ordinary Shares (years)	6.91	n/a

Unvested options to employees as at June 30, 2024 were recognized prorata temporis over the service period (grant date to vesting date).

The following tables illustrate the development of the Group's non-vested options in F Shares and Ordinary Shares for the six months ended June 30, 2024.

Non-vested options on F Shares	Number of F Shares under options	Weighted-average grant date fair value (USD)
Non-vested options as at December 31, 2022	-	-
Granted	77	6.39
Vested	77	6.39
Non-vested forfeited or cancelled	-	-
Non-vested options as at December 31, 2023	-	-
Granted	-	-
Vested	-	-
Non-vested forfeited or cancelled	-	-
Non-vested options as at June 30, 2024	-	-

Non-vested options on Ordinary Shares	Number of Ordinary Shares under options	Weighted-average grant date fair value (USD)
Non-vested forfeited or cancelled	-	-
Non-vested options as at December 31, 2022	-	-
Granted	-	-
Vested	-	-
Non-vested forfeited or cancelled	-	-
Non-vested options as at December 31, 2023	-	-
Granted	36,937	1.14
Vested	36,937	1.14
Non-vested forfeited or cancelled	-	-
Non-vested options as at June 30, 2024	-	-

The following tables summarize the Group's stock option activity for the six months ended June 30, 2024.

Options on F Shares	SEAL F Shares under options	Weighted-average exercise price (USD)	Weighted average remaining contractual term (in years)	Aggregate intrinsic value (USD)
Outstanding as at December 31, 2022	-	-	-	-
Of which vested	-	-	-	-
Granted	77	0.05	-	-
Outstanding as at December 31, 2023	77	0.05	6.19	19
Of which vested	77	0.05	6.19	19
Granted	-	-	-	-
Outstanding as at June 30, 2024	77	0.05	5.69	9
Of which vested	77	0.05	5.69	9

Options on Ordinary Shares	SEAL Ordinary Shares under options	Weighted-average exercise price (USD)	Weighted average remaining contractual term (in years)	Aggregate intrinsic value (USD)
Outstanding as at December 31, 2022	-	-	-	-
Of which vested	-	-	-	-
Granted	-	-	-	-
Outstanding as at December 31, 2023	-	-	-	-
Of which vested	-	-	-	-
Granted	36,937	0.01	-	-
Outstanding as at June 30, 2024	36,937	0.01	6.91	29,804
Of which vested	36,937	0.01	6.91	29,804

Summary of stock-based compensation expenses

Stock-based compensation expenses	Unaudited 6 months ended June 30,	
	2024	2023
USD		
In relation to Employee Stock Option Plans (ESOP)	42	-
In relation to non-ESOP Option Agreements	-	-
Total	42	-

Stock-based compensation expenses are recorded under the following expense categories in the income statement.

Stock-based compensation expenses	Unaudited 6 months ended June 30,	
	2024	2023
USD'000		
Research & development expenses	-	-
Selling & marketing expenses	-	-
General & administrative expenses	42	-
Total	42	-

Note 25. Non-operating income

Non-operating income consisted of the following:

USD'000	Unaudited 6 months ended June 30,	
	2024	2023
Foreign exchange gain	204	125
Interest income	254	55
Other	7	-
Total non-operating income	465	180

Note 26. Non-operating expenses

Non-operating expenses consisted of the following:

USD'000	Unaudited 6 months ended June 30,	
	2024	2023
Foreign exchange losses	3	253
Financial charges	2	2
Interest expense	361	52
Other	6	6
Total non-operating expenses	372	313

Note 27. Income taxes

The Group assesses the recoverability of its deferred tax assets and, to the extent recoverability does not satisfy the “more likely than not” recognition criterion under ASC 740, records a valuation allowance against its deferred tax assets. The Group considered its recent operating results and anticipated future taxable income in assessing the need for its valuation allowance.

In the years up until and including 2021, the Group recorded a valuation allowance for the full amount of its deferred tax assets. However, in view of the Group’s income before income tax in the year ended December 31, 2022, and of the anticipated future taxable income per management’s forecast, the Group assessed that the recoverability of its deferred tax assets partially satisfied the “more likely than not” recognition criterion under ASC 740 as at December 31, 2022 and, therefore, partially reversed the valuation allowance previously recorded.

As at June 30, 2024, the Group assessed that the recoverability of its deferred tax assets still partially satisfied the “more likely than not” recognition criteria under ASC 740, but that it would spread over more years than initially calculated. The Group considered its recent operating results and anticipated future taxable income in assessing the need for its valuation allowance and assessed that the valuation allowance should be increased to reflect the expected delay in the recoverability of its deferred tax assets, as reflected in the tables below.

The Group’s deferred tax assets and liabilities consist of the following:

Deferred income tax assets/(liabilities) USD'000	As at June 30, 2024 (unaudited)	As at December 31, 2023
Switzerland	-	-
Foreign	1,775	3,077
Deferred income tax assets / (liabilities)	1,775	3,077

Deferred tax assets and liabilities USD'000	As at June 30, 2024 (unaudited)	As at December 31, 2023
Defined benefit accrual	(3)	(3)
Tax loss carryforwards	6,710	4,468
Add back loss carryforwards used for the debt remission	803	828
Valuation allowance	(5,735)	(2,216)
Deferred tax assets / (liabilities)	1,775	3,077

Note 28. Segment reporting

The Group has one operating segment that meets the criteria set in ASC 280-10-50: Secure Microcontrollers. The Group’s chief operating decision maker, who is its Chief Executive Officer, reviews financial performance of this operating segment for purposes of allocating resources and assessing budgets and performance.

The remaining non-reportable operating segments and other business activities that are not identified as operating segments are combined and disclosed in an “all other” standalone category.

The Secure Microcontrollers segment encompasses the design, manufacturing, sales and distribution of high-end, Common Criteria EAL5+ & FIPS 140-3-certified secure microprocessors.

Unaudited 6 months ended June 30,	2024			2023		
	Secure Microcontrollers	All Other	Total	Secure Microcontrollers	All Other	Total
Revenues from external customers	3,872	956	4,828	10,156	4,595	14,751
Intersegment revenues	-	1,084	1,084	-	231	231
Interest revenue	204	50	254	38	17	55
Interest expense	290	71	361	36	16	52
Depreciation and amortization	241	60	301	190	86	275
Segment income /(loss) before income taxes	(4,180)	(5,222)	(9,402)	718	(1,262)	(544)
Profit / (loss) from intersegment sales	-	52	52	-	11	11
Income tax recovery / (expense)	(1,046)	(258)	(1,304)	-	(320)	(320)
Segment assets	12,732	23,938	36,670	13,279	7,864	24,148

Unaudited 6 months ended June 30,	2024	2023
	USD'000	USD'000
Revenue reconciliation		
Total revenue for reportable segment	5,912	14,982
Elimination of intersegment revenue	(1,084)	(231)
Total consolidated revenue	4,828	14,751
Loss reconciliation		
Total loss from reportable segments	(9,402)	(544)
Elimination of intersegment profits	(52)	(11)
Loss before income taxes	(9,454)	(555)
As at June 30,	2024	2023
	USD'000	USD'000
Asset reconciliation		
Total assets from reportable segments	36,670	24,148
Elimination of intersegment receivables	(4,436)	(71)
Consolidated total assets	32,234	24,077

Revenue and property, plant and equipment by geography

The following tables summarize geographic information for net sales based on the billing address of the customer, and for property, plant and equipment.

Net sales by region	Unaudited 6 months ended June 30,	
USD'000	2024	2023
North America	3,058	8,374
Europe, Middle East & Africa	880	4,421
Asia Pacific	890	1,956
Total net sales	4,828	14,751

Property, plant and equipment, net of depreciation, by region	As at June 30,	As at December 31,
USD'000	2024 (unaudited)	2023
Europe, Middle East & Africa	3,013	3,230
Total Property, plant and equipment, net of depreciation	3,013	3,230

Note 29. Loss per share

The computation of basic and diluted net earnings / (loss) per share for the Group is as follows:

Earnings / (loss) per share	Unaudited 6 months ended June 30,	
	2024	2023
Net loss (USD'000)	(10,758)	(875)
Effect of potentially dilutive instruments on net earnings (USD'000)	n/a	n/a
Net loss after effect of potentially dilutive instruments (USD'000)	(10,758)	(875)
Ordinary Shares used in net earnings / (loss) per share computation:		
Weighted average shares outstanding - basic	21,199,165	7,501,500
Effect of potentially dilutive equivalent shares	n/a	n/a
Weighted average shares outstanding - diluted	21,199,165	7,501,500
Net earnings / (loss) per Ordinary Share		
Basic weighted average loss per share (USD)	(0.37)	(0.06)
Diluted weighted average loss per share (USD)	(0.37)	(0.06)
F Shares used in net earnings / (loss) per share computation:		
Weighted average shares outstanding - basic	1,499,700	1,499,700
Effect of potentially dilutive equivalent shares	n/a	n/a
Weighted average shares outstanding - diluted	1,499,700	1,499,700
Net earnings / (loss) per F Share		
Basic weighted average loss per share (USD)	(1.87)	(0.29)
Diluted weighted average loss per share (USD)	(1.87)	(0.29)

Note 30. Legal proceedings

We are currently not party to any legal proceedings and claims that are not provided for in our financial statements.

Starting in 2023 until April 2024, the French customs authorities carried out an audit of our exportation documents and found some administrative errors. In June 2024, we submitted observations to the French customs authorities contesting the legal qualification of the infringement notified. As at June 30, 2024, the French customs authorities have not yet disclosed their conclusion or a course of action in relation to their findings. We note that the administrative errors identified in our exportation documents had no financial impact on our current or historical financial statements and did not result in any error or misstatement in our historical financial statements. However, management believes that there is a reasonable possibility that a penalty may be incurred in relation to this matter, but a reasonable estimate of such loss cannot be made as at June 30, 2024.

Note 31. Related parties disclosure**Subsidiaries**

As at June 30, 2024, the condensed consolidated financial statements of the Group include the entities listed in the following table:

Group Company Name	Country of incorporation	Year of incorporation	Share Capital	% ownership as at June 30, 2024	% ownership as at December 31, 2023	Nature of business
SEALSQ France SAS	France	2010	EUR 1,473,162	100.0%	100.0%	Chip manufacturing, sales & distribution
WISeKey IoT Japan KK	Japan	2017	JPY 1,000,000	100.0%	100.0%	Sales & distribution
WISeKey IoT Taiwan	Taiwan	2017	TWD 100,000	100.0%	100.0%	Sales & distribution

Related party transactions and balances

Related Parties (in USD'000)	Receivables as at		Payables as at		Net expenses to in the 6 months ended June 30,		Net income from in the 6 months ended June 30,	
	June 30,	December 31,	June 30,	December 31,	June 30,		June 30,	
	2024 (unaudited)	2023	2024 (unaudited)	2023	2024 (unaudited)	2023 (unaudited)	2024 (unaudited)	2023 (unaudited)
1 John O'Hara	-	-	158	-	-	-	-	-
2 Ruma Bose	-	-	33	28	28	-	-	-
3 Cristina Dolan	-	-	5	-	12	-	-	-
4 David Fergusson	-	-	-	-	9	-	-	-
5 Danil Kerimi	-	-	22	8	44	-	-	-
6 Eric Pellaton	-	-	5	-	13	-	-	-
7 WISEKey International Holding AG	-	-	4,643	7,100	2,066	1,898	-	-
8 WISEKey SA	-	-	551	-	510	-	-	-
9 WISEKey USA Inc	-	-	-	981	-	492	-	-
10 WISEKey Semiconductors GmbH	-	-	849	881	84	81	-	-
11 WISECoin AG	-	-	3,417	3,389	37	37	-	-
Total	-	-	9,683	12,387	2,803	2,508	-	-

1. John O'Hara is a member of the Board and the CFO of SEALSQ Corp. A short-term payable to John O'Hara in an amount of USD 158,314 was outstanding as at June 30, 2024, made up of accrued bonuses.

2. Ruma Bose is a member of the board of directors of SEALSQ Corp. The expenses recorded in the income statement in the six months ended, and the payable balance as at, June 30, 2024 relate to her Board fee.

3. Cristina Dolan is a member of the board of directors of SEALSQ Corp. The expenses recorded in the income statement in the six months ended, and the payable balance as at, June 30, 2024 relate to her Board fee.

4. David Fergusson is a member of the board of directors of SEALSQ Corp. The expenses recorded in the income statement the six months ended June 30, 2024 relate to his Board fee.

5. Danil Kerimi is a member of the board of directors of SEALSQ Corp. The expenses recorded in the income statement in the six months ended, and the payable balance as at, June 30, 2024 relate to his Board fee.

6. Eric Pellaton is a member of the board of directors of SEALSQ Corp. The expenses recorded in the income statement in the six months ended, and the payable balance as at, June 30, 2024 relate to his Board fee.

7. WISEKey International Holding AG has a controlling interest in the SEALSQ Group. It provides financing and management services, including, but not limited to, sales and marketing, accounting, finance, legal, taxation, business and strategy consulting, public relations, marketing, risk management, information technology and general management. The expenses in relation to WISEKey International Holding AG for the six months ended June 30, 2024 relate to interest on outstanding loans and the recharge of management services.

8. WISEKey SA is part of the group headed by WISEKey International Holding AG (the "WISEKey Group") and employs supporting staff who work for the SEALSQ Group. The expenses in relation to WISEKey SA in the six months ended June 30, 2024, relates to the recharge of employee costs.

9. WISEKey USA Inc is part of the WISEKey Group and employs sales staff who work for the SEALSQ Group. The expenses in relation to WISEKey USA Inc. in the six months ended June 30, 2024 relate to the recharge of employee costs.

10. WISEKey Semiconductors GmbH is part of the WISEKey Group and employs sales staff who work for the SEALSQ Group. The expenses in relation to WISEKey Semiconductors GmbH in the six months ended June 30, 2024 relate to the recharge of employee costs.

11. WISECoin AG is part of the WISEKey Group. The expenses recorded in the six months ended June 30, 2024 relate to interest on an outstanding loan.

Note 32. Subsequent events***L1 SPA***

After June 30, 2024, L1 converted the remaining balance of USD 1.1 million on the Second L1 Note and USD 450,000 on the Third L1 Note, resulting in the delivery of a total of 4,103,597 Ordinary Shares of SEALSQ.

Anson SPA

After June 30, 2024, Anson converted USD 450,000 on the Third Anson Note, resulting in the delivery of a total of 1,275,000 Ordinary Shares of SEALSQ.

Note 33. Impacts of ongoing conflicts***Impacts of the war in Ukraine***

Following the outbreak of the war in Ukraine in late February 2022, several countries imposed sanctions on Russia, Belarus and certain regions in Ukraine. There has been an abrupt change in the geopolitical situation, with significant uncertainty about the duration of the conflict, changing scope of sanctions and retaliation actions including new laws.

The SEALSQ Group does not have any operation or customer in Russia, Belarus or Ukraine, and, as such, does not foresee any direct impact of the war on its operations. However, the war has also contributed to an increase in volatility in currency markets, energy prices, raw material and other input costs, which may impact the Group's supply chain in the future.

As at June 30, 2024, SEALSQ has assessed the consequences of the war for its financial disclosures and considered the impacts on key judgments and significant estimates, and has concluded that no changes were required. SEALSQ will continue to monitor these areas of increased risk for material changes.

Impacts of the Israel–Hamas conflict

Israel's declaration of war on Hamas in October 2023 has degraded the geopolitical environment in the region and created uncertainty.

The SEALSQ Group does not have any operation or customer in that region, and, as such, does not foresee any direct impact of the war on its operations. However, depending on its duration and intensity, the war may adversely affect the global economy, financial markets and the Group's supply chain in the future.

As at June 30, 2024, SEALSQ has assessed the consequences of the war for its financial disclosures and considered the impacts on key judgments and significant estimates, and has concluded that no changes were required. SEALSQ will continue to monitor these areas of increased risk for material changes.