

Aptar 



**2022
Annual Report**

Form 10-K



**Energized for
the Future**

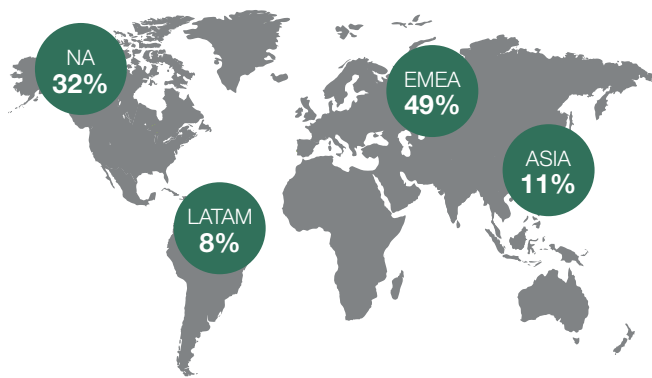


Aptar's greatest impact on society comes from the benefits our products and solutions provide. We transform and enhance everyday user experiences and in some cases, even save lives."

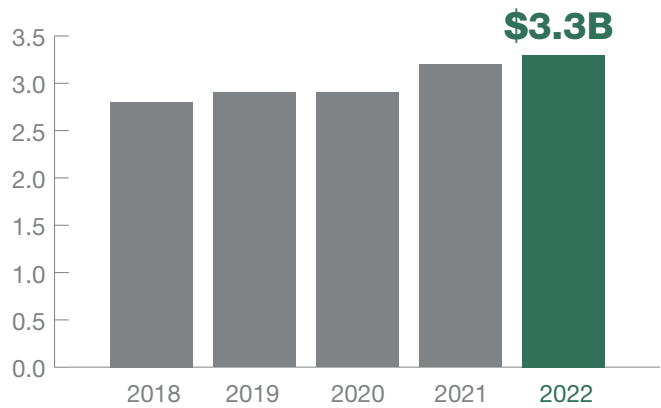
STEPHAN TANDA
APTAR PRESIDENT & CEO

Financial Highlights

NET SALES BY SHIPPING DESTINATION

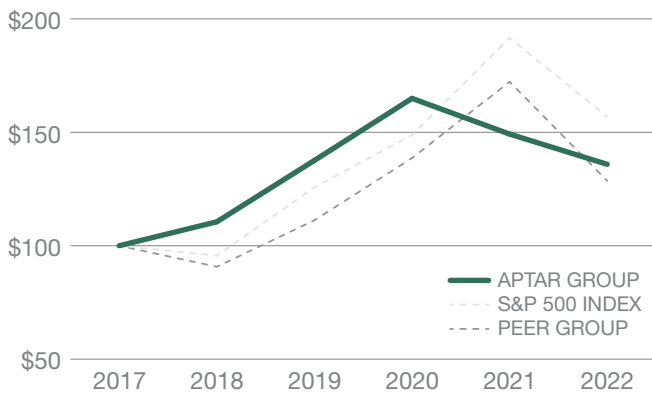


SALES (IN BILLIONS)



TOTAL SHAREHOLDER RETURNS¹

Comparison of cumulative five-year total returns



LONG-TERM FINANCIAL TARGETS

4-7% Sales Growth²

20-22% EBITDA³ Margin

10-13% ROIC⁴

30-40% Dividend Payout Ratio⁵

1-3x Leverage Ratio

¹ The above graph assumes an investment of \$100 as of Dec. 31, 2017 in AptarGroup common stock (at prices quoted on the New York Stock Exchange) and each of the indices as of the market close and the reinvestment of dividends on a quarterly basis.

² Excludes acquisitions and currency effects.

³ Adjusted EBITDA (earnings before net interest, taxes, depreciation and amortization) excludes restructuring initiatives, net realized investment gain/

loss, transaction costs related to acquisitions, and non-recurring purchase accounting adjustments.

⁴ ROIC (return on invested capital) = adjusted earnings before net interest and taxes, less tax effect / average capital (average of beginning of year and end of year capital) [capital = equity plus debt less cash].

⁵ Cash dividends paid / adjusted earnings per share.

Energized for the Future

DEAR SHAREHOLDERS,

I am pleased to share our highlights from 2022 – a year of great progress for Aptar despite continued challenges and change throughout the world. We took key steps to move the business forward, with an eye toward long-term profitability and success.

One important step was the strategic realignment of two of our three segments. As of January 2023, our segments are Aptar Pharma, which was unchanged by the realignment, Aptar Beauty and Aptar Closures. The strategic realignment of our closures and non-pharma complex multi-component dispensing solutions will benefit Aptar in several key areas. It strengthens our market position in both Aptar Closures and Aptar Beauty by aligning us more closely to the way our customers are structured and the way they purchase our products, which better positions us to enter new end-use markets for our closure technologies. The realignment also enables bottom-line improvements by capturing efficiencies and streamlining operations and increases capital efficiencies by leveraging common assets.

We are fortunate to be guided through the realignment by proven leaders in our businesses. Hedi Tlili is leading Aptar Closures and Marc Prieur is leading Aptar Beauty, each of whom has broad experience across Aptar, including deep knowledge of their respective markets. Through the realignment, we look forward to better serving our customers and continuing to position Aptar for long-term, profitable growth.

We achieved top line growth in each segment with core sales* up 9%, resulting in annual sales of \$3.3 billion. We returned over \$190 million to shareholders through dividends and the repurchase of over 860,000 shares for \$92.1 million. 2022 was our 29th consecutive year paying an increased annual total dividend.

Our efforts and commitment to being a sustainability leader and good corporate citizen continue to be recognized. We ranked #15 on America's Most Responsible Companies 2023 by *Newsweek*, including #1 in the Materials & Chemicals category, as well as #70 on the World's Top Female-Friendly Companies 2022 by *Forbes*. At the start of 2023, we again achieved the EcoVadis Platinum level rating in recognition of our sustainability efforts. In France, the country where we have our largest footprint, *Le Point*, a leading weekly news magazine, recognized us as "One of the Most Responsible Companies in France". I am proud of the Aptar team, our continued progress in 2022 and the opportunities we have created for 2023 and beyond.

SEGMENT RESULTS (REPORTED BASED ON THE STRUCTURE IN PLACE THROUGHOUT 2022 AND 2021)

Our Aptar Pharma segment reported that net sales increased approximately 6% in 2022 to \$1.36 billion compared to \$1.28 billion in 2021. Core sales increased 13% compared to the prior year, with the majority of core sales growth due to higher product sales volumes. Additionally, pricing pass-through increases were more than able to offset lower tooling sales during 2022. Core sales of our products to the prescription drug market increased due to strong demand for our allergic rhinitis and asthma devices. We also had strong sales of our products for emergency medical applications in the prescription drug market. Core sales growth in consumer healthcare was driven by higher demand for nasal decongestant, saline rinses and cough and cold solutions, due to higher incidents of cold and flu during 2022. Increased demand for elastomeric components for vaccines and biologics along with increased sales of our active material science technology Activ-Blister™ for our oral solid dose solutions and Activ-Film™ technology used with at-home COVID-19 test kits also drove core sales growth. Pharma's adjusted EBITDA for 2022 increased to \$441.6 million compared to \$425.7 million in 2021. This segment's adjusted EBITDA margin of 32% was impacted by startup costs for our digital health investment and our elastomeric component capacity expansion.

Our Aptar Beauty + Home segment, reported that net sales grew slightly in 2022 to \$1.44 billion compared to \$1.43 billion in 2021. Core sales increased 7% in 2022 compared to the prior year. Core sales of our products to the beauty market increased as we experienced growth across the majority of our applications. Personal care core sales increased due to price increases as well as growth in certain applications such as hair care and sun care. Core sales to the home care markets decreased mainly due to lower tooling sales and reduced demand for our industrial and household cleaner applications as rates of COVID-19 transmission slowed in certain regions during 2022. Beauty + Home's adjusted EBITDA margin increased to 12% due primarily to product sales growth and operational improvements.

Our Aptar Food + Beverage segment reported that net sales increased approximately 3% in 2022 to \$522.5 million compared to \$508.6 million in 2021. Core sales increased 5% in 2022 compared to the prior year. Strong tooling sales, along with the pass-through of higher material costs, positively impacted 2022 core sales while volumes were even with 2021 levels. Core sales to the food market increased while core sales to the beverage market decreased during 2022 compared to the prior year. For the food market, we saw strong sales of customer tooling along with growth in certain applications such as our granular powder and food service packaging products. Core sales to the beverage market declined as higher demand for our bottled water applications was not enough to offset the decline in tooling sales. Material pass-throughs do not have any margin, and our tooling sales historically have lower margins than our product sales. This change in sales mix, along with some operational inefficiencies in North America drove a lower adjusted EBITDA margin of 14%.

CAPITAL ALLOCATION

Aptar has historically maintained a strong and relatively conservative balance sheet and this approach has served our customers and shareholders well during challenging economic times.

In recent years, we have been focusing the majority of our capital allocation toward our higher margin, faster-growing Pharma segment. Our \$180 million injectables expansion program began in 2020 and is ongoing. The first phase of our premium product capacity expansion in Granville, France is complete. A new, additional, large, state of the art factory, also in Granville, France as well as the expansion of our U.S.-based manufacturing facility in Congers, NY will be operational by 2024. We are also expanding our active material science solutions facility in Auburn, AL supported by a U.S. government grant.

Through acquisitions and partnerships, we have added capabilities and technologies to feed the innovation and talent pipelines, and we have been highly active over the past several years. We made several bolt-on acquisitions to expand our pharmaceutical services and digital health offerings, the largest of which was Voluntis, a global pioneer in digital therapeutics, now Aptar Digital Health. In addition, our acquisition of Metaphase Design Group adds the capabilities of ergonomic product design and human factors engineering—how consumers and patients think, feel, behave and respond, when using devices and systems.

Our ultramodern site for prestige custom Beauty in Oyonnax, France, is scheduled to open in the second quarter of 2023. This new LEED certified site brings together operations from five older manufacturing locations into one modern site in the heart of the French manufacturing beauty industry and will service the prestige custom beauty market, a growing part of the market for us. During the year, we also launched Go2Lab, our innovation center located in Trumbull, CT designed to foster faster packaging innovation development.

In Asia, our new Intelligent Production and R&D Headquarters in Suzhou, China will serve all three segments and is scheduled to come online progressively starting in the first half of 2023. We expanded local production of our Activ-Vial™ technology at our Guangzhou, China site, and we are on track to complete the construction of our new Pharma site in Mumbai, India, which supplies additional local capacity and capability. These strategic investments will allow us to capitalize on the favorable demographics in the Asian region.

On the cost side, we continue our work to reduce our fixed costs and drive profitable growth and margin improvements while spending capital wisely. In 2022, we started to leverage our fixed cost base and reduce our SG&A as a percentage of sales. We will continue to focus on increasing efficiencies in 2023 and beyond.

KEY INNOVATION HIGHLIGHTS

Innovation is at the heart of what we do and several of our products are recognized in the markets we serve.

Aptar's SimpliCycle™ recyclable valve received the 2022 WorldStar Global Packaging award and the Institute of Packaging Professionals recognized Aptar with four AmeriStar awards, three in the sustainability category and one in cosmetics. Aptar was also recognized with several awards for our partnership with Dermalogica®, a beauty and skincare brand, on the fully recyclable mono-material pump, 'Future,' and FusionPKG was recognized for its Repeat Refillable Airless package.

During the year, our customers launched several products using our nasal spray technology including Ryaltris®, a novel combination therapy for allergic rhinitis, that was approved by the US Food and Drug Administration. Our Pharma team launched HeroTracker® Sense, a digital respiratory health solution that transforms a standard metered dose inhaler into a smart connected healthcare device. We also launched our first Active-Bottle™ featuring post-consumer recycled (PCR) content, which is now part of Aptar CSP Technologies' Activ-Vial™ solutions. Incorporating PCR content into our Activ-Polymer™ solutions is another step toward material circularity.

In early 2023, our Pharma team announced our first metal-free nasal pump, APF Futurity. When used in combination with a high-density polyethylene or polypropylene container, this pump can be recycled as one piece. APF Futurity was made possible by the sustainability expertise of our consumer-facing businesses.

Our Aptar Digital Health business entered a contract with Chiesi Group, an international research-focused biopharmaceutical and healthcare company, to bring to market a disease management platform for asthma and COPD. Our digital health platforms combine mobile and web apps, connected drug delivery systems, patient onboarding, training and advanced data analytic services to actively empower patients and create a positive treatment journey. Bringing together healthcare, software and device expertise is unique to Aptar.

This past year marks the first full year of operation for our InVision Lab. This state-of-the-art innovation center in France displays the latest in design, engineering and material science that Aptar has to offer enterprise-wide. In 2022, we hosted ideation sessions with about 150 customers, most of them in the beauty market. During these sessions, we were able to engage and collaborate with our customers at a higher level. Between our landmark investment in Oyonnax and the InVision Lab outside of Paris, our customer engagement has continued to increase, and our Beauty pipeline has been significantly strengthened.

ENVIRONMENT, SOCIAL GOVERNANCE

Environment

Our customers recognize Aptar as an innovation leader that has shaped the drug delivery and consumer product dispensing markets while becoming a proactive leader in sustainability. Compared to our 2019 baseline, Aptar has made progress in cutting emissions and continues efforts to mitigate climate risks and further the low-carbon economy, as reported by the Company through global environmental non-profit CDP's 2022 climate change and water questionnaires. We believe Aptar is leading on corporate environmental ambition, action and transparency worldwide as proven by our inclusion on the CDP Supplier Engagement Leaderboard for the third consecutive year. Today, 65% of our sites are certified as Landfill Free through our internal program. We source more than 95% of our global electricity consumption from renewable sources and aim for 100% by 2030.

In addition to the recognitions by *Newsweek* in the U.S., and *Le Point* in France, we received the "Green Sustainable Development Contribution" Award in Asia for our efforts in carbon reduction, technology innovation and commitment to protecting the environment.

Connecting with organizations like Ellen MacArthur Foundation's New Plastics Economy and the World Business Council for Sustainable Development provides an invaluable opportunity to share best practices and work on larger projects with aligned goals toward a more circular economy. Our commitment to being a sustainable and responsible corporate citizen is a global one.

In 2020, we formalized our science-based targets, setting a Scope 1 and Scope 2 emissions reduction goal consistent with requirements to keep global warming well below 2° Celsius by year 2030, and a Scope 3 reduction goal consistent with requirements to keep global warming at 2° Celsius by year 2030. We surpassed our original Scope 1 and Scope 2 reduction target within the first year of validation by the Science Based Targets Initiative (SBTi). Therefore, in 2022 we began working with SBTi to revise the Scope 1 and Scope 2 target to a more aggressive ambition, and to align it to the requirements to keep global warming at 1.5° Celsius by 2030. This revised target was officially validated by SBTi in March 2023.

Social

Safety is a top priority, and during 2022 we focused on continued risk reduction through our global environmental, health and safety (EHS) management system. This includes a digital platform to report incidents as well as track corrective actions. Aptar's EHS management system includes an Ergonomics program and a Behavior Based Safety (BBS) program, which promotes a culture of caring through accountability to self and to the team. At year-end 2022, we reduced the Total Recordable Incident Rate (TRIR) by 6% and Lost Time Frequency Rate (LTFR) by 7% from year end 2021. We outperformed the TRIR average in our industry, and we are closing in on an LTFR that also surpasses our industry average.

With the pandemic moving further into the rear-view mirror in most regions, we are focused on the “next normal” which includes selective workplace flexibility, an enhanced focus on employee health and wellness and an ever-vibrant diverse, equitable and inclusive culture.

We are pleased to share that we now have three employee resource groups (ERGs).

- **ALIGN**, or Aptar, Lead Inspire Grow Now is championing the development and upward progressions of women.
- **BOLD**, the Black Organization for Leadership, Diversity & Development is providing further development, networking and support opportunities.
- **ARC**, the Aptar Rainbow Community is supporting our LGBTQ+ community and its allies.

Each October, we celebrate Diversity Equity & Inclusion Week through the work of our ERGs and company leaders, hosting educational sessions and informal community forums to discuss how Aptar can further a diverse, equitable and inclusive culture. ALIGN also hosts the annual International Women's Day event on March 8.

We are committed to promoting and sustaining a sense of belonging for all individuals; by 2025, at least 30% of all Aptar leaders at the Vice President level will be women and we are progressing toward our interim goal with nearly 25% of VP women leaders as of year-end 2022.

Again, this year, we were recognized by *Forbes* as a “World's Top Female Friendly Company” in addition to an award from the sHERO organization in China for the “Best Companies for Female Executives.”

We continue to support the communities where we live and work through local site charitable activities and donations, along with our global signatory organization, CARE. In 2022, our donations supported CARE's Ukraine Crisis Fund and other programs. Aptar continues to match employees' donations made to CARE up to \$1,000 in contributions per employee per year.

Governance

Aptar is proud to continue to lead in diversity on our Executive Committee and Board of Directors. As of today, 45% of our directors are women and 27% identify as persons of color.

Aptar's EVP, CLO and Corporate Secretary, Kimberly Chainey was nominated and selected for the "Elite 100" Class of 2023 by Diversity magazine, an award that recognizes Black women executives in the C-Suite.

Sadly, in April of 2022, our Director, Jesse Wu, passed away. We were very fortunate to benefit from Jesse's wisdom and guidance over the years, especially his substantial knowledge of the consumer product and healthcare markets and his valuable contributions to our Asia strategy.

In October, we welcomed Matt Trerotola to Aptar's Board of Directors. Matt is the CEO of Enovis (formerly Colfax Corporation) and a highly accomplished business leader with over 30 years of industrial and medical technology experience. He brings a distinct focus on accelerating organic growth as well as strategic acquisitions, margin and profitability improvements to the Board.

More recently, Julie Xing joined our Board, adding her more than 20 years of global experience in pharmaceutical, medtech, digital health, biotech and diagnostics as well as her considerable and contemporary knowledge of Asia to the mix. Julie has served as Executive Chair of the Board of Directors of Mundipharma China. Mundipharma is a multinational pharmaceutical leader. Julie is recognized as a highly engaging multicultural leader with a strong focus on strategy and talent development.

TRANSFORMING IDEAS INTO SOLUTIONS THAT IMPROVE EVERYDAY LIFE

In closing, our broad portfolio of innovative solutions and services, diverse market presence and solid balance sheet give us confidence that we will be able to continue to navigate turbulent waters, deliver value to shareholders, and take advantage of growth opportunities that present themselves.

On behalf of Aptar's Board of Directors and the Executive Committee, I would like to thank you, our shareholders, for your continued support and interest in Aptar's purpose, which is to transform ideas into solutions that improve everyday life.

Sincerely,



STEPHAN B. TANDA

Aptar President and CEO

March 9th, 2023

* Core sales, excluding the negative impact from changes in currency exchange rates and acquisition effects, is a non-U.S. GAAP measure. See "Non-U,S, GAAP Measures" on page 24 of the 10-K.

This letter contains forward-looking statements that involve a number of risks and uncertainties. See "Forward-Looking Statements" on page 31 of the 10-K.

United States Securities and Exchange Commission
Washington, D.C. 20549

FORM 10-K

ANNUAL REPORT PURSUANT TO SECTION 13 OR 15(d) OF THE SECURITIES EXCHANGE ACT OF 1934
FOR THE FISCAL YEAR ENDED DECEMBER 31, 2022
OR

TRANSITION REPORT PURSUANT TO SECTION 13 OR 15(d) OF THE SECURITIES EXCHANGE ACT OF 1934
FOR THE TRANSITION PERIOD FROM _____ TO _____

COMMISSION FILE NUMBER 1-11846

Aptar 
AptarGroup, Inc.

Delaware

36-3853103

265 EXCHANGE DRIVE, SUITE 301, CRYSTAL LAKE, IL 60014
815-477-0424

Securities Registered Pursuant to Section 12(b) of the Act:

Title of each class	Trading symbol(s)	Name of each exchange on which registered
Common Stock, \$.01 par value	ATR	New York Stock Exchange

Securities Registered Pursuant to Section 12(g) of the Act:

NONE

Indicate by check mark if the registrant is a well-known seasoned issuer, as defined in Rule 405 of the Securities Act.

Yes

No

Indicate by check mark if the registrant is not required to file reports pursuant to Section 13 or Section 15(d) of the Act.

Yes

No

Indicate by check mark whether the registrant (1) has filed all reports required to be filed by Section 13 or 15 (d) of the Securities Exchange Act of 1934 during the preceding 12 months (or for such shorter period that the registrant was required to file such reports), and (2) has been subject to such filing requirements for the past 90 days.

Yes

No

Indicate by check mark whether the registrant has submitted electronically every Interactive Data File required to be submitted pursuant to Rule 405 of Regulation S-T (§ 232.405 of this chapter) during the preceding 12 months (or for such shorter period that the registrant was required to submit such files).

Yes

No

Indicate by check mark whether the registrant is a large accelerated filer, an accelerated filer, a non-accelerated filer, a smaller reporting company or an emerging growth company. See the definitions of "large accelerated filer", "accelerated filer", "smaller reporting company" and "emerging growth company" in Rule 12b-2 of the Exchange Act.

Large accelerated filer Accelerated filer Non-accelerated filer Smaller reporting company Emerging growth company

If an emerging growth company, indicate by check mark if the registrant has elected not to use the extended transition period for complying with any new or revised financial accounting standards provided pursuant to Section 13(a) of the Exchange Act.

Indicate by check mark whether the registrant has filed a report on and attestation to its management's assessment of the effectiveness of its internal control over financial reporting under Section 404(b) of the Sarbanes-Oxley Act (15 U.S.C. 7262(b)) by the registered public accounting firm that prepared or issued its audit report.

If securities are registered pursuant to Section 12(b) of the Act, indicate by check mark whether the financial statements of the registrant included in the filing reflect the correction of an error to previously issued financial statements.

Indicate by check mark whether any of those error corrections are restatements that required a recovery analysis of incentive-based compensation received by any of the registrant's executive officers during the relevant recovery period pursuant to §240.10D-1(b).

Indicate by check mark whether the registrant is a shell company (as defined in Rule 12b-2 of the Act).

Yes

No

The aggregate market value of the common stock held by non-affiliates as of June 30, 2022 was \$6,771,678,654.

The number of outstanding shares of common stock, as of February 13, 2023, was 65,400,423 shares.

DOCUMENTS INCORPORATED BY REFERENCE

Portions of the definitive Proxy Statement to be delivered to stockholders in connection with the Annual Meeting of Stockholders to be held May 3, 2023 are incorporated by reference into Part III of this report.

AptarGroup, Inc.

FORM 10-K

For the Year Ended December 31, 2022

INDEX

	<u>Page</u>
Part I	
Item 1. Business	1
Item 1A. Risk Factors	10
Item 1B. Unresolved Staff Comments	14
Item 2. Properties	15
Item 3. Legal Proceedings	15
Item 4. Mine Safety Disclosures	15
Part II	
Item 5. Market for Registrant's Common Equity, Related Stockholder Matters and Issuer Purchases of Equity Securities	16
Item 6. Reserved	17
Item 7. Management's Discussion and Analysis of Financial Condition and Results of Operations	18
Item 7A. Quantitative and Qualitative Disclosure about Market Risk	33
Item 8. Financial Statements and Supplementary Data	34
Item 9. Changes in and Disagreements with Accountants on Accounting and Financial Disclosure	80
Item 9A. Controls and Procedures	80
Item 9B. Other Information	80
Item 9C. Disclosure Regarding Foreign Jurisdictions that Prevent Inspections	80
Part III	
Item 10. Directors, Executive Officers and Corporate Governance	81
Item 11. Executive Compensation	81
Item 12. Security Ownership of Certain Beneficial Owners and Management and Related Stockholder Matters	81
Item 13. Certain Relationships and Related Transactions, and Director Independence	81
Item 14. Principal Accountant Fees and Services	81
Part IV	
Item 15. Exhibits and Financial Statement Schedules	82
Item 16. Form 10-K Summary	82
Index of Exhibits	83
Signatures	88

PART I

ITEM 1. BUSINESS

WHO ARE WE AND WHAT DO WE DO

Aptar is a global leader in the design and manufacturing of a broad range of drug delivery, consumer product dispensing, and active material science solutions and services. Aptar's innovative solutions and services serve a variety of end markets including pharmaceutical, beauty, personal care, home care, food and beverage. Using insights, proprietary design, engineering and science to create dispensing, dosing and protective technologies for many of the world's leading brands, Aptar in turn makes a meaningful difference in the lives, looks, health and homes of millions of patients and consumers around the world. Aptar is headquartered in Crystal Lake, Illinois and has approximately 13,500 dedicated employees in 20 different countries. For more information, visit www.aptar.com.

Our business was started in the late 1940's, manufacturing and selling aerosol valves in the United States, and has grown primarily through acquisitions and internal expansion. In this report, we may refer to AptarGroup, Inc. and its subsidiaries as "AptarGroup", "Aptar" or the "Company".

We have manufacturing facilities located throughout the world including North America, Europe, Asia and Latin America. We have approximately 5,000 customers with no single customer or group of affiliated customers accounting for greater than 5% of our 2022 Net Sales.

Consumers' and patients' preferences for convenience and product differentiation through drug delivery and packaging design and function are important to our customers and they have converted many of their packages from non-dispensing formats to dispensing systems that offer enhanced shelf appeal, convenience, cleanliness and accuracy of dosage. We design our products with both people and the environment in mind. Many of our product solutions for the beauty, personal care, home care, food and beverage markets are recyclable, reusable or made with recycled content.

We partner with our customers by providing innovative delivery systems and a suite of comprehensive services to help them succeed. While we offer a wide variety of services and products, our primary products are dispensing pumps, closures, aerosol valves, elastomeric primary packaging components, active material science solutions and digital health solutions.

Dispensing pumps are finger-actuated dispensing systems that dispense a spray or lotion from non-pressurized containers. The style of pump used depends largely on the nature of the product being dispensed, from small, fine mist pumps used with pharmaceutical products and perfume to lotion pumps for more viscous formulas.

Closures are primarily dispensing closures but to a lesser degree can include non-dispensing closures. Dispensing closures are plastic caps that allow a product to be dispensed without removing the cap.

Aerosol valves dispense product from pressurized containers. The majority of the aerosol valves that we sell are continuous spray valves, with the balance being metered dose valves and bag-on valves.

We also manufacture and sell elastomeric primary packaging components. These components are used in the injectables market. Products include stoppers for infusion, antibiotic, lyophilization and diagnostic vials. Our elastomeric components also include pre-filled syringe components, such as plungers, needle shields, tip caps and cartridges.

We provide active material science solutions using our platform technology to maintain container closure integrity, extend shelf-life, control moisture and protect drug products from overall environmental exposures and degradations.

Our digital health solutions aim to improve patients' treatment experience and outcomes. We leverage connected devices, diagnostic and digital therapeutics tools that support patients to manage their disease as well as enabling care teams to remotely monitor the health of the patients when needed. Available as standalone or as a fully integrated offering in our existing range of drug delivery solutions, we have digital health solutions covering a wide range of therapeutic areas including, but not limited to, pulmonary, oncology, diabetes, immunology, and neurology.

During 2022 and 2021, we acquired several companies to strengthen and broaden our portfolio, including the following business combinations and asset purchases:

- August 2022 - We acquired 100% of the outstanding capital stock of Metaphase Design Group Inc. ("Metaphase") for approximately \$5.1 million (net of \$0.1 million of cash acquired).
- September to November 2021 – We acquired 100% of the share capital of Voluntis S.A. ("Voluntis") for approximately \$89.7 million (net of \$3.8 million of cash acquired).
- August 2021 – We acquired 80% of the equity interests in Weihai Hengyu Medical Products Co., Ltd. ("Hengyu") for approximately \$53.8 million (net of \$6.0 million of cash acquired).

To further broaden our portfolio, we made the following equity investment in 2021 (no investments were made in 2022):

- July 2021 – We acquired 10% of the equity interests in YAT for approximately \$5.9 million.

Refer to Note 19 – Acquisitions and Note 20 – Investment in Equity Securities in Part II, Item 8 – Financial Statements and Supplementary Data for further details on acquisitions and related investment activities.

OUR STRATEGY

We seek to enhance our position as a leading global provider of drug delivery, consumer product dispensing and active material science solutions and services to deliver increased value to our customers and stockholders through strategic focus and execution in the following areas:

- (i) **Focus on Organic Growth:** We are focused on accelerating our top line growth with added emphasis on high growth economies. Accordingly, we empower regional, cross-functional profit and loss (“P&L”) teams who are fully accountable to drive profitable growth.
- (ii) **Focus on Talent and Leadership:** Execution of our strategy requires a talented, motivated, diverse, global team. We have continued to focus on talent acquisition and development strategy to ensure our teams have the right skills to execute our strategy.
- (iii) **Excellence in Core Business Functions:** We have established three pillars of functional excellence to ensure we perform at best in class levels in the core functions of any manufacturing business, namely “innovate,” “produce” and “sell,” and that our business teams are supported in the areas of Innovation, Operations and Commercial Excellence.
- (iv) **Focus on Fixed Costs:** To strengthen our performance and deepen our position as a true market shaper, we continually evaluate our business and opportunities to streamline and reduce our fixed costs. By streamlining, our goal is to create a more efficient structure to leverage as our businesses continue to grow, without adding significant costs. This will help ensure our margins improve as the business grows.
- (v) **Acquisitions and Partnerships:** We will continue to focus on growing the Company through appropriate business acquisition opportunities as well as developing partnerships to expand the scope of our technologies, geographic presence and product offerings.

Facilitating the execution of our strategy are our core values, which dictate how we interact internally and externally with our employees, customers, suppliers and all stakeholders.

DESCRIPTION OF OUR REPORTING SEGMENTS

INFORMATION ABOUT SEGMENTS

During the year ended December 31, 2022, our organizational structure consisted of three market-focused business segments: Pharma, Beauty + Home and Food + Beverage.

Operations that sell dispensing systems, drug delivery systems, sealing solutions and services to the prescription drug, consumer health care, injectables, active material science solutions and digital health solutions markets formed the Pharma segment. Operations that sell dispensing systems and sealing solutions primarily to the beauty, personal care and home care markets formed the Beauty + Home segment. Operations that sell dispensing systems, sealing solutions and food service trays to the food and beverage markets formed the Food + Beverage segment. Each of these three business segments is described more fully below. We primarily sell our products and services through our own sales force to pharmaceutical, health care, beauty, personal care, home care, food and beverage marketers. To a limited extent, we use independent representatives and distributors to increase our reach to smaller customers and export markets.

Effective January 1, 2023, there was a realignment of two of our segments, allowing us to better serve our customers and positioning us for long-term profitable growth. We will continue to have three reporting segments and they will be called Aptar Pharma, Aptar Beauty and Aptar Closures.

We are combining all of our closures operations into a single segment - Aptar Closures. The Aptar Closures business will serve multiple markets, including food, beverage, personal care, home care, beauty and healthcare. Closures that were developed in Beauty + Home and Pharma will move to Aptar Closures together with the operations of legacy Food + Beverage. Aptar's food protection business and our elastomeric flow-control technology business will continue to report through the Aptar Closures segment.

At the same time, we are simplifying and focusing our Beauty + Home segment to better leverage our complex spray and dispensing solutions for prestige and premium brands in the beauty and personal care markets. For many of our customers, personal care products are considered part of "beauty" and so we are renaming this segment, simply, Aptar Beauty.

These changes are intended to help us increase our rate of innovation, broaden our market reach, streamline operations, increase effectiveness and raise capital efficiencies. Additionally, we intend to continue to focus on sustainability because leadership in sustainability remains a key differentiator across all of our segments.

PHARMA

Our Pharma segment accounted for 65% of our Adjusted EBITDA excluding non-allocated corporate costs in 2022, and is our second largest segment in terms of net sales and our largest segment in terms of total assets, representing 41% and 45% of our Net Sales and Total Assets, respectively, for 2022. We are a leading supplier of nasal drug delivery spray pumps and metered dose inhaler valves (“MDIs”) to the pharmaceutical and health care markets worldwide and we are an important supplier of elastomer for injectable primary packaging components worldwide. We also provide services designed to accelerate and de-risk the development and regulatory approvals of drugs using drug delivery devices. Characteristics of this market include (i) governmental regulation of our pharmaceutical customers, (ii) contaminant-controlled manufacturing environments and (iii) a significant amount of time and research from initially working with pharmaceutical companies at the molecular development stage of a medication through the eventual distribution to the market. We have clean-room manufacturing facilities in Argentina, China, France, Germany, India, Switzerland and the United States. We believe that providing value-added, convenient drug delivery and dispensing systems will continue to offer opportunities for our business. In addition, we believe there are opportunities for growth in the over-the-counter and generic pharmaceutical categories.

Prescription Drug. Sales to the prescription drug market accounted for approximately 41% of the segment’s total net sales in 2022. Pumps sold to the prescription drug market deliver medications nasally, orally or topically. Currently the majority of our pumps sold are for nasal allergy treatments. Sales of pumps to deliver prescription allergy medicine that is now available over-the-counter remains part of our prescription drug division. Our nasal pumps and unit dose and bidose devices are also used to deliver liquid and powder pain management and central nervous system therapies.

MDIs are used for dispensing precise amounts of aerosolized medication. This technology allows medication to be broken up into very fine particles, which enables the drug to be delivered typically via the pulmonary route. Currently the majority of our MDIs sold are used for respiratory ailments such as asthma and chronic obstructive pulmonary disease (COPD).

We continue to develop new drug delivery and dispensing systems and accessories in this segment. While we expect that these types of new products will come to market in the future, it is difficult to estimate when, as the rigors of pharmaceutical regulations affect the timing of product introductions by our pharmaceutical customers that use our drug delivery and dispensing systems.

Consumer Health Care. Sales to the consumer health care market accounted for approximately 23% of the segment’s total net sales in 2022. Many product applications for this market are similar to the prescription market; however, these product applications are sold over-the-counter without a prescription. Typical consumer health care spray product applications include nasal decongestants, nasal salines and cough and cold product applications. Typical consumer health care valve product applications include nasal saline using our bag-on valve technology. We have developed a multi dose ophthalmic dispensing device suitable for unpreserved formulations. This technology is successfully marketed in Europe, North America and Latin America and is under development for other markets both for over-the-counter and prescription product applications. Other products sold to this market include airless pump systems for dermal drug delivery product applications. We have recently seen a trend toward more child resistant and senior-friendly packaging solutions and have developed products to meet these market needs.

Injectables. Sales to the injectables market accounted for approximately 21% of the segment’s total net sales in 2022. Injectables are elastomeric primary packaging components that assist with the administration of injected medicines. Injectable products offered include stoppers for vials and pre-filled syringe components, such as plungers, needle shields, tip caps and components for cartridges. Our recent capital investment commitments in this business will enable us to market pre-filled and coated stoppers which better protect the contents of the primary packaging container and the integrity of biologic formulations. Pharmaceutical applications for this market include vaccines, anti-thrombotic, small molecules and biologics.

Active Material Science Solutions. Sales of active material science solutions products accounted for approximately 14% of the segment’s total net sales in 2022. The platform technology is integrated into at-home COVID-19 test kits to protect against moisture and protect the integrity of the test kits. Our Activ-Film™ solution leverages proprietary platform technology to ensure accurate readings and improve shelf life.

In addition, Aptar’s material science platform technology is used to protect oral solid dose drugs, transdermal drug delivery, medical devices and probiotics. It can be engineered to absorb moisture, emit aromas, reduce pathogens, or scavenge odor, oxygen or volatile organic compounds.

Digital Health Solutions. Aptar began reporting on digital health solutions in the fourth quarter of 2021 with the acquisition of Voluntas. Sales to the digital health market accounted for 1% of the segment's total net sales in 2022 and are expected to increase in the future as we expand the division's platform for services provided. The digital health solutions we provide improve patients' treatment, experience and outcomes. We leverage connected devices, diagnostics and digital therapeutic tools that support patients in managing their disease as well as enable care teams to remotely monitor the health of the patients when needed. Available as standalone or as a fully integrated offering in our existing range of drug delivery solutions, we have digital health solutions covering a wide range of therapeutic areas including, but not limited to, pulmonary, oncology, diabetes, immunology and neurology.

BEAUTY + HOME

Our Beauty + Home segment accounted for 24% of our Adjusted EBITDA excluding non-allocated corporate costs in 2022, and is our largest segment in terms of net sales and our second largest in terms of total assets, representing 43% and 39% of our Net Sales and Total Assets, respectively, for 2022. The Beauty + Home segment primarily sells pumps and decorative components to the beauty market and pumps, closures, aerosol valves, accessories and sealing solutions to the personal care and home care markets. We believe we are a leading supplier for the majority of the products we sell primarily to the beauty and personal care markets.

Beauty. Sales to the beauty market accounted for approximately 51% of the segment's total net sales in 2022. The beauty market requires a broad range of spray and lotion pumps, closures, elastomeric flow-control components and sampling dispensing systems to meet functional as well as aesthetic requirements. A considerable amount of research and coordination with our customers is required to qualify a pump for use with their products. Within the market, we expect the use of pumps to continue to increase, particularly in the cosmetics and sampling sectors. In the cosmetic sector, packaging for certain products such as natural and organic cosmetics and anti-aging lotions continue to provide us with growth opportunities. We are a leading provider of packaging solutions for prestige and mass market fragrance products. Our cosmetic lotion pumps, airless dispensing systems, lotion sampling devices and decorative capabilities along with our focus on color cosmetics including lip stick and lip gloss products will also provide growth opportunities. We see significant opportunities for growth in the sale of our products for cosmetic skin care and color cosmetic product applications in Asia.

Personal Care. Sales to the personal care market accounted for approximately 42% of the segment's total net sales in 2022 and primarily included sales of lotion pumps, closures, fine mist spray pumps, continuous spray aerosol valves and elastomeric flow-control components. Personal care lotion pump product applications include hand sanitizers, soaps, cleaners and skin moisturizers. Personal care closures product applications include hand sanitizers, shampoos and conditioners. Typical spray pump product applications include hair care, body care and sun care products. Personal care continuous spray aerosol valve product applications include hair care products, deodorants, shaving creams and sun care products. Our research and development teams continue to design unique accessories that increase the value of our continuous spray aerosol valve offerings.

Home Care. Sales to the home care market accounted for approximately 7% of the segment's total net sales in 2022 and primarily included sales of continuous or metered dose spray aerosol valves, closures and to a lesser degree spray and lotion pumps. Product applications for continuous spray valves include disinfectants, spray paints, insecticides and automotive products. Metered dose valves are used for air fresheners. Closure product applications include liquid detergents, automotive products and household cleansers. Spray and lotion pump product applications primarily include household, insect repellent and industrial cleaners.

FOOD + BEVERAGE

Our Food + Beverage segment accounted for 11% of our Adjusted EBITDA excluding non-allocated corporate costs, 16% of our Net Sales and 13% of our Total Assets for 2022. We primarily sell dispensing closures and, to a lesser degree, non-dispensing closures, elastomeric flow-control components, spray pumps and aerosol valves.

Sales of dispensing closures have grown as consumers worldwide have demonstrated a preference for a package utilizing the convenience of a dispensing closure. At the same time, consumer marketers are trying to differentiate their products by incorporating performance enhancing features such as flow-control and no-drip dispensing, inverted packaging and directional flow to make packages simpler to use, cleaner and more appealing to consumers. We also have an increasing number of product solutions that address the increased use of flexible packaging formats.

Food. Sales to the food market accounted for approximately 75% of the segment's total net sales in 2022 and primarily include sales of dispensing closures including those utilizing elastomeric flow-control components, and absorbent and non-absorbent food service trays. To a lesser degree we also sell continuous spray aerosol valves and spray pumps to this market. Product applications for dispensing closures include sauces, condiments, infant nutrition and other food products. We also leverage our material science technology to sell and further develop packaging solutions to the food service market to enhance the shelf life of those products.

Beverage. Sales to the beverage market accounted for approximately 25% of the segment's total net sales in 2022 and primarily include sales of dispensing closures including those utilizing elastomeric flow-control components. Sales of dispensing closures to the beverage market have increased over the last several years, reflecting an increase in on-the-go consumption, as we continue to see an increase of interest from marketers using dispensing closures for their products. Examples of beverage products currently utilizing dispensing closures include bottled water, sport and energy drinks, juices and concentrated water flavorings.

GENERAL BUSINESS INFORMATION

RESEARCH AND DEVELOPMENT

Our commitment to innovation, one of our competitive strengths, has resulted in an emphasis on research and development directed toward developing affordable, new, sustainable and innovative packaging, drug delivery solutions and connected devices and adapting existing products for new markets or customer requirements. In certain cases, our customers share in the research and development expenses of customer initiated projects. Occasionally, we acquire or license from third parties technologies or products that are in various stages of development.

PATENTS AND TRADEMARKS

We customarily seek patent and trademark protection for our products and brands. We own and currently have numerous product applications pending for patents and trademarks in many regions of the world. In addition, certain of our products are produced under patent licenses granted by third parties. We believe that we possess certain technical capabilities and know-how that make our products difficult for a competitor to duplicate. While valuable to our overall product portfolio, sales of any one individually patented product are not considered material to any specific segment or to our consolidated results.

TECHNOLOGY

We have technical expertise regarding injection molding, robotics, clean-room facilities and high-speed assembly. We also have expertise regarding the formulation and finishing of elastomer and silicone components. In addition, we offer a variety of sterilization options for elastomeric components and active material science solutions based on proprietary material science expertise. Pumps and aerosol valves require the assembly of several different plastic, metal and rubber components using high-speed equipment. When molding dispensing closures, or plastic components to be used in pump or aerosol valve products, we use advanced plastic injection molding technology, including large cavitation plastic injection molds. We are able to mold within tolerances as small as one one-thousandth of an inch and we assemble products in a high-speed, cost-effective manner. We also provide analytical and connected device expertise within our pharma service technology businesses.

MANUFACTURING AND SOURCING

The majority of our worldwide production is located outside of the United States. Our philosophy is to produce as much as possible in the region where it will be sold. In order to augment capacity and to maximize internal capacity utilization (particularly for plastic injection molding), we use subcontractors to supply certain plastic and metal components. Certain suppliers of these components have unique technical abilities that make us dependent on them, particularly for aerosol valve and pump production. The principal raw materials used in our production are plastic resins, silicone, rubber and certain metal products. We believe an adequate supply of such raw materials is available from existing and alternative sources. We attempt to offset cost increases through improving productivity and developing new, higher margin solutions and increasing selling prices, as allowed by market conditions or contractual commitments. We source certain materials, especially some resins and rubber components for our pharmaceutical segment, from a single source. Significant delays in receiving these components or discontinuance of an approved raw material would require us to seek alternative sources, which could result in higher costs as well as impact our ability to supply products in the short-term. We believe we have adequate safety stock to mitigate any significant supply concerns.

CUSTOMERS

We have approximately 5,000 customers with no single customer or group of affiliated customers accounting for greater than 5% of 2022 Net Sales.

INTERNATIONAL BUSINESS

We are geographically diverse with manufacturing and sales operations in Asia, Europe, Latin America (including Mexico) and North America. Europe is our largest region in terms of sales, where sales (including exports) for the years ended December 31, 2022 and 2021 were approximately 53% of our consolidated sales. Asia and Latin America when aggregated represented approximately 14% and 13% of our consolidated sales for the years ended December 31, 2022 and 2021, respectively. Export sales from the United States were \$211.1 million and \$204.6 million in 2022 and 2021, respectively. Although Europe represents the largest region for us in terms of sales, our beauty and pharmaceutical customers often export their finished products using our technology around the world for consumption. We are a net exporter of goods from Europe and a net importer of goods to the North American, Asian and Latin American regions.

FOREIGN CURRENCY

Because of our international presence, movements in exchange rates have a significant impact on the translation of the financial statements of our foreign subsidiaries. Our primary foreign exchange exposure is to the euro, but we have foreign exchange exposure to the Chinese yuan, Brazilian real, Mexican peso, Swiss franc and other Asian, European and Latin American currencies. A strengthening U.S. dollar relative to foreign currencies has a dilutive translation effect on our financial statements. Conversely, a weakening U.S. dollar has an additive effect. We manage our exposures to foreign exchange principally with forward exchange contracts to economically hedge recorded transactions and firm purchase and sales commitments denominated in foreign currencies.

EMPLOYEE AND LABOR RELATIONS

Human Capital. Our key human capital management objectives are to attract, retain and develop the highest quality talent. To support these objectives, our human resource programs are designed to develop talent to prepare them for critical roles and leadership positions for the future; reward and support employees through competitive pay, benefit and incentive programs; enhance our culture through efforts aimed at making the workplace more engaging and inclusive; acquire talent and facilitate internal talent mobility to create a high-performing, diverse workforce; and evolve and invest in technology, tools and resources to enable employees at work.

As of December 31, 2022, Aptar had approximately 13,500 full-time employees. Of the full-time employees, approximately 8,200 were located in Europe, 2,800 were located in Asia and Latin America and the remaining 2,500 were located in North America. The majority of our European and Latin American employees are covered by collective bargaining arrangements made at either the local or national level in their respective countries. The total labor force covered by a collective bargaining agreement represents 49.3% of the total employee population. Termination of employees at certain of our international operations could be costly due to local regulations regarding severance benefits. There were no material work stoppages in 2022 and management considers our employee relations to be satisfactory.

In 2022, we continued to experience competition for talent and wage inflation. Higher employee turnover levels or our failure to attract and retain talent in a timely manner could impact our future results.

Employee Engagement. At Aptar, we conduct annual leadership for growth surveys. We have focused on organizational development based on our leadership principles, core values and strategic priorities. Our goal is to ensure that Aptar is well positioned for long-term growth and that we continue to be a high-performing, values-based, customer-focused company, with active commitments to innovation and sustainability.

Employee Development & Leadership Succession. Developing our employees to reach their full potential is an integral part of our Core Values. We have a strong foundation of learning and development systems and leadership programs at our Corporate University. Our leadership programs are targeted at all levels of the organization, from early career to senior leadership globally. Our program offerings also include many specialized programs such as change management, manufacturing and operational leadership, technical skills and others. Aptar also has developed and deployed an integrated talent management system that includes annual talent reviews, three tiered succession planning, and individual development planning. Promotions from within provide career growth opportunities for our employees.

Diversity, Equity & Inclusion. At AptarGroup, our goal is to promote a diverse, equitable and inclusive culture. As of February 17, 2023, women comprised 40% of the Board of Directors, and 100% of Board Committee chairs were women. During 2021, we created a Global Director of Diversity & Inclusion role and continued to roll-out Diversity & Inclusion training; we also expanded our initiatives to include a focus on 'Equity'. Women comprise approximately 36% of the global employee population and approximately 24% of senior leadership. In 2020, Aptar launched a global Women's Employee Resource Group with a focus on increasing women in leadership. In 2022, Aptar launched a new employee resource group for the LGBTQ+ community and a new Black/African American and/or African descent employee resource group. These three employee resource groups collaborated to host DEI Week for the employee population. Aptar is included in the SPDR SSGA Gender Diversity Index ETF (SHE) which invests in companies that rank among the highest in gender diversity within senior leadership. Aptar is also a participant in the Catalyst CEO Champions for Change and the Gender and Diversity KPI Alliance. Aptar was named #70 on the World's Top Female-Friendly Companies for 2022 by Forbes. Additionally, SHero has recognized Aptar Greater China as one of the Best Companies for Female Executives 2022. Aptar is launching its first Diversity Supplier Program in 2023. Diversity, equity and inclusion continue to be part of Aptar's strategic priorities.

Employee Well-being & Safety. Employee safety and well-being is a primary focus of Aptar. In response to the COVID-19 pandemic, we have taken a variety of measures to ensure the availability and functioning of our critical infrastructure, to promote the safety and security of our employees, and to support the communities in which we operate. These measures include accommodating remote (or hybrid) working arrangements for employees where practicable and implementing new safety protocols. We are following public and private sector policies and initiatives to keep our employees safe, such as the imposition of travel restrictions, the promotion of social distancing and the adoption of work-from-home arrangements. Additionally, we expanded employee assistance and mindfulness programs globally to help employees and their families manage anxiety, stress and overall well-being.

COMPETITION

All of the markets in which we operate are highly competitive and we continue to experience price competition in all product lines and markets. Competitors include privately and publicly held entities that range from regional to international companies. We expect the market for our products to remain competitive, as consolidation among our competitors is increasing in the current economic climate. We believe our competitive advantages include our consistent high levels of innovation, quality and service, geographic diversity, financial strength and stability and breadth of products and services. Our manufacturing strength lies in the ability to mold complex plastic components and formulate and finish elastomer and silicone components in a cost-effective manner and to assemble products at high speeds. Our business is somewhat capital intensive and it is becoming more important to our customers that we have global manufacturing capabilities. Both of these serve as barriers to entry for new competitors wanting to enter our business. Furthermore, within our Pharma business, increasing regulatory hurdles present a challenge for new competitors to enter the market.

While we have experienced some competition in Europe, Latin America and the United States from low cost Asian suppliers, particularly in the beauty and personal care market, this has not been significant. Although using low cost Asian suppliers may have a cost advantage, more and more customers prefer local suppliers citing shorter lead times, higher reactivity and service, and stronger safety of supply. We have also reduced our carbon footprint due to the increased use of lower-carbon fuels within some of our shipping lanes, which we see as a competitive advantage.

ENVIRONMENT & SUSTAINABILITY

Our manufacturing operations primarily involve plastic injection molding, automated assembly processes, elastomer and silicone formulation and finishing and, to a limited degree, metal anodization and vacuum metallization of plastic components. Historically, the environmental impact of these processes has been minimal, and we believe we meet current environmental standards in all material respects. To date, our manufacturing operations have not been significantly affected by environmental laws and regulations relating to the environment.

In 2020, we formalized our science-based targets, setting a Scope 1 and Scope 2 emissions reduction goal consistent with requirements to keep global warming well below 2° Celsius by year 2030, and a Scope 3 reduction goal consistent with requirements to keep global warming at 2° Celsius by year 2030. We surpassed our original Scope 1 and Scope 2 reduction target within the first year of validation by the Science Based Targets Initiative (SBTi). Therefore, in 2022 we began working with SBTi to revise the Scope 1 and Scope 2 target to a more aggressive ambition, and to align it to the requirements to keep global warming at 1.5° Celsius by 2030. Aptar's Scope 3 ambition remains the same, as does our commitment to increase annual sourcing of renewable electricity to 100% by 2030. This science-based approach incorporates our own operations and operations within the value chain. In addition, we annually undergo data assurance as part of our sustainability reporting. This assurance process allows for data on consumption of electricity, fuel oil, and natural gas and renewable energy purchases to be verified for accuracy and completeness by an external organization. Globally this process is certified to the ISO 14064 standard for energy and greenhouse gas emission reporting.

Compared to our 2019 baseline, Aptar has made progress cutting emissions, and continues efforts to mitigate climate risks and further the low-carbon economy, as reported by the Company through global environmental non-profit CDP's 2022 climate change and water questionnaires. We believe Aptar is leading on corporate environmental ambition, action and transparency worldwide as proven by our "A-" letter grades on both the 2022 CDP climate change and water assessments.

There continues to be increased interest and awareness from consumers and our customers in products with environmentally sustainable features, especially through the sourcing of sustainable materials. We are focused on reducing our environmental impacts through product life cycle assessments, sustainable material trials, operational eco-efficiency initiatives and renewable energy sourcing. We have teams dedicated to designing for sustainability by providing products that improve recyclability and use less material. Aptar has launched products and components in North America, Europe and Asia made with post-consumer recycled (PCR) resins and continues to explore additional opportunities for alternative resins and recyclable products.

We are actively collaborating with our customers on reliable products by supporting our customers' participation in the circular e-commerce platform called Loop in addition to being an investor in Loop ourselves. We also invested in and partnered with PureCycle Technologies, to prepare for the introduction of Ultra-Pure Recycled Polypropylene (UPRP) into dispensing product applications.

Connecting with other companies through organizations like Ellen MacArthur Foundation's New Plastics Economy and the World Business Council for Sustainable Development (WBCSD) provides an invaluable opportunity to share best practices and work on larger projects with aligned objectives toward a more circular economy.

In January 2022, Aptar was ranked in the top 20 overall, and first in our industry, for the category of Leading on Environmental Impact within JUST Capital's America's Most JUST Companies 2022. In February 2022, Aptar was named one of Barron's 100 Most Sustainable Companies for 2022, marking the fourth consecutive year Aptar was included on the Barron's list. Also in February 2022, Aptar was named on CDP's Supplier Engagement Leaderboard, for the second consecutive year, in recognition of our efforts to measure and reduce climate risk within our supply chain. In May 2022, Aptar was named among the 100 Best Corporate Citizens for 2022 by 3BL Media. In December 2022, Aptar was named one of America's Most Responsible Companies 2023 by Newsweek, ranked #15 out of 500 U.S. companies, and ranked first in the Materials & Chemicals category. Also in December 2022, Aptar was once again named one of the Most Responsible Companies in France by Le Point Magazine. Additionally, in 2022 Aptar achieved a Platinum Sustainability Rating from EcoVadis.

Future regulations on environmental matters regarding recycling or material inputs could impact our business.

GOVERNMENT REGULATION

Certain of our products are directly or indirectly affected by government regulation. In 2022, the United Nations Environment Assembly adopted a resolution to end plastic waste pollution and forge an internationally binding agreement by 2024. In addition, the European Union (EU) has adopted a circular economy package. The package maps out a series of actions planned over several years. Some actions have resulted in regulations aimed to reduce marine litter, increase plastic recycling rates, prohibit single-use plastic packaging and introduce new taxes in relation to the end-of-life management of packaging. For example, the EU released in 2022 a draft regulation on packaging and packaging waste with a focus on recyclability, recycled content, compostability and reusability. The final version is expected by the end of 2023. In Europe and in parts of the United States (including California), regulations require food and beverage companies to tether plastic caps to ensure the caps stay with the package, thus improving the likelihood the caps will enter the recycling stream. The EU and the United States are planning new regulations to ban perfluoroalkyl and polyfluoroalkyl substances (PFAS) materials used in the packaging industry. The potential exists for these types of regulations to expand worldwide. We have established an innovation team that focuses on designing for and converting into more sustainable options like post-consumer recycled (PCR) resin and Food and Drug Administration approved resin alternatives. We are designing for sustainability by providing products that improve recyclability, use sustainable material and use less material, and we offer multiple tethered options. Our new product offerings include: Purity Lite, a mono-material, lightweight, fully-recyclable closure; SimpliCycle, an award winning recyclable valve; Rocket, a sports cap awarded Best in Cap at the 17th Global Water Drinks Congress in 2020, tethered and with no losable component; and Future, a mono-material, fully-recyclable pump. We are also partnering with global and regional thought leaders to drive a more circular economy.

On October 15, 2016, 197 countries adopted an amendment to phase down hydrofluorocarbon (HFC) propellants in order to reduce greenhouse gas emission under the Montreal Protocol in Kigali, Rwanda. Under the amendment, countries committed to cut the production and consumption of HFC propellants by more than 80% over the next 30 years. This type of propellant is used for pressurized metered-dose inhalers (pMDI). The phase down plan has an exemption for pharmaceutical product applications of pMDIs; however, customers are looking for alternative propellants to reduce greenhouse gas emissions. We are working with the suppliers of these alternative propellants and our customers to develop new solutions.

Pharma regulatory agencies in the United States and European Union have developed and introduced Combination Products specific guidelines for more complex drug delivery products, including dispensing systems. These guidelines have increased the complexity of the registration process for these products and recognize the existence of a device part in the drug delivery product, which now is required to be appropriately designed, developed and documented.

Future government regulations could include healthcare cost containment policies. For example, reviews by various governments to determine the number of drugs, or prices thereof, that will be paid by their insurance systems could affect future sales of our pharmaceutical customers' products and thus adversely impact our sales to these customers. Such regulation could adversely affect prices of and demand for our pharmaceutical products. We believe that the focus on the cost effectiveness of the use of medications as compared to surgery and hospitalization provides us with an opportunity to expand sales to the pharmaceutical market.

AVAILABLE INFORMATION

Our periodic and current reports, and any amendments to those reports, are available, free of charge, through a link on the Investors page of our website (www.aptar.com), as soon as reasonably practicable after the material is electronically filed with, or furnished to, the Securities and Exchange Commission ("SEC"). These filings are also available to the public over the Internet at the SEC's website (www.sec.gov).

Also posted on our website are the charters for our Audit, Management Development and Compensation, and Governance Committees, our Governance Principles, our Code of Conduct, our Director Independence Standards and our Conflict Minerals Statement. Within the time period required by the SEC and the New York Stock Exchange ("NYSE"), we will post on our website any amendment or waiver to the Code of Business Conduct & Ethics applicable to any executive officer or director. The information provided on our website is not part of this report and is therefore not incorporated herein by reference.

INFORMATION ABOUT OUR EXECUTIVE OFFICERS

Our executive officers as of February 17, 2023 are as follows:

Name	Age	Position with the Company
Stephan Tanda	57	President and Chief Executive Officer
<p>Mr. Tanda has been President and Chief Executive Officer since February 2017. Prior to this, Mr. Tanda was an Executive Managing Board Director at Royal DSM NV, a leading global supplier of ingredients and material solutions for the food, dietary supplement, personal care, medical device, automotive, paint, electronic and bio-material markets, from March 2007 to January 2017.</p>		
Robert Kuhn	60	Executive Vice President and Chief Financial Officer
<p>Mr. Kuhn has been Executive Vice President and Chief Financial Officer since September 2008. Mr. Kuhn served as Secretary from June 2011 to January 2021.</p>		
Marc Prieur	57	President, Aptar Beauty + Home
<p>Mr. Prieur has been President of Aptar Beauty + Home since December 2019. Prior to this, Mr. Prieur was President of Aptar Food + Beverage from September 2018 to November 2019, VP of Aptar Operational Excellence from June 2017 to August 2018, President EMEA Sales & Operations – Consumer Health Care from June 2013 to June 2017 and President of our Pharma business in Asia from June 2008 to June 2013.</p>		
Hedi Tlili	48	President, Aptar Food + Beverage
<p>Mr. Tlili has been President of Aptar Food + Beverage since December 2019. Prior to this, Mr. Tlili was President of Aptar EMEA Beauty + Home from June 2018 to November 2019 and President of Aptar EMEA Food + Beverage from May 2016 to May 2018. Prior to joining Aptar, Mr. Tlili held leadership positions at our packaging solutions peers Albéa and Sonoco. He was a Cluster Deputy Manager in Albéa Group from September 2014 to March 2016, Country General Manager in Sonoco from April 2013 to June 2014 and European Sales and Marketing Director from September 2011 to March 2013 in Sonoco.</p>		
Gael Touya	53	President, Aptar Pharma
<p>Mr. Touya has been President of Aptar Pharma since September 2018. Prior to this, Mr. Touya was President of Aptar Food + Beverage from 2016 to August 2018, President of Aptar Food + Beverage Europe from 2012 to 2015 and Business Development Vice President Skin Care and Color Cosmetics from 2010 to 2011.</p>		
Xiangwei Gong	53	President, Aptar Asia
<p>Ms. Gong has been President of Aptar Asia since October 2018. Prior to this, Ms. Gong held various leadership positions at Royal DSM for over 22 years. She was President of DSM Hydrocolloids from 2014 to 2018, President Asia of DSM Food Specialties from 2011 to 2014, Vice President of Channel Marketing from 2008 to 2011 and Vice President of Personal Care in DSM North America from 2005 to 2008.</p>		
Shiela Vinczeller	59	Chief Human Resources Officer
<p>Ms. Vinczeller has been Chief Human Resources Officer since November 2018. Prior to this, Ms. Vinczeller spent 12 years in Human Resources leadership roles at International Paper, one of the world's leading producers of fiber-based packaging, pulp and paper.</p>		
Kimberly Y. Chainey	47	Executive Vice President, Chief Legal Officer and Corporate Secretary
<p>Ms. Chainey has been Executive Vice President and global Chief Legal Officer since July 2020. Ms. Chainey has been Corporate Secretary since January 2021. Prior to this, Ms. Chainey was Vice President and General Counsel at Panasonic Avionics Corporation, a global manufacturer of in-flight entertainment and communications solutions, from January 2019 to July 2020 and Associate General Counsel at Avis Budget Group, a global provider of mobility solutions, from November 2014 to December 2018.</p>		

There were no arrangements or understandings between any of the executive officers and any other person(s) pursuant to which such officers were elected.

ITEM 1A. RISK FACTORS

Set forth below and elsewhere in this report and in other documents we file with the SEC are risks and uncertainties that could cause our actual results or other events to materially differ from the results or events contemplated by the forward-looking statements contained in this report and in other documents we file with the SEC. Additional risks and uncertainties not presently known to us, or that we currently deem immaterial, may also impair our business operations. You should carefully consider the following factors in addition to other information contained in this report before purchasing any shares of our common stock.

Risks Related to Our Operations and Industry

If there is deterioration in economic conditions, our business and operating results could be materially adversely impacted. Due to our strong balance sheet, diverse product offerings, various end-markets served, and our broad geographic presence, we believe we are well positioned to withstand temporary slowness in any one particular region or market. However, economic uncertainties affect businesses such as ours in a number of ways, making it difficult to accurately forecast and plan our future business activities. A tightening of credit in financial markets and other unfavorable changes in economic conditions, such as inflation, rising interest rates or a recession, or other factors, may lead consumers and businesses to postpone spending, which may cause our customers to cancel, decrease or delay their existing and future orders with us. In addition, financial difficulties experienced by our suppliers, customers or distributors could result in product delays, increased accounts receivable defaults, inventory or supply challenges and pricing pressures. An interruption in supply may also impact our ability to meet customer demands. Consumer demand for our customers' products and shifting consumer preferences are unpredictable and could have a negative impact on our customers and our customers' demand for our products.

Geopolitical conditions, including trade disputes and acts of war or terrorism, could have a material adverse effect on our operations and financial results. Our operations could be disrupted by geopolitical conditions, trade disputes, international boycotts and sanctions, political and social instability, acts of war, terrorist activity or other similar events. Such events could make it difficult, impossible or more expensive to manufacture or deliver products to our customers, receive production materials from our suppliers, or perform critical functions, all of which could adversely affect our business globally or in certain regions. In addition, our customers may export their finished products using our dispensing devices that were sold in other regions and an adverse geopolitical event may impact the sales of our customers' products and thus indirectly negatively impact the demand for our dispensing solutions. Although our business is diversified across ten end markets and many geographies and we believe our diverse business model, coupled with our diverse and global customer base, allow some protection from dependency on any one geographic region, country or even trade route, our diversification efforts may not be successful in insulating our operations from disruptive geopolitical conditions and we do face some risk related to trade policies specific to any country we operate in or to which our customers export their products.

For example, Russia's invasion of Ukraine has created significant regional disruption in addition to global security concerns that together with retaliatory sanctions imposed by the U.S. and other NATO members could have a lasting impact on both regional and global economies. As of December 31, 2022, less than 1% of our consolidated net sales were from Russia and Ukraine; in addition, less than 2% is imported into Russia and Ukraine and therefore we do not currently expect the war to have a material direct impact to our consolidated results. However, we have experienced indirect impacts on our business, including higher energy and other input costs as well as certain supply chain disruptions, which could materially adversely affect our results of operations and financial condition.

Increased global cybersecurity threats and more sophisticated, targeted computer crime could pose a risk to our operations. Increased global information security threats and more sophisticated, targeted computer crime pose a risk to the confidentiality, availability and integrity of our data, operations and infrastructure, as well as the data of our customers. We continue to assess potential threats, including computer viruses, cyberattacks, ransomware attacks, phishing attacks and other malicious activity, and make investments seeking to reduce the risk of these threats by employing a number of security measures, including employee training, monitoring of our networks and systems, ensuring strong data protection standards including authentication mechanisms are in place and safeguarding our critical information assets.

We also periodically test our systems for vulnerabilities and regularly rely on third parties to conduct such tests. To date, we have seen no material impact on our business or operations from these threats; however, we cannot guarantee that our security efforts will prevent unauthorized access or loss of functionality to our or our third-party providers' systems. Even with these mitigations, our information systems remain potentially vulnerable to sophisticated cybersecurity threats, particularly as more business activities have shifted online. Depending on their nature and scope, such threats could potentially lead to the compromise of confidential information, improper use of our systems and networks, manipulation and destruction of data, production downtimes and operational disruptions, mitigation costs and legal liability, which in turn could adversely affect our reputation, competitiveness and results of operations.

Employee retention or labor cost inflation could disrupt our business. Labor cost and availability are subject factors that are beyond our control. As a result, there is no assurance that we will be able to recruit, train, assimilate, motivate and retain employees in the future. The loss of a substantial number of our employees or a prolonged labor dispute could disrupt our business and result in a material adverse effect on our business and operating results.

We face strong global competition and our market share could decline. All of the markets in which we operate are highly competitive and we continue to experience competition in all product lines and segments. Competitors, including privately and publicly held entities that range from regional to international companies, are becoming increasingly credible in the core markets in which we do business. We expect the market for our products to remain competitive, as consolidation among our competitors is increasing in the current economic climate.

Customers and consumers are increasingly requesting solutions that can be refilled and reused as the market moves toward more sustainable products. Our competitors' design innovation or ability to provide more sustainable products could have an adverse impact on our business. If we are unable to compete successfully, our market share may decline, which could materially adversely affect our results of operations and financial condition.

In difficult market conditions, our fixed costs structure combined with potentially lower revenues may negatively impact our results. Our business is characterized by relatively high fixed costs and, notwithstanding our utilization of third-party manufacturing capacity, most of our production requirements are met by our own manufacturing facilities. In difficult environments, we are generally faced with a decline in the utilization rates of our manufacturing facilities due to decreases in product demand. During such periods, our plants may not operate at full capacity and the costs associated with this excess capacity are charged directly to cost of sales. Difficult market conditions in the future may adversely affect our utilization rates and consequently our future gross margins, and this, in turn, could have a material negative impact on our business, financial condition and results of operations.

The COVID-19 pandemic has adversely affected our business, and future developments or other global pandemics could continue to cause adverse effects, which may be material. During 2020 the COVID-19 pandemic adversely affected our sales of products to our prescription pharma customers, due to lower incidences of common illnesses and doctors appointments, and to our travel and retail beauty business and on-the-go beverage customers. While during 2021 and 2022 we have experienced a return toward pre-pandemic levels in several of our markets, there remain uncertainties related to the pandemic that could adversely affect our business. Customer demand across all segments may decrease quickly as a result of future developments related to the COVID-19 pandemic, including the extent, duration and severity of further resurgences, the availability, adoption and efficacy of approved vaccines and treatments, the length of time it takes for normal economic and operating conditions to resume, additional governmental actions that may be taken and/or extended in response to further resurgences of the virus, and numerous other uncertainties. Such events may result in business and manufacturing disruption, inventory shortages due to disruptions to our supply chain and distribution channels, delivery delays, increased risk associated with customer payments, increased labor cost and reduced labor availability, and reduced sales and operations, any of which could materially affect our stock price, business prospects, financial condition, results of operations and liquidity.

Consolidation of our customer base could impact our business. We believe mergers and acquisitions within our customer base create opportunities for increasing sales due to the breadth of our product line, our international presence and our long-term relationships with certain customers. However, consolidation of our customers could lead to pricing pressures, concentration of credit risk and fewer opportunities to introduce new products to the market.

The success or failure of our customers' products, particularly in the pharmaceutical market, may materially affect our operating results and financial condition. In the pharmaceutical market, the proprietary nature of our customers' products and the success or failure of their products in the market using our dispensing systems may have a material impact on our operating results and financial condition. We may potentially work for years on modifying our dispensing device to work in conjunction with a customer's drug formulation. If the customer's pharmaceutical product is not approved by regulatory bodies or it is not successful on the market, the associated costs may not be recovered.

Higher raw material costs and other inputs and an inability to offset these higher costs with price increases may materially adversely affect our operating results and financial condition. The cost of raw materials and other inputs (particularly plastic resin, rubber, metal, anodization costs and transportation and energy costs) are volatile and susceptible to rapid and substantial changes due to factors beyond our control, such as changing economic conditions, currency fluctuations, weather conditions, political and social instability, acts of war, terrorist activity or other similar events in energy-producing nations, and supply and demand pressures. Raw material costs may continue to increase in the coming years due to market fluctuation and the use of post-consumer recycled (PCR) resin for our sustainable product offerings and future market conditions may prevent us from passing these increased costs on to our customers through timely price increases. In addition, we may not be able to improve productivity or realize savings from our cost reduction programs sufficiently enough to offset the impact of increased raw material costs. As a result, higher raw material costs could result in declining margins and operating results.

If our unionized employees were to engage in a strike or other work stoppage, our business, operating results and financial position could be materially adversely affected. The majority of our European and Latin American employees are covered by collective bargaining arrangements made either at the local or national level in their respective countries. Although we believe that our relations with our employees are satisfactory, no assurance can be given that this will continue. If disputes with our unions arise, or if our unionized workers engage in a strike or other work stoppage, we could experience a significant disruption of operations, which could have a material adverse effect on our business, operating results and financial position.

Single sourced materials and manufacturing sites could adversely impact our ability to deliver product. We source certain materials, especially some resins and rubber components for our pharmaceutical segment, from a single source. Any disruption in the supply of these materials could adversely impact our ability to deliver products to our customers. Similarly, we have certain components and products that are manufactured at a single location or from a single machine or mold. Any disruption to the manufacturing process could also adversely impact our ability to deliver products to our customers.

We may not achieve the expected benefits from our restructuring initiatives, which could adversely affect our business and operations. We continue to streamline and reduce our fixed costs in order to increase operating efficiencies. If we do not successfully manage and execute these initiatives, or if they are inadequate or ineffective, we may fail to achieve the expected benefits, and our business and operations could be adversely affected. Furthermore, any restructuring initiative could result in unintended consequences or unforeseen costs, including distraction of our management and employees, inability to attract or retain key personnel and reduced employee productivity, which could adversely affect our business, financial condition and results of operations.

If our integration of acquisitions or significant capital investments fail to generate expected returns, our financial performance may suffer. We continue to pursue growth through acquisitions, including the recent Metaphase, Voluntis, and Hengyu acquisitions. We continue to invest internally in several larger facility expansions, if our integration efforts, including unlocking synergies, are unsuccessful we may not realize the full potential of the acquisitions and as a result our financial performance may suffer.

Risks Related to Financial, Legal and Regulatory Matters

We have foreign currency translation and transaction risks that may materially adversely affect our operating results. A majority of our operations are located outside of the United States. Because of this, movements in exchange rates may have an impact on the translation of the financial statements of our foreign entities. Our primary foreign exchange exposure is to the euro, but we have foreign exchange exposure to the Chinese yuan, Brazilian real, Mexican peso, Swiss franc, and other Asian, European and Latin American currencies. A strengthening U.S. dollar relative to foreign currencies has a dilutive translation effect on our financial statements. Conversely, a weakening U.S. dollar has an additive translation effect. In some cases, we sell products denominated in a currency different from the currency in which the related costs are incurred. We manage our exposures to foreign exchange principally with forward exchange contracts to economically hedge certain transactions and firm purchase and sales commitments denominated in foreign currencies. However, there is no guarantee that our hedging strategy will be effective, and the volatility of currency exchange rates may materially affect our operating results.

We have approximately \$945.6 million in recorded goodwill at December 31, 2022, and changes in future business conditions could cause this asset to become impaired, requiring write-downs that would reduce our operating income. We evaluate the recoverability of goodwill amounts annually, or more frequently when evidence of potential impairment exists. The impairment test is based on several factors requiring judgment. A decrease in expected reporting unit cash flows, changes in market conditions, or rising discount rates may indicate potential impairment of recorded goodwill and, as a result, our operating results could be materially adversely affected. See “Critical Accounting Estimates” in Part II, Item 7 – Management's Discussion and Analysis of Financial Condition and Results of Operations for additional information.

We are subject to a variety of laws and regulations and changes in, or failure to comply with, these laws or regulations could have an adverse impact on the Company's reputation, business and results of operations. Doing business globally requires us to comply with anti-corruption, trade, sanctions and similar laws, and to implement policies and procedures designed to ensure that our company, employees and other intermediaries comply with the applicable restrictions. We are also required to comply with a variety of other laws and regulations in the ordinary course of business, including those related to data privacy. Privacy regulations, such as the European Union's General Data Protection Regulation (“GDPR”) and the California Privacy Rights Act of 2020 (“CPRA”), are complex, rigorous and sometimes conflicting. Compliance with existing and forthcoming privacy laws and regulations can be costly and time consuming, and may require changes to our information systems and practices and to those of any third parties that process information on our behalf. Despite our commitment to legal compliance and corporate ethics, we cannot ensure that our policies and procedures will always prevent intentional, reckless, negligent or unauthorized acts committed by employees or agents. If we fail to comply with applicable laws and regulations, we may be subject to investigations, criminal and civil penalties and other remedial measures, which could materially adversely affect our reputation, business and results of operations.

We are exposed to risks from lawsuits and claims, including product liability claims, as well as investigations, audits and other proceedings, which may result in substantial costs and expenses or interruption of our normal business operations. We are subject to a number of lawsuits and claims that arise in the ordinary course of our business, which include infringement, product liability, commercial, employment, tort, and other litigation. The failure of our devices to operate as intended may result in a product liability claim against us. We believe we maintain adequate levels of product liability insurance coverage and robust quality control systems at our facilities. However, a product liability claim in excess of our insurance coverage or not covered by existing insurance may materially adversely affect our business, results of operations or cash flows.

In addition, we are subject to investigations, audits and other proceedings initiated by federal, state, international, national, provincial and local authorities, including regulatory agencies such as the Food and Drug Administration as a result of the products manufactured by our Pharma segment. We are also subject to indemnification claims under various contracts. Current and future litigation, proceedings or indemnification claims that we face may result in substantial costs and expenses and significantly divert the attention of our management regardless of the outcome. In addition, these matters could lead to increased operating costs or interruptions of our normal business operations. Litigation, proceedings and indemnification claims involve uncertainties and the eventual outcome of any such matter could adversely affect our business, results of operations or cash flows.

Challenges to, or the loss of, our intellectual property rights could have an adverse impact on our ability to compete effectively. Our ability to compete effectively depends, in part, on our ability to protect and maintain the proprietary nature of our owned and licensed intellectual property. We own a large number of patents on our products, aspects of our products, methods of use and/or methods of manufacturing, and we own, or have licenses to use, all of the material trademark and trade name rights used in connection with the packaging, marketing and distribution of our major products. We also rely on trade secrets, know-how and other unpatented proprietary technology. We attempt to protect and restrict access to our intellectual property and proprietary information by relying on the patent, trademark, copyright and trade secret laws of the U.S. and other countries, as well as non-disclosure agreements. However, it may be possible for a third party to obtain our information without our authorization, independently develop similar technologies, or breach a non-disclosure agreement entered into with us. Furthermore, many of the countries in which we operate do not have intellectual property laws that protect proprietary rights as fully as do laws in the U.S. The use of our intellectual property by someone else without our authorization could reduce or eliminate certain of our competitive advantages, cause us to lose sales or otherwise harm our business. The costs associated with protecting our intellectual property rights could also adversely impact our business.

We are also from time to time subject to claims from third parties suggesting that we may be infringing on their intellectual property rights. If we were held liable for infringement, we could be required to pay damages, obtain licenses or cease making or selling certain products. Intellectual property litigation, which could result in substantial cost to us and divert the attention of management, may be necessary to protect our trade secrets or proprietary technology or for us to defend against claimed infringement of the rights of others and to determine the scope and validity of others' proprietary rights. We may not prevail in any such litigation, and if we are unsuccessful, we may not be able to obtain any necessary licenses on reasonable terms or at all. Failure to protect our patents, trademarks and other intellectual property rights may have a material adverse effect on our business, consolidated financial condition or results of operations.

Government regulation on environmental matters regarding recycling or environmental sustainability policies could impact our business. Future government regulations mandating the use or limitations of certain materials could impact our suppliers, manufacturing processes or the technologies we use and force faster development and adoption of alternative materials or assets used in the production of our products. Additionally, any failure to comply with environmental laws could result in penalties or investigations, which could materially adversely affect our reputation, business and results of operations.

Future government regulations of healthcare cost containment policies may impact our pharmaceutical sales. Review by governments or private insurers of cost containment policies of the number of drugs and prices thereof that will be paid by their insurance systems could affect future sales to the pharmaceutical industry and thereby adversely affect prices of and demand for our pharmaceutical products.

Interest rate volatility could increase our borrowing costs. As our fixed rate debt obligations become due, any refinancing or additional borrowings could potentially be under higher interest rates. In addition, as interest rates increase, our debt service obligation on refinanced indebtedness will increase, impacting our results of operations and cash flows.

We could be subject to changes in tax rates, the adoption of new tax legislation or rules or exposure to additional tax liabilities. Due to economic and political conditions, tax rates in the various jurisdictions in which we operate may be subject to change. Our effective tax rate could be affected by changes in the mix of earnings in countries with differing statutory tax rates, changes in the valuation of deferred tax assets and liabilities, the introduction of new taxes, or changes in tax laws or their interpretations.

We are also subject to examination of our returns and other tax matters by the U.S. Internal Revenue Service and other tax authorities and governmental bodies. We regularly assess the likelihood of an adverse outcome resulting from these examinations to determine the adequacy of our provision for taxes. There can be no assurance as to the outcome of these examinations. We are also periodically subject to tax assessments resulting from custom duties. If our effective tax rates were to increase in jurisdictions where we have significant operations, or if the ultimate determination of taxes owed or other tax liability is for an amount in excess of amounts previously accrued, our financial condition and operating results could be materially and adversely affected.

We may be adversely affected by the transition away from the London Interbank Offered Rate ("LIBOR") or other Interbank Rates (IBORs) to Risk Free Rates for our variable rate loans, derivative contracts and other financial assets and liabilities. The publication of the one-week and two-month U.S. dollar LIBOR tenors and all non-U.S. dollar LIBOR tenors have ceased effective January 1, 2022, with publication of the remaining most common U.S. dollar LIBOR tenors (overnight and one, three, six and twelve months) ceasing immediately after June 30, 2023.

The ongoing transition from LIBOR may cause us to incur increased costs and additional risk. Our revolving credit facility contains provisions allowing for a transition away from U.S. dollar LIBOR. Although the Secured Overnight Financing Rate ("SOFR") has been identified as a recommended alternative reference rate to U.S. dollar LIBOR, SOFR has a limited history and SOFR-based reference rates may perform differently from U.S. dollar LIBOR, which may affect our net interest expense, change our market risk profile and require changes to our risk, pricing and hedging strategies.

General Risk Factors

Global climate change and legal, regulatory, or market measures to address climate change, may negatively affect our business, operations and financial results. There is growing concern that the global economy, including the manufacturing industry, will be affected by the impacts of climate change as the frequency and severity of natural disasters increase. We monitor risks posed by climate change such as physical climate risks, current and emerging regulations, and market risks, as well as the potential impact to our business, operations and financial results, especially where the cost to respond is significant.

If not addressed, repercussions of physical climate-related issues, like water scarcity and drought, could cause disruptions within our value chain, making it more difficult and/or expensive to operate, or impeding our ability to operate. Further, if we are not successful in implementing our plans to reduce both direct and indirect emissions, we could be subject to carbon taxes.

Current and emerging regulation of products may include mandates to limit carbon dioxide and other greenhouse gas emissions throughout the product life cycle; increase the recycled content of raw materials in our products; limit or eliminate the use of certain materials within our products; and improve recyclability or reusability of packaging at the end-of-life. We may encounter increased costs as we reformulate and redesign our product offerings in response to the changing regulatory landscape.

Market risks, like the increased cost or limited availability of certain raw material inputs for our products, including post-consumer recycled (PCR) resins, may impede the production, distribution and sale of certain of our customers' products.

Customers and consumers may change their purchasing behaviors based on the actual or perceived environmental impact of our products. Consumers may begin to opt for products that have a lower carbon footprint or a more circular life cycle. We may encounter increased costs as we reformulate and redesign our product offerings in response to changing customer behaviors, and our efforts may be unsuccessful.

Ownership by Certain Significant Stockholders. Currently, Aptar has five institutional stockholders who each own between 5% and 11% of our outstanding common stock. None of these stockholders have direct representation on our Board of Directors. If one of these stockholders decides to sell significant volumes of our stock, this could put downward pressure on the price of the stock.

ITEM 1B. UNRESOLVED STAFF COMMENTS

We have no unresolved comments from the SEC.

ITEM 2. PROPERTIES

We lease or own our principal offices and manufacturing facilities. None of the owned principal properties is subject to a lien or other encumbrance material to our operations. We believe that existing operating leases will be renegotiated as they expire, will be acquired through purchase options or that suitable alternative properties will be leased on acceptable terms. We consider the condition and extent of utilization of our manufacturing facilities and other properties to be generally good, and the capacity of our plants to be adequate for the needs of our business. We manufacture products in 49 locations, with 15 of those facilities serving two segments and seven serving all three of our segments as of December 31, 2022. The locations of our manufacturing facilities, by geographic region/country, are set forth below:

Geographic Region/Country	Number of Manufacturing Facilities	Pharma Manufacturing Facilities	Beauty + Home Manufacturing Facilities	Food + Beverage Manufacturing Facilities
France	12	5	8	0
Germany	6	4	5	2
Rest of Europe	7	2	6	5
North America	9	6	5	6
Latin America	7	1	7	3
China	5	3	2	4
Other Asia	3	1	2	1
Total	49	22	35	21

Our head corporate office is located in Crystal Lake, Illinois. We also have sales, service facilities, and corporate offices in locations in addition to those listed above.

ITEM 3. LEGAL PROCEEDINGS

In the normal course of business, we are subject to a number of lawsuits and claims both actual and potential in nature. While management believes the resolution of these claims and lawsuits will not have a material adverse effect on our financial position or results of operations or cash flows, claims and legal proceedings are subject to inherent uncertainties, and unfavorable outcomes could occur that could include amounts in excess of any accruals which management has established. Were such unfavorable final outcomes to occur, it is possible that they could have a material adverse effect on our financial position, results of operations and cash flows. Please refer to Note 13 – Commitments and Contingencies in Part II, Item 8 – Financial Statements and Supplementary Data for further discussion of contingencies affecting our business.

ITEM 4. MINE SAFETY DISCLOSURES

Not applicable.

PART II

ITEM 5. MARKET FOR REGISTRANT'S COMMON EQUITY, RELATED STOCKHOLDER MATTERS AND ISSUER PURCHASES OF EQUITY SECURITIES

MARKET FOR REGISTRANT'S COMMON EQUITY

Our common stock is traded on the New York Stock Exchange under the symbol "ATR". As of February 13, 2023, there were approximately 160 holders of record of our common stock. A substantially greater number of holders of our common stock are "street name" or beneficial holders, whose shares of record are held by banks, brokers, and other financial institutions.

DIVIDENDS

On January 19, 2023, our Board of Directors declared a quarterly cash dividend of \$0.38 per share of common stock, which will be paid on February 23, 2023 to stockholders of record as of February 2, 2023. We have paid an increased annual cash dividend total to stockholders each year for the past 29 years. During 2022, we paid \$99.5 million in dividends to stockholders. While we expect to continue to pay a regular quarterly dividend of \$0.38 per share in 2023, the timing, declaration, amount and payment of any future cash dividends are at the discretion of the Board of Directors and will depend on our available cash, working capital, financial condition, results of operations, capital requirements, covenants in our credit facility, applicable law and other factors that the Board of Directors considers relevant.

RECENT SALES OF UNREGISTERED SECURITIES

Certain French employees are eligible to participate in the FCP Aptar Savings Plan (the "Plan"). An independent agent purchases shares of common stock available under the Plan for cash on the open market and we do not issue shares. We do not receive any proceeds from the purchase of common stock under the Plan. The agent under the Plan is BNP Paribas Fund Services. No underwriters are used under the Plan. All shares are sold in reliance upon the exemption from registration under the Securities Act of 1933 provided by Regulation S promulgated under that Act. During the quarter ended December 31, 2022, the Plan did not purchase any shares of our common stock on behalf of the participants. The Plan sold 5,121 shares of our common stock on behalf of the participants at an average price of \$105.52 per share, for an aggregate amount of \$540 thousand. At December 31, 2022, the Plan owned 118,132 shares of our common stock.

ISSUER PURCHASES OF EQUITY SECURITIES

On April 18, 2019, we announced a share repurchase authorization of up to \$350 million of common stock. This authorization replaces previous authorizations and has no expiration date. We may repurchase shares through the open market, privately negotiated transactions or other programs, subject to market conditions.

During the fourth quarter of 2022, we repurchased approximately 191 thousand shares for approximately \$19.8 million.

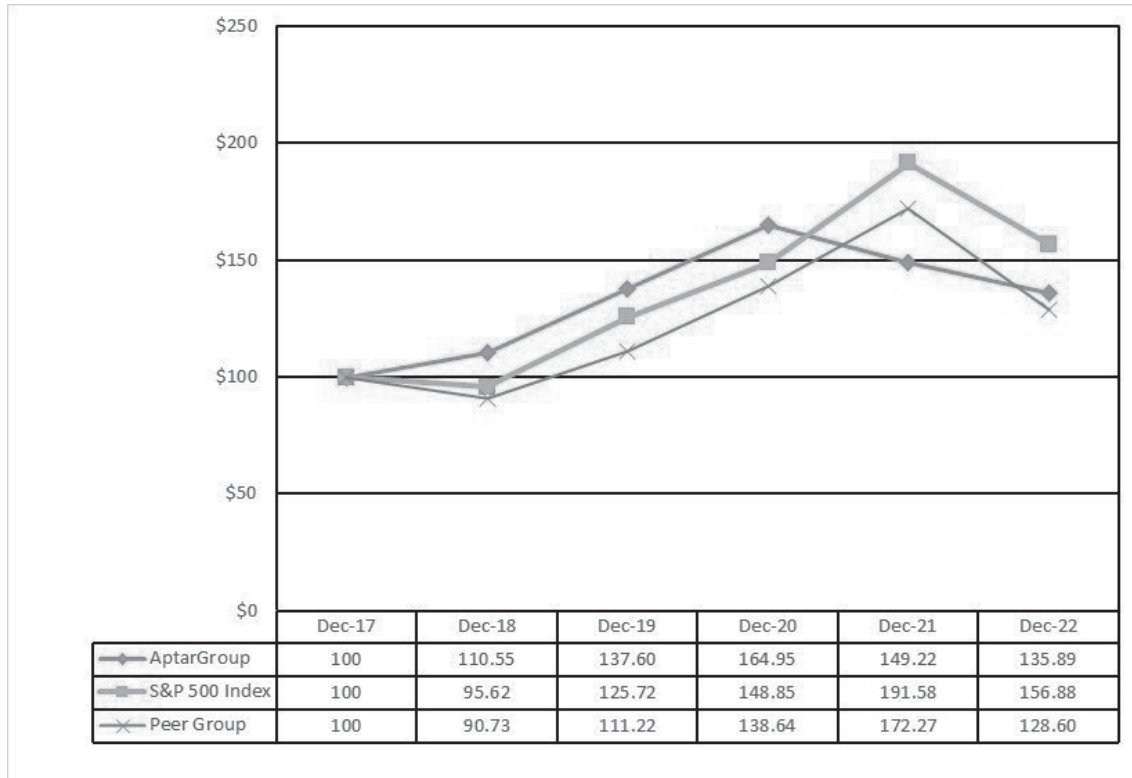
The following table summarizes our purchases of our securities for the quarter ended December 31, 2022:

Period	Total Number Of Shares Purchased	Average Price Paid Per Share	Total Number Of Shares Purchased As Part Of Publicly Announced Plans Or Programs	Dollar Value Of Shares That May Yet Be Purchased Under The Plans Or Programs (in millions)
10/1 - 10/31/22	—	\$ —	—	\$ 128.1
11/1 - 11/30/22	147,000	102.56	147,000	113.0
12/1 - 12/31/22	44,000	107.30	44,000	108.3
Total	191,000	\$ 103.65	191,000	\$ 108.3

SHARE PERFORMANCE

The following graph shows a five year comparison of the cumulative total stockholder return on our common stock as compared to the cumulative total return of the Standard & Poor's 500 Composite Stock Price Index and to an index of peer group companies we selected. The companies included in the peer group are: Albemarle Corporation, Ashland Inc., Berry Global Group, Inc., Catalent, Inc., CCL Industries Inc., ICU Medical, Inc., Ingredion Inc., International Flavors & Fragrances, Inc., McCormick & Company, Inc., Sealed Air Corporation, Sensient Technologies Corporation, Silgan Holdings, Inc., Sonoco Products Company, Stericycle, Inc., STERIS plc, Teleflex Inc. and West Pharmaceutical Services, Inc.

Comparison of 5 Year Cumulative Stockholder Returns



The graph and other information furnished in the section titled “Share Performance” under this Part II, Item 5 of this Form 10-K shall not be deemed to be “soliciting” material or to be “filed” with the SEC or subject to Regulation 14A or 14C, or to the liabilities of Section 18 of the Securities Exchange Act of 1934, as amended.

ITEM 6. [RESERVED]

ITEM 7. MANAGEMENT'S DISCUSSION AND ANALYSIS OF FINANCIAL CONDITION AND RESULTS OF OPERATIONS

(Dollars in thousands, except per share amounts or as otherwise indicated)

The objective of the following Management's Discussion and Analysis of Financial Condition and Results of Operations ("MD&A") is to help the reader understand the financial condition and results of operations of AptarGroup, Inc. from management's perspective. MD&A is presented in eight sections: Overview, Results of Operations, Liquidity and Capital Resources, Recently Issued Accounting Standards, Critical Accounting Estimates, Operations Outlook and Forward-Looking Statements. MD&A should be read in conjunction with our Consolidated Financial Statements and accompanying Notes to Consolidated Financial Statements contained elsewhere in this Annual Report on Form 10-K.

In MD&A, "we," "our," "us," "AptarGroup," "AptarGroup, Inc.," "Aptar" and the "Company" refer to AptarGroup, Inc. and its consolidated subsidiaries.

OVERVIEW

GENERAL

Aptar is a global leader in the design and manufacturing of a broad range of drug delivery, consumer product dispensing and active material science solutions and services for the pharmaceutical, beauty, personal care, home care, food and beverage markets. Using insights, proprietary design, engineering and science to create dispensing, dosing and protective technologies for many of the world's leading brands, Aptar in turn makes a meaningful difference in the lives, looks, health and homes of millions of patients and consumers around the world.

In addition to the information presented herein that conforms to accounting principles generally accepted in the United States of America ("U.S. GAAP"), we also present certain financial information that does not conform to U.S. GAAP, which are referred to as non-U.S. GAAP financial measures. Management may assess our financial results both on a U.S. GAAP basis and on a non-U.S. GAAP basis. We believe it is useful to present these non-U.S. GAAP financial measures because they allow for a more meaningful period over period comparison of operating results by removing the impact of items that, in management's view, do not reflect Aptar's core operating performance. These non-U.S. GAAP financial measures should not be considered in isolation or as a substitute for U.S. GAAP financial results, but should be read in conjunction with the audited consolidated statements of income and other information presented herein. Investors are cautioned against placing undue reliance on these non-U.S. GAAP measures. Further, investors are urged to review and consider carefully the adjustments made by management to the most directly comparable U.S. GAAP financial measure to arrive at these non-U.S. GAAP financial measures. See the reconciliation under "Non-U.S. GAAP Measures" below.

For the year ended December 31, 2022, reported sales increased 3% to \$3.32 billion from \$3.23 billion a year ago. Core sales, excluding the negative impact from changes in currency exchange rates and acquisition effects, increased 9% from 2021. Approximately half of our core sales increase is due to volume growth as many regions experienced post-pandemic re-openings during 2022, while the remaining half of this increase is due to price adjustments related to the passing through of the inflationary impacts of higher resin and other input costs. A reconciliation of core sales growth to reported net sales growth, the most directly comparable U.S. GAAP measure, can be found under "Net Sales" below.

2022 HIGHLIGHTS

- Each segment achieved top line growth with annual sales of \$3.3 billion
- Reported sales grew 3% and core sales increased 9%
- Reported earnings per share decreased 1% to \$3.59
- Reported net income decreased 2% to \$239 million
- Adjusted EBITDA increased 2% to \$617 million
- 29th consecutive year of paying an increased annual dividend

RESULTS OF OPERATIONS

The following table sets forth the consolidated statements of income and the related percentages of net sales for the periods indicated. Refer to Part II, Item 7 – Management’s Discussion and Analysis of Financial Condition and Results of Operations of our Annual Report on Form 10-K for the fiscal year ended December 31, 2021 for additional information regarding Results of Operations for the year ended December 31, 2021 as compared to the year ended December 31, 2020.

Year Ended December 31,	2022		2021	
	Amount in Thousands \$	% of Net Sales	Amount in Thousands \$	% of Net Sales
Net sales	\$ 3,322,249	100.0 %	\$ 3,227,221	100.0 %
Cost of sales (exclusive of depreciation and amortization shown below)	2,158,411	65.0	2,070,538	64.1
Selling, research & development and administrative	544,262	16.4	551,242	17.1
Depreciation and amortization	233,706	7.0	234,853	7.3
Restructuring initiatives	6,597	0.2	23,240	0.7
Operating income	379,273	11.4	347,348	10.8
Interest expense	(40,827)	(1.2)	(30,284)	(0.9)
Other (expense) income	(3,742)	(0.1)	4,591	0.1
Income before income taxes	334,704	10.1	321,655	10.0
Net Income	\$ 239,555	7.2 %	\$ 243,638	7.5 %
Effective tax rate	28.4 %		24.3 %	
Adjusted EBITDA margin (1)	18.6 %		18.8 %	

(1) Adjusted EBITDA margin is calculated as Adjusted EBITDA divided by Reported Net Sales. See the reconciliation under "Non-U.S. GAAP Measures".

SIGNIFICANT DEVELOPMENTS

The COVID-19 pandemic resulted in disruptions to the global economy and supply chains. As the rates of transmission slowed in many regions during 2022, we have seen several of our impacted applications return to more normal (pre-pandemic) volume and growth levels. We have seen improvement in sales of our products to our prescription, beauty, hair care and sun care customers as people return to more active lifestyles. However, we have also experienced volume reductions as applications which benefited from the pandemic, such as our personal cleansing and surface cleaner products, food applications, active material science solutions and injectables components, are now up against challenging comparisons to 2021 volume levels.

As of December 31, 2022, the war in Ukraine has not had a significant direct impact on our business though the near-term visibility for this situation is expected to remain fluid and uncertain for the next several quarters. However, we have experienced some indirect impacts on our business, including higher energy and other input costs as well as certain supply chain disruptions.

NET SALES

For the year ended December 31, 2022, reported net sales increased 3% to \$3.32 billion from \$3.23 billion a year ago. The average U.S. dollar exchange rate strengthened compared to the euro and other major currencies in which we operate, resulting in a negative currency translation impact of 6%. There was no significant impact from our acquisitions of Voluntis S.A. ("Voluntis"), Weihai Hengyu Medical Products Co., Ltd. ("Hengyu") and Metaphase Design Group Inc. ("Metaphase") on our consolidated net sales during 2022. Therefore, core sales, which exclude acquisitions and changes in foreign currency rates, increased by 9% in 2022 compared to 2021. Price increases to our customers due to rising inflationary costs had a strong impact on our core sales during 2022. Of our 9% core sales increase, approximately half of this increase is due to price adjustments related to the passing through of higher resin and other input costs. The remaining half of our core sales increase is due to volume growth mainly in our Pharma segment.

Year Ended December 31, 2022

	Pharma	Beauty +Home	Food + Beverage	Total
Core Sales Growth	13 %	7 %	5 %	9 %
Acquisitions	1 %	— %	— %	— %
Currency Effects (1)	(8)%	(7)%	(2)%	(6)%
Total Reported Net Sales Growth	6 %	— %	3 %	3 %

(1) Currency effects are calculated by translating last year's amounts at this year's foreign exchange rates.

For further discussion on net sales by reporting segment, please refer to the segment analysis of net sales and operating income on the following pages.

The following table sets forth, for the periods indicated, net sales by geographic location:

Years Ended December 31,	2022	% of Total	2021	% of Total
Domestic	\$ 1,100,159	33 %	\$ 1,081,823	34 %
Europe	1,773,395	53 %	1,725,182	53 %
Other Foreign	448,695	14 %	420,216	13 %

COST OF SALES (EXCLUSIVE OF DEPRECIATION AND AMORTIZATION SHOWN BELOW)

Our cost of sales ("COS") as a percent of net sales increased to 65.0% in 2022 compared to 64.1% in 2021. While our COS percentage was positively impacted by an improved mix of our higher-margin Pharma product sales compared to 2021, this positive impact was more than offset by the under-absorption at certain Beauty + Home and Food + Beverage sites, especially in North America, due to lingering supply chain issues and our customers working off current inventory levels. During 2021, we also received a \$5.6 million favorable Brazilian court ruling that a certain state value added tax should not be included in the calculation of federal gross receipts taxes, which also lowered our 2021 COS percentage. See Note 13 - Commitments and Contingencies of the Condensed Consolidated Financial Statements for further details.

SELLING, RESEARCH & DEVELOPMENT AND ADMINISTRATIVE

Our selling, research & development and administrative expenses ("SG&A") decreased approximately 1% or \$7.0 million to \$544.3 million in 2022 compared to \$551.2 million in 2021. Excluding changes in foreign currency rates, SG&A increased by approximately \$22.7 million compared to the prior year. Of this increase, \$3.0 million relates to incremental SG&A costs in 2022 due to our acquisitions of Hengyu and Voluntis which were completed during the third quarter of 2021. The remaining increase is partially related to higher compensation costs, including accruals related to our current short-term incentive and equity compensation programs. We also had an increase in information systems costs due to an upgrade of our enterprise reporting system along with higher professional fees for internal projects and higher travel costs compared to 2021. Also, in March 2022 we recorded a \$1.4 million expected net credit loss reserve against the outstanding note receivable from one of our venture investments (Kali Care). SG&A as a percentage of net sales decreased to 16.4% in 2022 compared to 17.1% in the prior year.

DEPRECIATION AND AMORTIZATION

Reported depreciation and amortization expense decreased less than 1% or \$1.1 million to \$233.7 million in 2022 compared to \$234.9 million in 2021. Excluding changes in foreign currency rates, depreciation and amortization expense increased by approximately \$12.9 million compared to the prior year. Approximately \$4.1 million of this increase is due to our acquisitions of Voluntis and Hengyu completed during the third quarter of 2021 and the remaining increase relates to higher capital spending during the current and prior year to support our growth strategy. Depreciation and amortization as a percentage of net sales decreased to 7.0% in 2022 compared to 7.3% in the prior year.

RESTRUCTURING INITIATIVES

In late 2017, we began a business transformation plan to drive profitable sales growth, increase operational excellence, enhance our approach to innovation and improve organizational effectiveness. The primary focus of the plan was the Beauty + Home segment; however, certain global general and administrative functions were also addressed. As of the end of 2021, we had completed the vast majority of our planned initiatives related to our transformation plan, including implementing new commercial strategies, reducing costs and adding capabilities in Asia and in fast growing application fields that we believe will position the segment for future growth and profitability. The cumulative expense incurred for this transformation plan as of December 31, 2022 was approximately \$137 million, of which \$0.4 million was recognized during 2022.

We continue to look at our operating structure and are continuing to identify actions to further reduce costs and improve our competitiveness. Restructuring costs for the years ended December 31, 2022 and 2021 are as follows:

Year Ended December 31,	2022	2021
Restructuring Initiatives by Segment		
Pharma	\$ —	\$ 76
Beauty + Home	6,460	10,447
Food + Beverage	137	404
Corporate & Other	—	12,313
Total Restructuring Initiatives	\$ 6,597	\$ 23,240

OPERATING INCOME

Reported operating income increased approximately \$31.9 million or 9% to \$379.3 million in 2022 compared to \$347.3 million in 2021. Excluding changes in foreign currency rates, operating income increased by approximately \$60.3 million in 2022 compared to 2021. Strong sales growth, along with lower restructuring costs, during 2022 drove this improvement. Operating income as a percentage of net sales increased to 11.4% in 2022 compared to 10.8% for the prior year.

INTEREST EXPENSE

Interest expense increased by \$10.5 million in 2022, primarily as a result of our \$400 million 3.60% Senior Notes due March 2032, which were issued on March 7, 2022. See Note 7 – Debt of the Consolidated Financial Statements for further details.

NET OTHER EXPENSE (INCOME)

Net other expense increased \$8.3 million in 2022 to a \$3.7 million expense compared to \$4.6 million of income in 2021. We report the change in the fair value of our PureCycle investment in net other expense. As discussed in Note 20 – Investment in Equity Securities of the Consolidated Financial Statements, our investment in PureCycle was converted into shares of PCT, a publicly traded entity, during the first quarter of 2021. This investment is recorded at fair value based on observable market prices for identical assets with the change in fair value being recorded as a net investment gain or loss in the Consolidated Statements of Income. During 2022, we recognized a \$2.1 million loss on this investment while we reported a \$4.7 million gain during 2021.

PROVISION FOR INCOME TAXES

The reported effective tax rate on income before income taxes for 2022 and 2021 was 28.4% and 24.3%, respectively. The tax rate for 2022 was higher compared to 2021 due primarily to lower tax benefits from share-based compensation and increased taxes related to a legal entity reorganization.

At December 31, 2022, with the exceptions identified below, we continued to assert indefinite reinvestment of foreign earnings from Aptar's foreign operations. We do not have a balance of foreign earnings that will be subject to U.S. tax upon repatriation under the currently enacted U.S. tax laws. We continually analyze our global working capital requirements as well as local country operation needs.

During 2022, we removed our indefinite reinvestment assertion with respect to undistributed earnings in Germany. We recorded a liability of \$0.6 million to reflect the taxes that would be paid when these amounts are distributed. We previously removed the indefinite reinvestment assertion for the pre-2020 earnings in Italy, Switzerland and Colombia, and have accrued \$0.6 million for those taxes. We continue to assert indefinite reinvestment with respect to foreign earnings from other countries. We estimate that if the non-U.S. subsidiaries were to make a distribution of their cash or distributable reserves to the U.S., we would incur local country withholding tax and income taxes in the range of \$15 million to \$20 million. We would recognize such tax expense in our Consolidated Statements of Income and Consolidated Balance Sheets should we change the current indefinite reinvestment assertion on foreign earnings.

NET INCOME ATTRIBUTABLE TO APTARGROUP, INC.

We reported net income of \$239.3 million in 2022 compared to \$244.1 million reported in 2021.

PHARMA SEGMENT

Year Ended December 31,	2022		2021	% Change 2022 vs. 2021
Net Sales	\$	1,361,256	\$ 1,284,624	6.0 %
Adjusted EBITDA (1)		441,622	425,714	3.7
Adjusted EBITDA margin (1)		32.4 %	33.1 %	

(1) Adjusted EBITDA is calculated as earnings before net interest, taxes, depreciation, amortization, unallocated corporate expenses, restructuring initiatives, acquisition-related costs, net unrealized investment gains and losses related to observable market price changes on equity securities and other special items. Adjusted EBITDA margins are calculated as Adjusted EBITDA divided by Reported Net Sales. See the reconciliation under "Non-U.S. GAAP Measures."

Reported net sales increased approximately 6% in 2022 to \$1.36 billion compared to \$1.28 billion in 2021. Changes in currencies negatively affected net sales by 8%, while the acquisitions of Voluntis, Hengyu and Metaphase had a positive impact of 1%. Therefore, core sales increased 13% in 2022 compared to the prior year. The majority of the core sale growth is due to higher product sales volumes while pricing pass-through increases were more than able to offset lower tooling sales during 2022. Core sales of our products to the prescription drug market increased 11% on strong demand for our allergic rhinitis and asthma devices as a result of the destocking effect during 2021. Additionally, within our consumer health care division there were higher incidents of cold and flu during 2022, as well as the Omicron variant of COVID-19 which manifests itself similar to cold and flu symptoms. We also saw strong sales of our products on emergency medical applications for existing and new solutions in the prescription drug market. The 15% core sales growth in the consumer health care market was driven by higher demand for our nasal decongestant, saline rinses and cough and cold solutions. Increased demand for elastomeric components for vaccines and biologics drove the 7% core sales growth in our injectables market. Core sales of our active material science solutions increased 21% mainly on strong demand for our oral solid dose solutions and Activ-Film products used with at-home COVID-19 test kits.

Year Ended December 31, 2022	Prescription Drug	Consumer Health Care	Injectables	Active Material Science Solutions	Digital Health (2)	Total
Core Sales Growth	11 %	15 %	7 %	21 %	— %	13 %
Acquisitions	— %	— %	2 %	— %	100 %	1 %
Currency Effects (1)	(8)%	(8)%	(9)%	(4)%	— %	(8)%
Total Reported Net Sales Growth	3 %	7 %	— %	17 %	100 %	6 %

(1) Currency effects are calculated by translating last year's amounts at this year's foreign exchange rates.

(2) Core sales for the comparable period not deemed significant.

Adjusted EBITDA for 2022 increased to \$441.6 million compared to \$425.7 million in 2021. This increase was mainly driven by our strong core sales growth described above which was able to compensate for a negative \$31.5 million impact from the translation of our foreign currency results into U.S. dollars. However, the lack of margin on the pass-through of higher input costs and incremental startup costs for our digital health investments and elastomeric component capacity expansion led to a lower Adjusted EBITDA margin of 32.4% compared to 33.1% in 2021.

BEAUTY + HOME SEGMENT

Year Ended December 31,	2022		2021	% Change 2022 vs. 2021
Net Sales	\$	1,438,534	\$ 1,434,022	0.3 %
Adjusted EBITDA (1)		166,465	154,689	7.6
Adjusted EBITDA margin (1)		11.6 %	10.8 %	

(1) Adjusted EBITDA is calculated as earnings before net interest, taxes, depreciation, amortization, unallocated corporate expenses, restructuring initiatives, acquisition-related costs, net unrealized investment gains and losses related to observable market price changes on equity securities and other special items. Adjusted EBITDA margins are calculated as Adjusted EBITDA divided by Reported Net Sales. See the reconciliation under "Non-U.S. GAAP Measures."

Reported net sales grew slightly in 2022 to \$1.44 billion compared to \$1.43 billion in 2021. Changes in currency rates negatively impacted net sales by 7%. Therefore, core sales increased 7% in 2022 compared to the prior year. The majority of this core sales growth came from pass-through of higher input costs. Core sales of our products to the beauty market increased 13% during 2022 as we experienced growth across the majority of our applications. Personal care core sales increased 3% due to higher sales of our hair care and sun care applications. Core sales to the home care markets decreased 12% mainly due to lower tooling sales and reduced demand for our industrial and household cleaner applications as rates of COVID-19 transmission have slowed in certain regions during 2022.

Year Ended December 31, 2022	Personal Care	Beauty	Home Care	Total
Core Sales Growth	3 %	13 %	(12)%	7 %
Currency Effects (1)	(5)%	(8)%	(3)%	(7)%
Total Reported Net Sales Growth	(2)%	5 %	(15)%	— %

(1) Currency effects are calculated by translating last year's amounts at this year's foreign exchange rates.

Adjusted EBITDA for 2022 increased to \$166.5 million from \$154.7 million in 2021 due primarily to product sales growth and operational improvements mainly during the first half of 2022. These improvements compensated for the negative \$10.7 million impact from the translation of our foreign currency results. During the prior year, we reported a \$2.7 million favorable value added tax ruling in Brazil, which also negatively impacted the current year comparison.

FOOD + BEVERAGE SEGMENT

Year Ended December 31,	2022	2021	% Change 2022 vs. 2021
Net Sales	\$ 522,459	\$ 508,575	2.7 %
Adjusted EBITDA (1)	71,531	79,377	(9.9)
Adjusted EBITDA margin (1)	13.7 %	15.6 %	

(1) Adjusted EBITDA is calculated as earnings before net interest, taxes, depreciation, amortization, unallocated corporate expenses, restructuring initiatives, acquisition-related costs, net unrealized investment gains and losses related to observable market price changes on equity securities and other special items. Adjusted EBITDA margins are calculated as Adjusted EBITDA divided by Reported Net Sales. See the reconciliation under "Non-U.S. GAAP Measures".

Reported net sales increased approximately 3% in 2022 to \$522.5 million compared to \$508.6 million in 2021. Changes in currency rates negatively impacted net sales by 2%. Therefore, core sales increased 5% in 2022 compared to the prior year. Strong tooling sales, along with the pass-through of higher material costs, positively impacted 2022 core sales while volumes were even with 2021 levels. Core sales to the food market increased 8% while core sales to the beverage market decreased 2% during 2022 compared to the prior year. For the food market, we saw strong tooling sales along with growth in our granular powder and food service packaging products. Core sales to the beverage market declined as higher demand for our bottled water applications was not enough to offset the decline in tooling sales.

Year Ended December 31, 2022	Food	Beverage	Total
Core Sales Growth	8 %	(2)%	5 %
Currency Effects (1)	(2)%	(3)%	(2)%
Total Reported Net Sales Growth	6 %	(5)%	3 %

(1) Currency effects are calculated by translating last year's amounts at this year's foreign exchange rates.

Adjusted EBITDA for 2022 decreased to \$71.5 million compared to \$79.4 million in 2021. As discussed above, we experienced strong tooling sales along with the pass-through of higher material costs during 2022. Material pass-throughs do not have any margin, and our tooling sales historically have lower margins than our product sales. This change in sales mix, along with some operational inefficiencies in North America drove our lower Adjusted EBITDA for 2022.

CORPORATE & OTHER

In addition to our three reporting segments, Aptar assigns certain costs to "Corporate & Other," which is presented separately in Note 18 — Segment Information of the Notes to the Consolidated Financial Statements. For Corporate & Other, Adjusted EBITDA (which excludes net interest, taxes, depreciation, amortization, restructuring initiatives, acquisition-related costs, net unrealized investment gains and losses related to observable market price changes on equity securities and other special items) primarily includes certain professional fees, compensation and information system costs which are not allocated directly to our reporting segments.

Corporate & Other expenses in 2022 increased to \$62.9 million compared to \$52.3 million in 2021. This increase is partially related to higher compensation costs, including our short-term incentive and equity compensation programs. We also reported higher professional fees and travel costs as travel returned to normal (pre-pandemic) levels as compared to the prior year. Our results include approximately \$1.2 million and \$2.0 million realized gains on sales of PCT shares for 2022 and 2021, respectively. As noted above, any unrealized investment gains or losses are removed from our Adjusted EBITDA calculation as we believe that unrealized cost investment gains and losses from changes in market prices are not considered relevant to understanding our reported consolidated earnings or evaluating our periodic economic performance.

NON-U.S. GAAP MEASURES

In addition to the information presented herein that conforms to U.S. GAAP, we also present financial information that does not conform to U.S. GAAP, which are referred to as non-U.S. GAAP financial measures. Management may assess our financial results both on a U.S. GAAP basis and on a non-U.S. GAAP basis. We believe it is useful to present these non-U.S. GAAP financial measures because they allow for a better period-over-period comparison of operating results by removing the impact of items that, in management's view, do not reflect our core operating performance. These non-U.S. GAAP financial measures should not be considered in isolation or as a substitute for U.S. GAAP financial results, but should be read in conjunction with the audited consolidated statements of income and other information presented herein. Investors are cautioned against placing undue reliance on these non-U.S. GAAP measures. Further, investors are urged to review and consider carefully the adjustments made by management to the most directly comparable U.S. GAAP financial measures to arrive at these non-U.S. GAAP financial measures.

In our Management's Discussion and Analysis, we exclude the impact of foreign currency translation when presenting net sales and other information, which we define as "constant currency." Changes in net sales excluding the impact of foreign currency translation is a non-U.S. GAAP financial measure. As a worldwide business, it is important that we take into account the effects of foreign currency translation when we view our results and plan our strategies. Consequently, when our management looks at our financial results to measure the core performance of our business, we may exclude the impact of foreign currency translation by translating our prior period results at current period foreign currency exchange rates. As a result, our management believes that these presentations are useful internally and may be useful to investors. We also exclude the impact of material acquisitions when comparing results to prior periods. Changes in operating results excluding the impact of acquisitions are non-U.S. GAAP financial measures. We believe it is important to exclude the impact of acquisitions on period over period results in order to evaluate performance on a more comparable basis.

We present earnings before net interest and taxes ("EBIT") and earnings before net interest, taxes, depreciation and amortization ("EBITDA"). We also present our adjusted earnings before net interest and taxes ("Adjusted EBIT") and adjusted earnings before net interest, taxes, depreciation and amortization ("Adjusted EBITDA"), both of which exclude the business transformation charges (restructuring initiatives), acquisition-related costs, purchase accounting adjustments related to acquisitions and investments and net unrealized investment gains and losses related to observable market price changes on equity securities. Our Operations Outlook is also provided on a non-U.S. GAAP basis because certain reconciling items are dependent on future events that either cannot be controlled, such as exchange rates and changes in the fair value of equity investments, or reliably predicted because they are not part of our routine activities, such as restructuring initiatives and acquisition-related costs.

We provide a reconciliation of Net Debt to Net Capital as a non-U.S. GAAP measure. "Net Debt" is calculated as interest bearing debt less cash and equivalents and short-term investments while "Net Capital" is calculated as stockholders' equity plus Net Debt. Net Debt to Net Capital measures a company's financial leverage, which gives users an idea of a company's financial structure, or how it is financing its operations, along with insight into its financial strength. We believe that it is meaningful to take into consideration the balance of our cash, cash equivalents and short-term investments when evaluating our leverage. If needed, such assets could be used to reduce our gross debt position.

Finally, we provide a reconciliation of free cash flow as a non-U.S. GAAP measure. Free cash flow is calculated as cash provided by operating activities less capital expenditures plus proceeds from government grants related to capital expenditures. We use free cash flow to measure cash flow generated by operations that is available for dividends, share repurchases, acquisitions and debt repayment. We believe that it is meaningful to investors in evaluating our financial performance and measuring our ability to generate cash internally to fund our initiatives.

Year Ended December 31, 2022

	Consolidated	Pharma	Beauty + Home	Food + Beverage	Corporate & Other	Net Interest
Net Sales	\$ 3,322,249	\$1,361,256	\$ 1,438,534	\$ 522,459	\$ —	\$ —
Reported net income	\$ 239,555					
Reported income taxes	95,149					
Reported income before income taxes	334,704	346,995	66,978	31,057	(72,199)	(38,127)
Adjustments:						
Restructuring initiatives	6,597	—	6,460	137	—	
Net unrealized investment loss (1)	3,323				3,323	
Transaction costs related to acquisitions	231	231	—	—	—	
Adjusted earnings before income taxes	344,855	347,226	73,438	31,194	(68,876)	(38,127)
Interest expense	40,827					40,827
Interest income	(2,700)					(2,700)
Adjusted earnings before net interest and taxes (Adjusted EBIT)	382,982	347,226	73,438	31,194	(68,876)	—
Depreciation and amortization	233,706	94,396	93,027	40,337	5,946	—
Adjusted earnings before net interest, taxes, depreciation and amortization (Adjusted EBITDA)	\$ 616,688	\$ 441,622	\$ 166,465	\$ 71,531	\$ (62,930)	\$ —
Adjusted EBITDA margins (Adjusted EBITDA / Reported Net Sales)	18.6 %	32.4 %	11.6 %	13.7 %		

(1) Net unrealized investment loss represents the change in fair value of our investment in PCT (see Note 20 - Investment in Equity Securities for further details).

Year Ended December 31, 2021

	Consolidated	Pharma	Beauty + Home	Food + Beverage	Corporate & Other	Net Interest
Net Sales	\$ 3,227,221	\$1,284,624	\$ 1,434,022	\$ 508,575	\$ —	\$ —
Reported net income	\$ 243,638					
Reported income taxes	78,017					
Reported income before income taxes	321,655	331,317	47,631	38,650	(69,327)	(26,616)
Adjustments:						
Restructuring initiatives	23,240	76	10,447	404	12,313	
Net unrealized investment gain (1)	(2,709)				(2,709)	
Transaction costs related to acquisitions	3,811	3,811	—	—	—	
Adjusted earnings before income taxes	345,997	335,204	58,078	39,054	(59,723)	(26,616)
Interest expense	30,284					30,284
Interest income	(3,668)					(3,668)
Adjusted earnings before net interest and taxes (Adjusted EBIT)	372,613	335,204	58,078	39,054	(59,723)	—
Depreciation and amortization	234,853	90,510	96,611	40,323	7,409	—
Adjusted earnings before net interest, taxes, depreciation and amortization (Adjusted EBITDA)	\$ 607,466	\$ 425,714	\$ 154,689	\$ 79,377	\$ (52,314)	\$ —
Adjusted EBITDA margins (Adjusted EBITDA / Reported Net Sales)	18.8 %	33.1 %	10.8 %	15.6 %		

(1) Net unrealized investment gain represents the change in fair value of our investment in PCT (see Note 20 - Investment in Equity Securities for further details).

Net Debt to Net Capital Reconciliation

	December 31, 2022	December 31, 2021
Revolving credit facility and overdrafts	\$ 3,810	\$ 147,276
Current maturities of long-term obligations, net of unamortized debt issuance costs	118,981	142,351
Long-Term Obligations, net of unamortized debt issuance costs	1,052,597	907,024
Total Debt	\$ 1,175,388	\$ 1,196,651
Less:		
Cash and equivalents	\$ 141,732	\$ 122,925
Short-term investments	—	740
Net Debt	\$ 1,033,656	\$ 1,072,986
Total Stockholders' Equity	\$ 2,068,204	\$ 1,984,600
Net Debt	1,033,656	1,072,986
Net Capital	\$ 3,101,860	\$ 3,057,586
Net Debt to Net Capital	33.3 %	35.1 %

Free Cash Flow Reconciliation	December 31, 2022	December 31, 2021
Net Cash Provided by Operations	\$ 478,617	\$ 363,443
Capital Expenditures	(310,427)	(307,935)
Proceeds from Government Grants	27,795	2,003
Free Cash Flow	<u>\$ 195,985</u>	<u>\$ 57,511</u>

LIQUIDITY AND CAPITAL RESOURCES

Given our current low level of leverage relative to others in our industry and our ability to generate strong levels of cash flow from operations, we believe we are in a strong financial position to meet our business requirements in the foreseeable future. We have historically used cash flow from operations, our revolving and other credit facilities, proceeds from stock options and debt, as needed, as our primary sources of liquidity. Our primary uses of cash are to invest in equipment and facilities that are necessary to support our growth, pay quarterly dividends to stockholders, repurchase shares of our common stock and to make acquisitions that will contribute to the achievement of our strategic objectives. Due to uncertainties from the war in Ukraine, potential new global pandemics or COVID-19 variants, uncertain macroeconomic conditions, including rising interest rates and the inflationary environment, in the event that customer demand decreases significantly for a prolonged period of time and adversely impacts our cash flows from operations, we would have the ability to restrict and significantly reduce our capital expenditure levels and share repurchases, as well as evaluate our acquisition strategy. A prolonged and significant reduction in capital expenditure levels could increase future repairs and maintenance costs as well as have a negative impact on operating margins if we were unable to invest in new innovative products.

Cash and equivalents increased to \$141.7 million at December 31, 2022 from \$122.9 million at December 31, 2021 while total short and long-term interest bearing debt of \$1.18 billion at December 31, 2022 decreased from \$1.20 billion at December 31, 2021. The ratio of our Net Debt (interest bearing debt less cash and cash equivalents) to Net Capital (stockholders' equity plus Net Debt) decreased to 33.3% at December 31, 2022 compared to 35.1% at December 31, 2021. See the reconciliation under "Non-U.S. GAAP Measures".

In 2022, our operations provided approximately \$478.6 million in cash flow compared to \$363.4 million in 2021. Cash flow from operations was primarily derived from earnings before depreciation and amortization. The increase in 2022 cash flow from operations compared to 2021 is primarily attributable to improved working capital management and lower restructuring costs. Based on our current business plan and revenue prospects, we believe that our 2023 operating cash flow will be more than sufficient to fund our working capital needs, scheduled repayments of debt, outstanding purchase commitments as discussed in Note 13 - Commitments and Contingencies and lease arrangements as discussed in Note 8 - Lease Commitments.

We used \$295.6 million in cash for investing activities during 2022 compared to \$457.2 million during 2021. During 2022, there was a decrease in overall spend related to acquisition activities. Approximately \$4.1 million of cash was utilized to fund the Metaphase acquisition in 2022, while in 2021, \$89.7 million and \$53.8 million of cash was utilized to fund the Voluntis and Hengyu acquisitions, respectively. Additionally, in 2022 we received \$27.8 million related to government grant proceeds for our active material science solutions and injectables divisions. In 2023, we expect our capital investments to be in the range of \$260 million to \$280 million.

Financing activities utilized \$162.1 million of cash during 2022, compared to \$81.5 million during 2021. During 2022, we received proceeds from long-term obligations of \$412.0 million primarily from the issuance of \$400 million of our 3.60% Senior Notes due March 2032 during the first quarter of 2022. As part of our bond offering, we paid \$4.0 million in debt issuance costs. Additionally, we repaid \$143.1 million related to our revolving credit facility, paid \$56 million related to our term loan that matured in July 2022, paid \$99.5 million of dividends and purchased \$92.1 million of treasury stock. We redeemed all \$75.0 million of our 3.25% senior unsecured notes during the second quarter of 2022 at a price equal to the principal amount plus accrued interest and a \$0.4 million make-whole premium. Additionally, we redeemed all \$125.0 million of our 3.49% senior unsecured notes during the third quarter of 2022 at a price equal to the principal amount plus accrued interest. In 2023, we expect to have financing cash outlays of approximately \$107.0 million to fund short- and long-term debt obligations as discussed in Note 7 - Debt, which will be covered by cash on hand or additional borrowings on our revolving credit facility.

Refer to Part II, Item 7 – Management's Discussion and Analysis of Financial Condition and Results of Operations - Liquidity and Capital Resources of our Annual Report on Form 10-K for the fiscal year ended December 31, 2021 for additional information regarding cash flows for the year ended December 31, 2021 as compared to the year ended December 31, 2020.

On June 30, 2021, we entered into an amended and restated multi-currency revolving credit facility (the "revolving credit facility") with a syndicate of banks to replace the then-existing facility maturing July 2022 (the "prior credit facility") and to amend and restate the unsecured term loan facility extended to our wholly-owned UK subsidiary under the prior credit facility (as amended, the "amended term facility"). The revolving credit facility matures in June 2026, subject to a maximum of two one-year extensions in certain circumstances, and provides for unsecured financing of up to \$600 million available in the U.S. and to our wholly-owned UK subsidiary. The amended term facility matured in July 2022 and was repaid in full. The revolving credit facility can be drawn in various currencies including USD, EUR, GBP, and CHF to the equivalent of \$600 million, which may be increased by up to \$300 million subject to the satisfaction of certain conditions. Each borrowing under the revolving credit facility will bear interest at rates based on LIBOR (in the case of USD), EURIBOR (in the case of EUR), SONIA (in the case of GBP), SARON (in the case of CHF), prime rates or other similar rates, in each case plus an applicable margin. The revolving credit facility provides mechanics relating to a transition away from LIBOR (in the case of USD) and the designated benchmark rates for other available currencies and the replacement of any such applicable benchmark by a replacement alternative benchmark rate or mechanism for loans made in the applicable currency. A facility fee on the total amount of the revolving credit facility is also payable quarterly, regardless of usage. The applicable margins for borrowings under the revolving credit facility and the facility fee percentage may change from time to time depending on changes in our consolidated leverage ratio. As of December 31, 2022, there were no borrowings under the revolving credit facility in the U.S. or by our wholly-owned UK subsidiary. As of December 31, 2021, \$133 million was utilized under the revolving credit facility in the U.S. and €10 million (approximately \$11.4 million based on the exchange rates at the end of 2021) was utilized by our wholly-owned UK subsidiary. Credit facility balances are included in notes payable, revolving credit facility and overdrafts on the Consolidated Balance Sheets.

Our revolving credit facility and certain long-term obligations require us to satisfy certain financial and other covenants including:

	Requirement	Level at December 31, 2022
Consolidated Leverage Ratio (1)	Maximum of 3.50 to 1.00	1.71 to 1.00
Consolidated Interest Coverage Ratio (1)	Minimum of 3.00 to 1.00	15.00 to 1.00

(1) Definitions of ratios are included as part of the revolving credit facility agreement and the private placement agreements.

Based upon the above consolidated leverage ratio covenant, we would have the ability to borrow approximately an additional \$1.1 billion before the 3.50 to 1.00 maximum ratio requirement would be exceeded.

On July 6, 2022, we entered into an agreement to swap approximately \$200 million of our fixed USD debt to fixed EUR debt which should generate interest savings of approximately \$0.5 million per quarter based upon exchange rates as of the transaction date.

In October 2020, we entered into an unsecured money market borrowing arrangement to provide short term financing of up to \$30 million that is available in the U.S. No borrowing on this facility is permitted over a quarter end date. As such, no balance was utilized under this arrangement as of December 31, 2022.

Our foreign operations have historically met cash requirements with the use of internally generated cash or uncommitted short-term borrowings. We also have committed financing arrangements in both the U.S. and the UK as detailed above. We manage our global cash requirements considering (i) available funds among the many subsidiaries through which we conduct business, (ii) the geographic location of our liquidity needs, and (iii) the cost to access international cash balances.

RECENTLY ISSUED ACCOUNTING STANDARDS

For a discussion of recently issued accounting standards, including their impacts, if any, of the adoption of these standards, see Note 1 – Summary of Significant Accounting Policies.

CRITICAL ACCOUNTING ESTIMATES

The preparation of the financial statements requires us to make estimates and judgments that affect the reported amounts of assets, liabilities, revenues and expenses, and related disclosure of contingent assets and liabilities. We continually evaluate our estimates, including those related to bad debts, inventories, intangible assets, income taxes, pensions and contingencies. We base our estimates on historical experience and on a variety of other assumptions believed to be reasonable in order to make judgments about the carrying values of assets and liabilities. Actual results may differ from these estimates under different assumptions or conditions. We believe the following critical accounting policies affect our more significant judgments and estimates used in preparation of our Consolidated Financial Statements. Management has discussed the development and selection of these critical accounting estimates with the audit committee of our Board of Directors and the audit committee has reviewed our disclosure relating to it in this MD&A.

IMPAIRMENT OF GOODWILL

In accordance with current accounting standards, goodwill has an indefinite life and is not amortized. We evaluate our goodwill for impairment at the reporting unit level on an annual basis, or whenever indicators of impairment exist. We have determined that our Beauty + Home and Food + Beverage business segments represent reporting units. In addition to the Pharma business reporting unit, the injectables and active material science solutions divisions of the Pharma segment qualify as separate reporting units for goodwill impairment testing apart from the remaining Pharma business. As of December 31, 2022, we have \$945.6 million of goodwill, which is allocated as follows:

Reporting Unit	Balance at December 31, 2022	
Pharma	\$	170,023
Injectables		169,226
Active Material Science Solutions		159,493
Beauty + Home		319,011
Food + Beverage		127,879
Total	\$	945,632

We believe that the accounting estimates related to determining the fair value of our reporting units is a critical accounting estimate because: (1) it is highly susceptible to change from period to period as it requires management to make assumptions about the future cash flows for each reporting unit over several years, and (2) the impact that recognizing an impairment would have on the assets reported on our balance sheet as well as our results of operations could be material. Management's determination of the fair value of our reporting units, based on future cash flows for the reporting units, requires significant judgment and the use of estimates and assumptions related to projected revenue growth rates, the terminal growth factor, as well as the discount rate. Actual cash flows in the future may differ significantly from those forecasted today. The estimates and assumptions for future cash flows and their impact on the impairment testing of goodwill are a critical accounting estimate.

For our goodwill impairment assessment, we first consider qualitative factors to determine whether the existence of events or circumstances leads to a determination that it is more likely than not (greater than 50 percent chance) that the fair value of a reporting unit is less than its carrying amount (the "step zero" approach). Such qualitative factors may include the following: macroeconomic conditions; industry and market considerations; cost factors; overall financial performance, and other relevant entity-specific events. In the absence of sufficient qualitative factors, if it is determined that the fair value of a reporting unit is below its carrying amount, where necessary, goodwill will be impaired at that time.

Based on our qualitative assessment of macroeconomic, industry, and market events and circumstances as well as the overall financial performance of the reporting units, we determined it was more likely than not that the fair value of these reporting units was greater than their carrying amounts and therefore no impairment of goodwill was recognized during the year ended December 31, 2022.

INCOME TAXES

We recognize tax benefits from uncertain tax positions if it is more likely than not that the tax position will be sustained on examination by the taxing authorities, based on the technical merits of the position. The tax benefits recognized in the financial statements from such positions are measured based on the largest benefit that has a greater-than-50% likelihood of being realized upon ultimate settlement. The calculation of tax liabilities involves significant judgment in estimating the impact of uncertainties in the application of U.S. GAAP and complex tax laws. Resolution of these uncertainties in a manner inconsistent with management's expectations could have a material impact on our financial condition and operating results.

At December 31, 2022 and 2021, we had \$114.8 million and \$130.2 million, respectively, of deferred tax assets net of valuation allowance on our balance sheet, a significant portion of which is related to net operating losses and other tax attribute carryforwards. The ultimate realization of these deferred tax assets is dependent upon the amount, source, and timing of future taxable income. In cases where we believe it is more likely than not that we may not realize the future potential tax benefits, we establish a valuation allowance against the deferred tax assets.

ACQUISITIONS

We account for business combinations using the acquisition method, which requires management to estimate the fair value of identifiable assets acquired and liabilities assumed, and to properly allocate purchase price consideration to the individual assets acquired and liabilities assumed. Goodwill is measured as the excess amount of consideration transferred, compared to fair value of the assets acquired and the liabilities assumed. The allocation of the purchase price utilizes significant estimates and assumptions in determining the fair values of identifiable assets acquired and liabilities assumed, especially with respect to intangible assets. These estimates are based on all available information and in some cases assumptions with respect to the timing and amount of future revenues and expenses associated with an asset and are reviewed by consulting with outside valuation experts. The purchase price allocation for business acquisitions contains uncertainties because it requires management's judgment.

Management applied judgment in determining the fair value of the acquired assets with respect to the acquisitions of Metaphase, Voluntis, and Hengyu, including the fair values of acquired intangibles including acquired technology and customer relationships. The judgments made in determining the estimated fair value assigned to the assets acquired, as well as the estimated life of the assets, can materially impact net income in periods subsequent to the acquisition through depreciation and amortization, and in certain instances through impairment charges, if the asset becomes impaired in the future. In particular, judgment was applied with respect to determining the fair value of acquired technology and customer relationships intangible assets, which involved the use of significant estimates and assumptions with respect to the timing and amounts of cash flow projections, the revenue growth rates, the customer attrition rates, the technology obsolescence rate, the EBITDA margins and the discount rate.

VALUATION OF PENSION BENEFITS

The benefit obligations and net periodic pension cost associated with our domestic and foreign noncontributory pension plans are determined using actuarial assumptions. Such assumptions include discount rates to reflect the time value of money, rate of employee compensation increases, demographic assumptions to determine the probability and timing of benefit payments, and the long-term rate of return on plan assets. The actuarial assumptions are based upon management's best estimates, after consulting with outside investment advisors and actuaries. Because assumptions and estimates are used, actual results could differ from expected results.

The discount rate is utilized principally in calculating our pension obligations, which are represented by the Accumulated Benefit Obligation ("ABO") and the Projected Benefit Obligation ("PBO"), and in calculating net periodic benefit cost. In establishing the discount rate for our foreign plans, we review a number of relevant interest rates including AA corporate bond yields. In establishing the discount rate for our domestic plans, we match the hypothetical duration of our plans, using a weighted average duration that is based upon projected cash payments, to a simulated bond portfolio (FTSE Pension Index Curve). At December 31, 2022, the discount rates for our domestic and foreign plans were 5.15% and 3.69%, respectively.

We believe that the accounting estimates related to determining the valuation of pension benefits are critical accounting estimates because: (1) changes in them can materially affect net income and (2) we are required to establish the discount rate and the expected return on fund assets, which are highly uncertain and require judgment. The estimates for the valuation of pension benefits are critical accounting estimates for all of our segments.

To the extent the discount rates increase (or decrease), our PBO and net periodic benefit cost will decrease (or increase) accordingly. The estimated effect of a 1% decrease in each discount rate would be a \$43.7 million increase in the PBO (\$33.6 million for the domestic plans and \$10.1 million for the foreign plans) and a \$10.9 million increase in net periodic benefit cost (\$10.3 million for the domestic plans and \$0.6 million for the foreign plans). To the extent the PBO increases, the after-tax effect of such increase could reduce Other Comprehensive Income and Stockholders' Equity. The estimated effect of a 1% increase in each discount rate would be a \$35.3 million decrease in the PBO (\$26.5 million for the domestic plans and \$8.8 million for the foreign plans) and a \$8.5 million decrease in net periodic benefit cost (\$7.9 million for the domestic plans and \$0.6 million for the foreign plans).

The assumed expected long-term rate of return on assets is the average rate of earnings expected on the funds invested to provide for the benefits included in the PBO. Of domestic plan assets, approximately 47% was invested in equities, 27% was invested in fixed income securities, 10% was invested in hedge funds, 8% was invested in infrastructure securities, 7% was invested in real estate securities and 1% was invested in money market funds, at December 31, 2022. Of foreign plan assets, approximately 92% was invested in investment funds, 5% was invested in equity securities, 1% was invested in corporate securities, 1% was invested in fixed income securities and 1% was invested in money market funds at December 31, 2022.

The expected long-term rate of return assumptions are determined based on our investment policy combined with expected risk premiums of equities and fixed income securities over the underlying risk-free rate. This rate is utilized principally in calculating the expected return on the plan assets component of the net periodic benefit cost. To the extent the actual rate of return on assets realized over the course of a year is greater or less than the assumed rate, that year's net periodic benefit cost is not affected. Rather, this gain (or loss) reduces (or increases) future net periodic benefit cost over a period of approximately 15 to 20 years. To the extent the expected long-term rate of return on assets increases (or decreases), our net periodic benefit cost will decrease (or increase) accordingly. The estimated effect of a 1% decrease (or increase) in each expected long-term rate of return on assets would be a \$2.4 million increase (or decrease) in net periodic benefit cost.

The average rate of compensation increase is utilized principally in calculating the PBO and the net periodic benefit cost. The estimated effect of a 0.5% decrease in each of the expected compensation rates would be a \$4.8 million decrease in the PBO (\$1.1 million decrease for the domestic plans and \$3.7 million decrease for the foreign plans) and a \$1.1 million decrease to the net periodic benefit cost. The estimated effect of a 0.5% increase in each of the expected compensation rates would be a \$5.2 million increase in the PBO (\$1.2 million increase for the domestic plans and \$4.0 million increase for the foreign plans) and a \$1.1 million increase to the net periodic benefit cost.

Our primary pension related assumptions as of December 31, 2022 and 2021 were as follows:

Actuarial Assumptions as of December 31,	2022	2021
Discount rate:		
Domestic plans	5.15 %	2.75 %
Foreign plans	3.69 %	1.09 %
Expected long-term rate of return on plan assets:		
Domestic plans	7.00 %	7.00 %
Foreign plans	3.53 %	3.56 %
Rate of compensation increase:		
Domestic plans	3.20 %	3.17 %
Foreign plans	3.21 %	3.05 %

In order to determine the 2023 net periodic benefit cost, we expect to use the discount rates, expected long-term rates of return on plan assets and rates of compensation assumptions as of December 31, 2022. The estimated impact of the changes to the assumptions as noted in the table above on our 2023 net periodic benefit cost is expected to be a decrease of approximately \$20.1 million.

OPERATIONS OUTLOOK

Looking to the first quarter, we expect the momentum to continue in Pharma, especially for prescription and consumer healthcare as well as in our beauty end-markets such as fragrance and skincare. A key focus in 2023 and beyond will be to continue to leverage our fixed cost base and increase efficiencies.

Aptar expects earnings per share for the first quarter of 2023, excluding any restructuring expenses, changes in the fair value of equity investments and acquisition-related costs, to be in the range of \$0.85 to \$0.93 and this guidance is based on an effective tax rate range of 25.5% to 27.5%.

FORWARD-LOOKING STATEMENTS

Certain statements in MD&A and other sections of this Form 10-K are forward-looking and involve a number of risks and uncertainties, including certain statements set forth in the Significant Developments, Restructuring Initiatives, Liquidity and Capital Resources, Contingencies and Operations Outlook sections of this Form 10-K. Words such as “expects,” “anticipates,” “believes,” “estimates,” “future”, “potential”, “are optimistic” and other similar expressions or future or conditional verbs such as “will,” “should,” “would” and “could” are intended to identify such forward-looking statements. Forward-looking statements are made pursuant to the safe harbor provisions of Section 27A of the Securities Act of 1933 and Section 21E of the Securities Exchange Act of 1934 and are based on our beliefs as well as assumptions made by and information currently available to us. Accordingly, our actual results or other events may differ materially from those expressed or implied in such forward-looking statements due to known or unknown risks and uncertainties that exist in our operations and business environment, including but not limited to:

- geopolitical conflicts worldwide including the invasion of Ukraine by the Russian military and the resulting indirect impact on demand from our customers selling their products into these countries, as well as rising input costs and certain supply chain disruptions;
- lower demand and asset utilization due to an economic recession either globally or in key markets we operate within;
- the impact of COVID-19 and its variants on our global supply chain and our global customers, employees and operations, which has elevated and will continue to elevate many of the risks and uncertainties discussed below;
- economic conditions worldwide, including inflationary conditions and potential deflationary conditions in other regions we rely on for growth;
- the execution of our fixed cost initiatives;
- the availability of direct labor workers and the increase in direct labor costs, especially in North America;
- our ability to preserve organizational culture and maintain employee productivity in the work-from-home environment caused by the current pandemic;
- the availability of raw materials and components (particularly from sole sourced suppliers) as well as the financial viability of these suppliers;

- fluctuations in the cost of materials, components, transportation cost as a result of supply chain disruptions and labor shortages, and other input costs (particularly resin, metal, anodization costs and energy costs);
- significant fluctuations in foreign currency exchange rates or our effective tax rate;
- the impact of tax reform legislation, changes in tax rates and other tax-related events or transactions that could impact our effective tax rate;
- financial conditions of customers and suppliers;
- consolidations within our customer or supplier bases;
- changes in customer and/or consumer spending levels;
- loss of one or more key accounts;
- our ability to successfully implement facility expansions and new facility projects;
- our ability to offset inflationary impacts with cost containment, productivity initiatives and price increases;
- changes in capital availability or cost, including rising interest rates;
- volatility of global credit markets;
- our ability to identify potential new acquisitions and to successfully acquire and integrate such operations, including the successful integration of the businesses we have acquired, including contingent consideration valuation;
- our ability to build out acquired businesses and integrate the product/service offerings of the acquired entities into our existing product/service portfolio;
- direct or indirect consequences of acts of war, terrorism or social unrest;
- cybersecurity threats that could impact our networks and reporting systems;
- the impact of natural disasters and other weather-related occurrences;
- fiscal and monetary policies and other regulations;
- changes or difficulties in complying with government regulation;
- changing regulations or market conditions regarding environmental sustainability;
- work stoppages due to labor disputes;
- competition, including technological advances;
- our ability to protect and defend our intellectual property rights, as well as litigation involving intellectual property rights;
- the outcome of any legal proceeding that has been or may be instituted against us and others;
- our ability to meet future cash flow estimates to support our goodwill impairment testing;
- the demand for existing and new products;
- the success of our customers' products, particularly in the pharmaceutical industry;
- our ability to manage worldwide customer launches of complex technical products, particularly in developing markets;
- difficulties in product development and uncertainties related to the timing or outcome of product development;
- significant product liability claims; and
- other risks associated with our operations.

Although we believe that our forward-looking statements are based on reasonable assumptions, there can be no assurance that actual results, performance or achievements will not differ materially from any future results, performance or achievements expressed or implied by such forward-looking statements. Readers are cautioned not to place undue reliance on forward-looking statements. We undertake no obligation to update publicly any forward-looking statements, whether as a result of new information, future events or otherwise, except as required by law. Please refer to Part 1, Item 1A - Risk Factors included in this Form 10-K for additional risk factors affecting the Company.

ITEM 7A. QUANTITATIVE AND QUALITATIVE DISCLOSURES ABOUT MARKET RISK

MARKET RISKS

A significant number of our operations are located outside of the United States. Because of this, movements in exchange rates may have a significant impact on the translation of the financial condition and results of operations of our subsidiaries. Our primary foreign exchange exposure is to the euro, but we also have foreign exchange exposure to the Chinese yuan, Brazilian real, Mexican peso, Swiss franc and other Asian, European and Latin American currencies. A strengthening U.S. dollar relative to foreign currencies has a dilutive translation effect on our financial condition and results of operations. Conversely, a weakening U.S. dollar relative to foreign currencies has an additive translation effect on our financial condition and results of operations. Additionally, in some cases, we sell products denominated in a currency different from the currency in which the related costs are incurred. Any changes in exchange rates on such inter-country sales may impact our results of operations.

The table below provides information as of December 31, 2022 about our forward currency exchange contracts. The majority of the contracts expire before the end of the first quarter of 2023.

Year Ended December 31, 2022				
Buy/Sell		Contract Amount (in thousands)	Average Contractual Exchange Rate	Min / Max Notional Volumes
EUR / USD	\$	17,388	1.0254	12,000 - 17,388
EUR / BRL		11,096	5.3830	11,046 - 11,096
EUR / THB		4,911	37.8142	4,477 - 4,911
CNY / EUR		4,638	0.1346	0 - 4,638
MXN / USD		4,000	0.0498	4,000 - 6,500
CZK / EUR		3,245	0.0406	509 - 3,245
USD / CNY		2,000	6.9694	2,000 - 2,000
USD / EUR		1,082	0.9779	1,082 - 6,613
EUR / MXN		1,068	20.2073	1,068 - 2,990
EUR / CNY		1,068	7.3377	1,068 - 2,691
GBP / EUR		802	1.1434	422 - 802
CHF / EUR		356	1.0206	356 - 2,402
EUR / GBP		262	0.8809	0 - 262
CHF / USD		162	1.0495	150 - 162
USD / GBP		155	0.8452	0 - 155
Total	\$	52,233		

As of December 31, 2022, we have recorded the fair value of foreign currency forward exchange contracts of \$1.1 million in prepaid and other and \$0.3 million in Accounts payable, accrued and other liabilities in the Consolidated Balance Sheets. On July 6, 2022, we entered into a seven year USD/EUR fixed-to-fixed cross currency interest rate swap to effectively hedge the interest rate exposure relating to \$203 million of the \$400 million 3.60% Senior Notes due March 2032 which were issued by AptarGroup, Inc. on March 7, 2022. This USD/EUR swap agreement exchanged \$203 million of fixed-rate 3.60% USD debt to €200 million of fixed-rate 2.5224% EUR debt. The fair value of this net investment hedge is \$8.8 million and is reported in accrued and other liabilities on the Consolidated Balance Sheets.

ITEM 8. FINANCIAL STATEMENTS AND SUPPLEMENTARY DATA

AptarGroup, Inc. CONSOLIDATED STATEMENTS OF INCOME

In thousands, except per share amounts

Year Ended December 31,	2022	2021	2020
Net Sales	\$ 3,322,249	\$ 3,227,221	\$ 2,929,340
Operating Expenses:			
Cost of sales (exclusive of depreciation and amortization shown below)	2,158,411	2,070,538	1,842,821
Selling, research & development and administrative	544,262	551,242	500,229
Depreciation and amortization	233,706	234,853	220,300
Restructuring initiatives	6,597	23,240	26,492
Total Operating Expenses	2,942,976	2,879,873	2,589,842
Operating Income	379,273	347,348	339,498
Other (Expense) Income:			
Interest expense	(40,827)	(30,284)	(33,244)
Interest income	2,700	3,668	958
Net investment (loss) gain	(2,110)	4,709	3,064
Equity in results of affiliates	467	(692)	(1,443)
Miscellaneous, net	(4,799)	(3,094)	(7,678)
Total Other Expense	(44,569)	(25,693)	(38,343)
Income before Income Taxes	334,704	321,655	301,155
Provision for Income Taxes	95,149	78,017	87,065
Net Income	\$ 239,555	\$ 243,638	\$ 214,090
Net (Income) Loss Attributable to Noncontrolling Interests	(267)	459	(50)
Net Income Attributable to AptarGroup, Inc.	\$ 239,288	\$ 244,097	\$ 214,040
Net Income Attributable to AptarGroup, Inc. per Common Share:			
Basic	\$ 3.66	\$ 3.72	\$ 3.32
Diluted	\$ 3.59	\$ 3.61	\$ 3.21
Dividends per Common Share	\$ 1.52	\$ 1.50	\$ 1.44

See accompanying notes to consolidated financial statements.

AptarGroup, Inc.
CONSOLIDATED STATEMENTS OF COMPREHENSIVE INCOME

In thousands

Year Ended December 31,	2022	2021	2020
Net Income	\$ 239,555	\$ 243,638	\$ 214,090
Other Comprehensive (Loss) Income:			
Foreign currency translation adjustments	(80,431)	(71,742)	79,109
Changes in derivative (losses) gains, net of tax	(6,620)	1,307	315
Defined benefit pension plan, net of tax			
Actuarial gain (loss), net of tax	54,149	26,409	(27,268)
Prior service cost, net of tax	—	—	1,879
Amortization of prior service cost included in net income, net of tax	130	127	294
Amortization of net loss included in net income, net of tax	6,256	9,300	5,920
Total defined benefit pension plan, net of tax	60,535	35,836	(19,175)
Total other comprehensive (loss) income	(26,516)	(34,599)	60,249
Comprehensive Income	213,039	209,039	274,339
Comprehensive Loss (Income) Attributable to Noncontrolling Interests	924	726	(60)
Comprehensive Income Attributable to AptarGroup, Inc.	\$ 213,963	\$ 209,765	\$ 274,279

See accompanying notes to consolidated financial statements.

AptarGroup, Inc.
CONSOLIDATED BALANCE SHEETS

In thousands

December 31,	2022	2021
Assets		
Cash and equivalents	\$ 141,732	\$ 122,925
Short-term investments	—	740
Total Cash and equivalents and Short-term investments	141,732	123,665
Accounts and notes receivable, less current expected credit loss ("CECL") of \$9,519 in 2022 and \$7,374 in 2021	676,987	671,350
Inventories	486,806	441,464
Prepaid and other	124,766	121,729
Total Current Assets	1,430,291	1,358,208
Land	30,197	31,436
Buildings and improvements	693,542	631,897
Machinery and equipment	2,925,517	2,862,142
Property, Plant and Equipment, Gross	3,649,256	3,525,475
Less: Accumulated depreciation	(2,305,592)	(2,249,598)
Property, Plant and Equipment, Net	1,343,664	1,275,877
Investments in equity securities	52,308	59,485
Goodwill	945,632	974,157
Intangible assets, net	315,744	362,343
Operating lease right-of-use assets	58,675	62,454
Miscellaneous	57,144	48,840
Total Other Assets	1,429,503	1,507,279
Total Assets	\$ 4,203,458	\$ 4,141,364

See accompanying notes to consolidated financial statements.

AptarGroup, Inc.
CONSOLIDATED BALANCE SHEETS

In thousands, except share and per share amounts

December 31,	2022	2021
Liabilities and Stockholders' Equity		
Revolving credit facility and overdrafts	\$ 3,810	\$ 147,276
Current maturities of long-term obligations, net of unamortized debt issuance costs	118,981	142,351
Accounts payable, accrued and other liabilities	794,385	692,865
Total Current Liabilities	917,176	982,492
Long-Term Obligations, net of unamortized debt issuance costs	1,052,597	907,024
Deferred income taxes	20,563	27,547
Retirement and deferred compensation plans	48,977	116,809
Operating lease liabilities	42,948	48,010
Deferred and other non-current liabilities	52,993	74,882
Commitments and contingencies	—	—
Total Deferred Liabilities and Other	165,481	267,248
AptarGroup, Inc. stockholders' equity		
Common stock, \$.01 par value, 199 million shares authorized, 70.8 and 70.4 million shares issued as of December 31, 2022 and 2021, respectively	709	704
Capital in excess of par value	968,618	916,534
Retained earnings	1,929,240	1,789,413
Accumulated other comprehensive loss	(341,366)	(316,041)
Less: Treasury stock at cost, 5.6 and 4.9 million shares as of December 31, 2022 and 2021, respectively	(503,266)	(421,203)
Total AptarGroup, Inc. Stockholders' Equity	2,053,935	1,969,407
Noncontrolling interests in subsidiaries	14,269	15,193
Total Stockholders' Equity	2,068,204	1,984,600
Total Liabilities and Stockholders' Equity	\$ 4,203,458	\$ 4,141,364

See accompanying notes to consolidated financial statements.

AptarGroup, Inc.
CONSOLIDATED STATEMENTS OF CHANGES IN EQUITY
Years Ended December 31, 2022, 2021 and 2020

In thousands

	AptarGroup, Inc. Stockholders' Equity							Total Equity
	Retained Earnings	Accumulated Other Comprehensive (Loss)Income	Common Stock Par Value	Treasury Stock	Capital in Excess of Par Value	Non- Controlling Interest		
Balance - December 31, 2019	\$ 1,523,820	\$ (341,948)	\$ 686	\$ (381,238)	\$ 770,596	\$ 336	\$ 1,572,252	
Net income	214,040	—	—	—	—	50	214,090	
Adoption of CECL standard	(1,377)	—	—	—	—	—	(1,377)	
Foreign currency translation adjustments	—	79,099	—	—	—	10	79,109	
Changes in unrecognized pension gains (losses) and related amortization, net of tax	—	(19,175)	—	—	—	—	(19,175)	
Changes in derivative gains (losses), net of tax	—	315	—	—	—	—	315	
Stock awards and option exercises	—	—	9	19,655	78,565	—	98,229	
Cash dividends declared on common stock	(92,658)	—	—	—	—	—	(92,658)	
Balance - December 31, 2020	\$ 1,643,825	\$ (281,709)	\$ 695	\$ (361,583)	\$ 849,161	\$ 396	\$ 1,850,785	
Net income	244,097	—	—	—	—	(459)	243,638	
Acquisitions of non-controlling interest	—	—	—	—	—	38,543	38,543	
Purchases of subsidiary shares from non-controlling interest	—	—	—	—	—	(23,020)	(23,020)	
Foreign currency translation adjustments	—	(71,475)	—	—	—	(267)	(71,742)	
Changes in unrecognized pension gains (losses) and related amortization, net of tax	—	35,836	—	—	—	—	35,836	
Changes in derivative gains (losses), net of tax	—	1,307	—	—	—	—	1,307	
Stock awards and option exercises	—	—	9	18,528	67,373	—	85,910	
Cash dividends declared on common stock	(98,509)	—	—	—	—	—	(98,509)	
Treasury stock purchased	—	—	—	(78,148)	—	—	(78,148)	
Balance - December 31, 2021	\$ 1,789,413	\$ (316,041)	\$ 704	\$ (421,203)	\$ 916,534	\$ 15,193	\$ 1,984,600	
Net income	239,288	—	—	—	—	267	239,555	
Foreign currency translation adjustments	—	(79,240)	—	—	—	(1,191)	(80,431)	
Changes in unrecognized pension gains (losses) and related amortization, net of tax	—	60,535	—	—	—	—	60,535	
Changes in derivative gains (losses), net of tax	—	(6,620)	—	—	—	—	(6,620)	
Stock awards and option exercises	—	—	5	10,063	52,084	—	62,152	
Cash dividends declared on common stock	(99,461)	—	—	—	—	—	(99,461)	
Treasury stock purchased	—	—	—	(92,126)	—	—	(92,126)	
Balance - December 31, 2022	\$ 1,929,240	\$ (341,366)	\$ 709	\$ (503,266)	\$ 968,618	\$ 14,269	\$ 2,068,204	

See accompanying notes to consolidated financial statements.

AptarGroup, Inc.
CONSOLIDATED STATEMENTS OF CASH FLOWS

In thousands, brackets denote cash outflows

Year Ended December 31,	2022	2021	2020
Cash Flows from Operating Activities:			
Net income	\$ 239,555	\$ 243,638	\$ 214,090
Adjustments to reconcile net income to net cash provided by operations:			
Depreciation	190,132	193,781	180,513
Amortization	43,574	41,072	39,787
Stock-based compensation	40,937	38,870	34,148
Provision for CECL	3,213	1,601	865
Loss on disposition of fixed assets	397	217	2,627
Net loss (gain) on remeasurement of equity securities	2,110	(4,709)	(64)
Deferred income taxes	(12,106)	(14,356)	(8,198)
Defined benefit plan expense	24,560	29,188	23,372
Equity in results of affiliates	(467)	692	1,443
Impairment loss	307	376	—
Change in fair value of contingent consideration	(8,598)	2,768	5,230
Changes in balance sheet items, excluding effects from foreign currency adjustments and acquisitions:			
Accounts and other receivables	(27,937)	(123,251)	13,455
Inventories	(60,354)	(79,961)	13,722
Prepaid and other current assets	(6,787)	(5,538)	(3,078)
Accounts payable, accrued and other liabilities	55,098	52,305	65,592
Income taxes payable	17,081	(4,631)	(6,091)
Retirement and deferred compensation plan liabilities	(13,093)	(8,726)	(7,267)
Other changes, net	(9,005)	107	7
Net Cash Provided by Operations	478,617	363,443	570,153
Cash Flows from Investing Activities:			
Capital expenditures	(310,427)	(307,935)	(245,954)
Proceeds from government grants	27,795	2,003	—
Proceeds from sale of property, plant and equipment	93	5,231	5,261
Maturity of short-term investments	740	—	—
Purchase of short-term investments	—	(497)	(243)
Acquisition of business, net of cash acquired	(4,100)	(148,420)	(164,181)
Acquisition of intangible assets	(5,189)	—	(6,092)
Investment in equity securities	—	(6,870)	(39,628)
Proceeds from sale of investment in equity securities	1,599	2,434	—
Notes receivable, net	(6,153)	(3,185)	(1,141)
Net Cash Used by Investing Activities	(295,642)	(457,239)	(451,978)
Cash Flows from Financing Activities:			
Proceeds from notes payable and overdrafts	39,944	14,931	22,342
Repayments of notes payable and overdrafts	(38,837)	(13,701)	(36,314)
Proceeds and repayments of short term revolving credit facility, net	(143,055)	92,863	27,000
Proceeds from long-term obligations	412,021	11,703	4,852
Repayments of long-term obligations	(265,085)	(68,845)	(64,735)
Payment of contingent consideration obligation	—	—	(2,765)
Dividends paid	(99,461)	(98,509)	(92,658)
Credit facility costs	(4,009)	(1,718)	—
Proceeds from stock option exercises	28,512	59,906	68,555
Purchase of treasury stock	(92,126)	(78,148)	—
Net Cash Used by Financing Activities	(162,096)	(81,518)	(73,723)
Effect of Exchange Rate Changes on Cash	(1,072)	(6,731)	13,545
Net Increase (Decrease) in Cash and Equivalents and Restricted Cash	19,807	(182,045)	57,997
Cash and Equivalents and Restricted Cash at Beginning of Period	122,925	304,970	246,973
Cash and Equivalents and Restricted Cash at End of Period	\$ 142,732	\$ 122,925	\$ 304,970
Supplemental Cash Flow Disclosure:			
Interest paid	\$ 35,509	\$ 29,070	\$ 33,317
Income taxes paid	87,529	94,968	93,575

Restricted cash included in the line item prepaid and other on the Consolidated Balance Sheets as shown below represents amounts held in escrow related to the Metaphase acquisition in 2022 and the Fusion acquisition in 2020.

Year Ended December 31,	2022	2021	2020
Cash and equivalents	\$ 141,732	\$ 122,925	\$ 300,137
Restricted cash included in prepaid and other	1,000	—	4,833
Total Cash and Equivalents and Restricted Cash shown in the Statement of Cash Flows	\$ 142,732	\$ 122,925	\$ 304,970

See accompanying notes to consolidated financial statements.

AptarGroup, Inc.
NOTES TO CONSOLIDATED FINANCIAL STATEMENTS
(Dollars in Thousands, Except Share and per Share Amounts, or as Otherwise Indicated)

NOTE 1 SUMMARY OF SIGNIFICANT ACCOUNTING POLICIES

BASIS OF PRESENTATION

The accompanying consolidated financial statements include the accounts of AptarGroup, Inc. and our subsidiaries. The terms "AptarGroup", "Aptar", "Company", "we", "us" or "our" as used herein refer to AptarGroup, Inc. and our subsidiaries. All significant intercompany accounts and transactions have been eliminated. Certain previously reported amounts have been reclassified to conform to the current period presentation.

AptarGroup's organizational structure consists of three market-focused business segments which are Pharma, Beauty + Home and Food + Beverage through the year ended December 31, 2022.

The COVID-19 pandemic resulted in disruptions to the global economy and supply chains. As the rates of transmission slowed in many regions during 2022, we have seen several of our impacted applications return to more normal (pre-pandemic) volume and growth levels. We have seen improvement in sales of our products to our prescription, beauty, hair care and sun care customers as people return to more active lifestyles. However, we have also experienced volume reductions as applications which benefited from the pandemic, such as our personal cleansing and surface cleaner products, food applications, active material science solutions and injectables components, are now up against challenging comparisons to 2021 volume levels.

As of December 31, 2022, the war in Ukraine has not had a significant direct impact on our business, though the near-term visibility for this situation is expected to remain fluid and uncertain for the next several quarters. However, we have experienced some indirect impacts on our business, including higher energy and other input costs as well as certain supply chain disruptions.

In late 2017, we began a business transformation plan to drive profitable sales growth, increase operational excellence, enhance our approach to innovation and improve organizational effectiveness (see Note 21 – Restructuring Initiatives for further details). The primary focus of the plan was the Beauty + Home segment; however, certain global general and administrative functions have been also addressed. During 2022, 2021 and 2020, we recognized approximately \$0.4 million, \$23.2 million and \$26.5 million, respectively, of restructuring costs related to this plan. As of December 31, 2021, we had completed the vast majority of our planned initiatives related to this plan and do not expect any significant, additional restructuring expenses related to this plan.

Beginning July 1, 2018, we have applied highly inflationary accounting for our Argentinian subsidiary pursuant to U.S. GAAP. We have changed the functional currency from the Argentinian peso to the U.S. dollar. We remeasure our peso denominated assets and liabilities using the official rate. In September 2019, the President of Argentina reinstated exchange controls restricting foreign currency purchases in an attempt to stabilize Argentina's financial markets. As a result of these currency controls, a legal mechanism known as the Blue Chip Swap emerged in Argentina for reporting entities to transfer U.S. dollars. The Blue Chip Swap rate has diverged significantly from Argentina's "official rate" due to the economic environment. During the second quarter of 2020, we transferred U.S. dollars into Argentina through the Blue Chip Swap method and we recognized a gain of \$1.0 million. This gain helped to offset foreign currency losses due to our Argentinian peso exposure and devaluation against the U.S. dollar. During the third quarter of 2021, we utilized the Blue Chip Swap and recognized a gain of \$1.4 million. Our Argentinian operations contributed less than 2.0% of consolidated net assets and revenues at and for the year ended December 31, 2022.

ACCOUNTING ESTIMATES

The financial statements are prepared in conformity with accounting principles generally accepted in the United States of America ("U.S. GAAP"). This process requires management to make estimates and assumptions that affect the reported amounts of assets and liabilities and disclosure of contingent assets and liabilities at the date of the financial statements and the reported amounts of revenue and expenses during the reporting period. Actual results could differ from those estimates.

CASH AND CASH EQUIVALENTS

We consider all investments that are readily convertible to known amounts of cash with an original maturity of three months or less when purchased to be cash equivalents.

ACCOUNTS RECEIVABLE AND CURRENT EXPECTED CREDIT LOSSES

At December 31, 2022, we reported \$677 million of accounts receivable, net of CECL of \$9.5 million. The allowance is estimated using reasonable and supportable information that is available at the reporting date about past events, current conditions and forecasts of future economic conditions. Changes in CECL were not material for the year ended December 31, 2022.

INVENTORIES

Inventories are stated at lower of cost or net realizable value. Cost of our inventories is determined by costing methods that approximate a first-in, first-out ("FIFO") basis. Costs included in inventories are raw materials, direct labor and manufacturing overhead.

ACQUISITIONS

We account for business combinations using the acquisition method, which requires management to estimate the fair value of identifiable assets acquired and liabilities assumed, and to properly allocate purchase price consideration to the individual assets acquired and liabilities assumed. Goodwill is measured as the excess amount of consideration transferred, compared to fair value of the assets acquired and the liabilities assumed. The allocation of the purchase price utilizes significant estimates and assumptions in determining the fair values of identifiable assets acquired and liabilities assumed, especially with respect to intangible assets. These estimates are based on all available information and in some cases assumptions with respect to the timing and amount of future revenues and expenses associated with an asset and are reviewed by consulting with outside valuation experts. The purchase price allocation for business acquisitions contains uncertainties because it requires management's judgment.

INVESTMENTS IN EQUITY SECURITIES

We account for our 20% to 50% owned investments using the equity method. Equity investments that do not result in consolidation and are not accounted for under the equity method are measured at fair value. Any related changes in fair value are recognized in net income unless the investments qualify for a practicality exception. There were no dividends received from affiliated companies in 2022, 2021 and 2020.

PROPERTY AND DEPRECIATION

Properties are stated at cost. Depreciation is determined on a straight-line basis over the estimated useful lives for financial reporting purposes and accelerated methods for income tax reporting. Generally, the estimated useful lives are 10 to 40 years for buildings and improvements and 3 to 15 years for machinery and equipment.

FINITE-LIVED INTANGIBLE ASSETS

Finite-lived intangibles, consisting of patents, acquired technology, customer relationships, trademarks and trade names and license agreements acquired in purchase transactions, are capitalized and amortized over their useful lives which range from 1 to 50 years.

IMPAIRMENT OF LONG-LIVED ASSETS

Long-lived assets, such as property, plant and equipment and finite-lived intangibles, are evaluated for impairment whenever events or changes in circumstances indicate that the carrying value of an asset may not be recoverable. An impairment loss is recognized when estimated undiscounted future cash flows expected to result from the use of the asset plus net proceeds expected from disposition of the asset (if any) are less than the carrying value of the asset.

GOODWILL

The Company has evaluated the excess of purchase price over the fair value of the net assets acquired ("goodwill") for impairment annually as of October 1 or more frequently if impairment indicators arose in accordance with Accounting Standards Codification ("ASC") Topic 350, "Intangibles - Goodwill and Other." We believe that the accounting estimates related to determining the fair value of our reporting units is a critical accounting estimate because: (1) it is highly susceptible to change from period to period because it requires management to make assumptions about the future cash flows for each reporting unit over several years, and (2) the impact that recognizing an impairment would have on the assets reported on our balance sheet as well as our results of operations could be material. Management's determination of the fair value of our reporting units, based on future cash flows for the reporting units, requires significant judgment and the use of estimates and assumptions related to projected revenue growth rates, the terminal growth factor, as well as the discount rate. Actual cash flows in the future may differ significantly from those forecasted today. The estimates and assumptions for future cash flows and its impact on the impairment testing of goodwill is a critical accounting estimate.

Management believes goodwill in purchase transactions has continuing value. Goodwill is not amortized and must be tested annually, or more frequently as circumstances dictate, for impairment. The annual goodwill impairment test may first consider qualitative factors to determine whether it is more likely than not (i.e., greater than 50 percent chance) that the fair value of a reporting unit is less than its book value. This is sometimes referred to as the "step zero" approach and is an optional step in the annual goodwill impairment analysis. Management has performed this qualitative assessment as of October 1, 2022 and October 1, 2021 for each of our reporting units. Based on our review of macroeconomic, industry, and market events and circumstances as well as the overall financial performance of the reporting units, we determined that it was more likely than not that the fair value of these reporting units was greater than their carrying amounts and therefore no impairment of goodwill is required.

DERIVATIVE INSTRUMENTS AND HEDGING ACTIVITIES

Derivative financial instruments are recorded in the Consolidated Balance Sheets at fair value as either assets or liabilities. Changes in the fair value of derivatives are recorded in each period in earnings or other comprehensive income, depending on whether a derivative is designated and effective as part of a hedge transaction.

PURCHASE OF TREASURY STOCK

During 2022 and 2021, we repurchased 860 thousand and 615 thousand shares, respectively, all of which were returned to treasury stock. In 2020, we did not repurchase any shares of our common stock. If retired, common stock is reduced by the number of shares retired at \$0.01 par value per share. We allocate the excess purchase price over par value between additional paid-in capital and retained earnings.

RESEARCH & DEVELOPMENT EXPENSES

Research and development costs, net of any customer funded research and development or government research and development credits, are expensed as incurred. These costs amounted to \$93.5 million, \$99.8 million and \$92.5 million in 2022, 2021 and 2020, respectively.

INCOME TAXES

We compute taxes on income in accordance with the tax rules and regulations of the many taxing authorities where the income is earned. The income tax rates imposed by these taxing authorities may vary substantially. Taxable income may differ from pre-tax income for U.S. GAAP financial accounting purposes. To the extent that these differences create timing differences between the tax basis of an asset or liability and its reported amount in the U.S. GAAP financial statements, an appropriate provision for deferred income taxes is made.

We maintain our assertion that the cash and distributable reserves at our non-U.S. affiliates are indefinitely reinvested with the following exceptions: all earnings in Germany and the pre-2020 earnings in Italy, Switzerland and Colombia. Under current U.S. tax laws, all of our non-U.S. earnings are subject to U.S. taxation on a current or deferred basis. We will provide for the necessary withholding tax, local income taxes, and U.S. federal and state income tax when management decides that an affiliate should make a distribution. These decisions are made taking into consideration the financial requirements of the non-U.S. affiliates and our global cash management goals.

We provide a liability for the amount of unrecognized tax benefits from uncertain tax positions. This liability is provided whenever we determine that a tax benefit will not meet a more-likely-than-not threshold for recognition. See Note 6 – Income Taxes for more information.

We are subject to taxation and file income tax returns in the U.S. federal jurisdiction and many state and foreign jurisdictions. We believe that an adequate provision has been made for any adjustments that may result from tax examinations. However, the outcome of tax audits cannot be predicted with certainty. If any issues addressed in our tax audits are resolved in a manner inconsistent with our expectations, we could be required to adjust our provision for income taxes in the period such resolution occurs. The resolution of each of these audits is not expected to be material to our Consolidated Financial Statements.

TRANSLATION OF FOREIGN CURRENCIES

The functional currencies of the majority of our foreign operations are their local currencies. Assets and liabilities of our foreign operations are translated into U.S. dollars at the rates of exchange on the balance sheet date. Sales and expenses are translated at the average rates of exchange prevailing during the year. The related translation adjustments are accumulated in a separate section of Stockholders' Equity. Realized and unrealized foreign currency transaction gains and losses are reflected in income, as a component of miscellaneous income and expense, and represented losses of \$7.2 million, \$1.4 million and \$5.6 million in 2022, 2021 and 2020, respectively.

STOCK-BASED COMPENSATION

Accounting standards require the application of the non-substantive vesting approach which means that an award is fully vested when the employee's retention of the award is no longer contingent on providing future service. Under this approach, compensation costs are recognized over the requisite service period of the award instead of ratably over the vesting period stated in the grant. As such, costs are recognized immediately if the employee is retirement eligible on the date of grant or over the period from the date of grant until retirement eligibility if retirement eligibility is reached before the end of the vesting period stated in the grant. Forfeitures are recognized as they occur. See Note 16 – Stock-Based Compensation for more information.

REVENUE RECOGNITION

At inception of customer contracts, we assess the goods and services promised in order to identify a performance obligation for each promise to transfer a good or service (or bundle of goods or services) that is distinct. To identify the performance obligations, we consider all the goods or services promised in the contract, whether explicitly stated or implied based on customary business practices. For a contract that has more than one performance obligation, we allocate the total contract consideration to each distinct performance obligation on a relative standalone selling price basis. Revenue is recognized when (or as) the performance obligations are satisfied (i.e., when the customer obtains control of the good or service). The majority of our revenues are derived from product, tooling and service contract sales; however, we also receive revenues from license, exclusivity and royalty arrangements, which collectively are not material to the results. See specific discussions about methods of accounting for control transfers of product, tooling and service contract sales in Note 2 – Revenue.

LEASES

We determine if an arrangement is a lease at inception. Operating lease assets are included in operating lease right-of-use ("ROU") assets and operating lease liabilities are included in Accounts payable accrued and other liabilities in our Consolidated Balance Sheets. Finance leases are included in property, plant and equipment, current maturities of long-term obligations and long-term obligations in our Consolidated Balance Sheets.

ROU assets represent our right to use an underlying asset for the lease term and lease liabilities represent our obligation to make lease payments arising from the lease. Operating lease ROU assets and liabilities are recognized at commencement date based on the present value of lease payments over the lease term. We use the implicit rate when readily determinable. As most of our leases do not provide an implicit rate, we use our incremental borrowing rate based on the information available at the commencement date of the lease in determining the present value of lease payments. The operating lease ROU asset includes any lease payments made as well as initial direct costs incurred and excludes lease incentives. Our lease terms may include options to extend or terminate the lease when it is reasonably certain that we will exercise that option. Lease expense for operating lease payments is recognized on a straight-line basis over the lease term.

We have lease agreements with lease and non-lease components, which are generally accounted for separately. For certain equipment leases, we account for the lease and non-lease components as a single lease component. We have elected not to recognize ROU assets and lease liabilities that arise from short-term leases (a lease whose term is 12 months or less and does not include a purchase option that we are reasonably certain to exercise).

Certain vehicle lease contracts include guaranteed residual value that is considered in the determination of lease classification. The probability of having to satisfy a residual value guarantee is not considered for the purpose of lease classification, but is considered when measuring a lease liability.

GOVERNMENT GRANTS

We record non-reimbursable government grants when there is reasonable assurance that we will comply with the relevant conditions of the grant agreement and the grant funds will be received. When a grant is received toward the purchase or construction of an asset, the funds received are recorded as a contra-asset and deducted from the cost of the related asset. Additionally, we record expenses net of reimbursements for government grants from a reimbursement of cost.

During 2022, we received a \$10.5 million government grant to be used toward the expansion of an existing injectables facility. This award will support the delivery of components for COVID-19 vaccines. The French government will fund approximately \$14.0 million for the expansion of the facility, for which there is no clawback option. As of December 31, 2022, we recorded the \$10.5 million received as a contra-asset within property, plant and equipment in the Consolidated Balance Sheets and reported in the proceeds from government grants within the investing section of the Consolidated Statements of Cash Flows.

During 2022 and 2021, we received \$17.3 million and \$2.0 million, respectively, in government grants to be used toward the construction of a new facility in Alabama. This award will support expanded domestic production capacity for our active material science solutions proprietary Activ-Film technology, which is used to protect and enhance COVID-19 test kit integrity and accuracy. Under the terms of the grant agreement, the U.S. government will fund approximately \$19 million to build an operating facility, for which there is no clawback provision, in exchange for the new facility to be on standby for the government for a period of 16 months after construction. As of December 31, 2022 and 2021, we recorded the \$17.3 million and \$2.0 million, respectively, received as a contra-asset within property, plant and equipment in the Consolidated Balance Sheets and reported in the proceeds from government grants within the investing section of the Consolidated Statements of Cash Flows.

SUPPLY CHAIN FINANCE PROGRAM

We facilitate a supply chain finance program ("SCF") across Europe and the U.S. that is administered by a third-party platform. Eligible suppliers can elect to receive early payment of invoices, less an interest deduction, and negotiate their receivable sales arrangements through the third-party platform on behalf of the respective SCF bank. We are not a party to those agreements, and the terms of our payment obligations are not impacted by a supplier's participation in the SCF. Accordingly, we have concluded that this program continues to be a trade payable program and is not indicative of a borrowing arrangement.

All outstanding amounts related to suppliers participating in the SCF are recorded within Accounts payable, accrued and other liabilities in our Consolidated Balance Sheets, and associated payments are included in operating activities within our Consolidated Statements of Cash Flows. As of December 31, 2022 and 2021, the amounts due to suppliers participating in the SCF and included in Accounts payable, accrued and other liabilities were approximately \$30.8 million and \$30.1 million, respectively.

	2022	2021
SCF obligations outstanding at the beginning of the year	\$ 30,144	\$ 23,000
Additions	133,148	108,439
Settlements	<u>(132,459)</u>	<u>(101,295)</u>
SCF obligations outstanding at the end of the year	<u>\$ 30,833</u>	<u>\$ 30,144</u>

Collection and payment periods tend to be longer for our operations located outside the United States due to local business practices. We have also seen an increasing trend in pressure from certain customers to lengthen their payment terms. As the majority of our products are made to order, we have not needed to keep significant amounts of finished goods inventory to meet customer requirements. However, some of our contracts specify an amount of finished goods safety stock we are required to maintain.

To the extent our financial position allows and there is a clear financial benefit, we from time-to-time benefit from early payment discounts with some suppliers. We have lengthened the payment terms with our suppliers to be in line with customer trends. While we have offered third party alternatives for our suppliers to receive payments sooner, we generally do not utilize these offerings from our customers as the economic conditions currently are not beneficial for us.

ADOPTION OF RECENT ACCOUNTING PRONOUNCEMENTS

Changes to U.S. GAAP are established by the Financial Accounting Standards Board (“FASB”) in the form of Accounting Standards Updates (“ASUs”) to the FASB’s Accounting Standards Codification.

In September 2022, the FASB issued ASU 2022-04, Liabilities-Supplier Finance Programs (Topic 405), which enhances the transparency of supplier finance programs and requires certain disclosures for a buyer in a supplier finance program. The requirements are effective for fiscal years beginning after December 15, 2022, including interim periods within those fiscal years, except for the amendment on roll forward information, which is effective for fiscal years beginning after December 13, 2023. Early adoption is permitted. We adopted this guidance in the fourth quarter of 2022 and expanded our disclosure to include a roll forward of our supply chain finance program.

In November 2021, the FASB issued ASU 2021-10, Government Assistance (Topic 832): Disclosures by Business Entities about Government Assistance. This update requires annual disclosures about transactions with a government that are accounted for by applying a grant or contribution accounting model by analogy including the nature of the transaction, the financial statement line items affected by the transaction and any significant terms and conditions associated with the transactions. We adopted this guidance in the fourth quarter of 2021 using the prospective approach.

In March 2020, the FASB issued ASU 2020-04, which provides optional expedients and exceptions for applying U.S. GAAP to contracts, hedging relationships and other transactions affected by reference rate reform if certain criteria are met. The amendments to this update apply only to contracts, hedging relationships and other transactions that reference LIBOR or another reference rate expected to be discontinued because of reference rate reform. ASU 2020-04 was further amended in January 2021 by ASU 2021-01 which clarified the applicability of certain provisions. Both standards are effective upon issuance and could be adopted any time prior to December 31, 2022. The guidance in ASU 2020-04 and ASU 2021-01 is optional and may be elected over time as reference rate reform activities occur. As of December 31, 2022, we have amended the revolving credit facility to provide mechanics relating to a transition away from LIBOR (in the case of USD) and the designated benchmark rates for other available currencies and the replacement of any such applicable benchmark by a replacement alternative benchmark rate or mechanism for loans made in the applicable currency. We are evaluating any further impact this standard may have on our Consolidated Financial Statements and anticipate no further significant impacts. We plan on adopting this guidance during the second quarter of 2023.

Other accounting standards that have been issued by the FASB or other standards-setting bodies did not have a material impact on our consolidated financial statements.

NOTE 2 REVENUE

Revenue by segment and geography based on shipped from locations for the years ended December 31, 2022, 2021 and 2020 is as follows:

Segment	For the Year Ended December 31, 2022					Total
	Europe	Domestic	Latin America	Asia		
Pharma	\$ 836,447	\$ 426,401	\$ 27,075	\$ 71,333	\$	\$ 1,361,256
Beauty + Home	801,798	373,125	160,827	102,784		1,438,534
Food + Beverage	135,150	300,633	47,561	39,115		522,459
Total	\$ 1,773,395	\$ 1,100,159	\$ 235,463	\$ 213,232	\$	\$ 3,322,249

Segment	For the Year Ended December 31, 2021					Total
	Europe	Domestic	Latin America	Asia		
Pharma	\$ 830,552	\$ 374,063	\$ 21,482	\$ 58,527	\$	\$ 1,284,624
Beauty + Home	765,071	412,761	147,569	108,621		1,434,022
Food + Beverage	129,559	294,999	46,992	37,025		508,575
Total	\$ 1,725,182	\$ 1,081,823	\$ 216,043	\$ 204,173	\$	\$ 3,227,221

For the Year Ended December 31, 2020

Segment	Europe	Domestic	Latin America	Asia	Total
Pharma	\$ 808,834	\$ 350,265	\$ 23,157	\$ 43,523	\$ 1,225,779
Beauty + Home	681,936	384,004	141,846	90,365	1,298,151
Food + Beverage	113,286	231,717	29,040	31,367	405,410
Total	\$ 1,604,056	\$ 965,986	\$ 194,043	\$ 165,255	\$ 2,929,340

We perform our obligations under a contract with a customer by transferring goods and/or services in exchange for consideration from the customer. The timing of performance will sometimes differ from the timing of the invoicing for the associated consideration from the customer, thus resulting in the recognition of a contract asset or a contract liability. We recognize a contract asset when we transfer control of goods or services to a customer prior to invoicing for the related performance obligation. The contract asset is transferred to accounts receivable when the product is shipped and invoiced to the customer. We recognize a contract liability if the customer's payment of consideration precedes the entity's performance.

The opening and closing balances of our contract asset and contract liabilities are as follows:

	Balance as of December 31, 2021	Balance as of December 31, 2022	Increase/ (Decrease)
Contract asset (current)	\$ 16,878	\$ 16,736	\$ (142)
Contract liability (current)	\$ 86,340	\$ 80,241	\$ (6,099)
Contract liability (long-term)	\$ 21,905	\$ 25,361	\$ 3,456

The differences in the opening and closing balances of our contract asset and contract liabilities are primarily the result of timing differences between our performance and the invoicing. The total amount of revenue recognized during 2022 against contract liabilities is \$141.5 million, including \$64.2 million relating to contract liabilities at the beginning of the year. Current contract assets and long-term contract assets are included within the Prepaid and Other and Miscellaneous assets, respectively, while current contract liabilities and long-term contract liabilities are included within Accounts Payable, Accrued and Other Liabilities and Deferred and Other Non-current Liabilities, respectively, within our Consolidated Balance Sheets.

Determining the Transaction Price

In most cases, the transaction price for each performance obligation is stated in the contract. In determining the variable amounts of consideration within the transaction price (such as volume-based customer rebates), we include an estimate of the expected amount of consideration as revenue. We apply the expected value method based on all of the information (historical, current, and forecast) that is reasonably available and identifies reasonable estimates based on this information. We apply the method consistently throughout the contract when estimating the effect of an uncertainty on the amount of variable consideration to which it will be entitled.

Product Sales

We primarily manufacture and sell drug delivery, consumer product dispensing and active material science solutions. The amount of consideration is typically fixed for customers. At the time of delivery, the customer is invoiced the agreed-upon price. Revenue from product sales is typically recognized upon manufacture or shipment, when control of the goods transfers to the customer.

To determine when the control transfers, we typically assess, among other things, the shipping terms of the contract, shipping being one of the indicators of transfer of control. For a majority of product sales, control of the goods transfers to the customer at the time of shipment of the goods. Once the goods are shipped, we are precluded from redirecting the shipment to another customer. Therefore, our performance obligation is satisfied at the time of shipment. For sales in which control transfers upon delivery, shipping and/or handling costs that occur before the customer obtains control of the goods are deemed to be fulfillment activities and are accounted for as fulfillment costs and revenue is recorded upon final delivery to the customer location. We have elected to account for shipping and handling costs that occur after the customer has obtained control of a good as fulfillment costs rather than as a promised service. We do not have any material significant payment terms as payment is typically received shortly after the point of sale.

There also exist instances where we manufacture highly customized products that have no alternative use to us and for which we have an enforceable right to payment for performance completed to date. For these products, we transfer control and recognize revenue over time by measuring progress toward completion using the Output Method based on the number of products produced. As we normally make our products to a customer's order, the time between production and shipment of our products is typically within a few weeks. We believe this measurement provides a faithful depiction of the transfer of goods as the costs incurred reflect the value of the products produced.

As a part of its customary business practice, we offer a standard warranty that the products will materially comply with the technical specifications and will be free from material defects. Because such warranties are not sold separately, do not provide for any service beyond a guarantee of a product's initial specifications, and are not required by law, there is no revenue deferral for these types of warranties.

Tooling Sales

We also build or contract for molds and other tools (collectively defined as "tooling") necessary to produce our products. As with product sales, we recognize revenue when control of the tool transfers to the customer. If the tooling is highly customized with no alternative use to us and we have an enforceable right to payment for performance completed to date, we transfer control and recognize revenue over time by measuring progress toward completion using the Input Method based on costs incurred relative to total estimated costs to completion. Otherwise, revenue for the tooling is recognized at the point in time when the customer approves the tool. We do not have any material significant payment terms as payment is typically either received during the mold-build process or shortly after completion.

In certain instances, we offer extended warranties on our tools above and beyond the normal standard warranties. We normally receive payment at the inception of the contract and recognize revenue over the term of the contract. We do not have any material extended warranties as of December 31, 2022 or December 31, 2021.

Service Sales

We also provide services to our pharmaceutical customers. As with product sales, we recognize revenue based on completion of each performance obligation of the service contract. Milestone deliverables and upfront payments are tied to specific performance obligations and recognized upon satisfaction of the individual performance obligation.

Contract Costs

We do not incur significant costs to obtain or fulfill revenue contracts.

Credit Risk

We are exposed to credit losses primarily through our product sales, tooling sales and services to our customers. We assess each customer's ability to pay for the products we sell by conducting a credit review. The credit review considers our expected billing exposure and timing for payment and the customer's established credit rating or our assessment of the customer's creditworthiness based on our analysis of their financial statements when a credit rating is not available. We also consider contract terms and conditions, country and political risks, and business strategy in our evaluation. A credit limit is established for each customer based on the outcome of this review.

We monitor our ongoing credit exposure through active review of customer balances against contract terms and due dates. Our activities include timely account reconciliation, dispute resolution and payment confirmation. We may employ collection agencies and legal counsel to pursue recovery of defaulted receivables.

Current uncertainty in credit and market conditions due to the COVID-19 pandemic, the war in Ukraine, rising interest rates and inflation may slow our collection efforts if customers experience significant difficulty accessing credit and paying their obligations. Retaliatory sanctions imposed by the U.S. and other NATO members in relation to the Russia-Ukraine war could delay payment, which may lead to higher than normal accounts receivable and increased CECL charges.

Practical Expedients

Significant financing component: We elected not to adjust the promised consideration for the time value of money for contracts where the difference between the time of payment and performance is one year or less.

Remaining performance obligations: We elected not to disclose the aggregate amount of the transaction price allocated to remaining performance obligations for our contracts that are one year or less, as the revenue is expected to be recognized within the next year. In addition, we have elected not to disclose the expected consideration related to performance obligations where we recognize revenue in the amount it has a right to invoice (e.g., usage-based pricing terms).

NOTE 3 INVENTORIES

Inventories, by component net of reserves, consisted of:

	2022	2021
Raw materials	\$ 159,041	\$ 140,818
Work in process	153,592	137,654
Finished goods	174,173	162,992
Total	<u>\$ 486,806</u>	<u>\$ 441,464</u>

NOTE 4 GOODWILL AND OTHER INTANGIBLE ASSETS

The changes in the carrying amount of goodwill for the year ended December 31, 2022 are as follows by reporting segment:

	Pharma	Beauty + Home	Food + Beverage	Total
Balance as of December 31, 2020	\$ 436,731	\$ 333,111	\$ 128,679	\$ 898,521
Acquisition	104,433	—	—	104,433
Foreign currency exchange effects	(20,967)	(7,392)	(438)	(28,797)
Balance as of December 31, 2021	\$ 520,197	\$ 325,719	\$ 128,241	\$ 974,157
Acquisitions	3,029	—	—	3,029
Foreign currency exchange effects	(24,484)	(6,708)	(362)	(31,554)
Balance as of December 31, 2022	<u>\$ 498,742</u>	<u>\$ 319,011</u>	<u>\$ 127,879</u>	<u>\$ 945,632</u>

We have completed the annual impairment analysis of our reporting units as of October 1, 2022. Based on our review of macroeconomic, industry, and market events and circumstances as well as the overall financial performance of the reporting units, we determined that it was more likely than not that the fair value of these reporting units was greater than their carrying amounts. No impairment was recognized during the years ended December 31, 2022, 2021 or 2020.

The table below shows a summary of intangible assets for the years ended December 31, 2022 and 2021.

	Weighted Average Amortization Period (Years)	2022			2021		
		Gross Carrying Amount	Accumulated Amortization	Net Value	Gross Carrying Amount	Accumulated Amortization	Net Value
Amortized intangible assets:							
Patents	8.8	\$ 8,044	\$ (1,968)	\$ 6,076	\$ 2,767	\$ (1,528)	\$ 1,239
Acquired technology	11.5	135,191	(56,628)	78,563	140,936	(45,613)	95,323
Customer relationships	13.4	305,994	(99,130)	206,864	311,964	(77,512)	234,452
Trademarks and trade names	7.2	43,998	(28,190)	15,808	44,893	(22,886)	22,007
License agreements and other	38.6	15,425	(6,992)	8,433	16,179	(6,857)	9,322
Total intangible assets	13.2	<u>\$ 508,652</u>	<u>\$ (192,908)</u>	<u>\$ 315,744</u>	<u>\$ 516,739</u>	<u>\$ (154,396)</u>	<u>\$ 362,343</u>

Aggregate amortization expense for the intangible assets above for the years ended December 31, 2022, 2021 and 2020 was \$43,574, \$41,072 and \$39,787, respectively.

Future estimated amortization expense for the years ending December 31 is as follows:

2023	\$	43,723
2024		40,547
2025		39,061
2026		36,863
2027		29,720
2028 and thereafter		125,830

Future amortization expense may fluctuate depending on changes in foreign currency rates. The estimates for amortization expense noted above are based upon foreign exchange rates as of December 31, 2022.

NOTE 5 ACCOUNTS PAYABLE, ACCRUED AND OTHER LIABILITIES

At December 31, 2022 and 2021, Accounts payable, accrued and other liabilities consisted of the following:

	2022	2021
Accounts payable, principally trade	\$ 320,281	\$ 285,262
Accrued employee compensation costs	209,566	195,308
Customer deposits and other unearned income	80,113	86,953
Other accrued liabilities	184,425	125,342
Total	\$ 794,385	\$ 692,865

NOTE 6 INCOME TAXES

Income before income taxes consists of:

Years Ended December 31,	2022	2021	2020
United States	\$ 65,350	\$ 101,353	\$ 91,555
International	269,354	220,302	209,600
Total	\$ 334,704	\$ 321,655	\$ 301,155

The provision (benefit) for income taxes is composed of:

Years Ended December 31,	2022	2021	2020
Current:			
U.S. Federal	\$ 12,791	\$ 11,932	\$ 9,934
State/Local	2,265	4,917	3,094
International	92,199	75,524	82,235
	\$ 107,255	\$ 92,373	\$ 95,263
Deferred:			
U.S. Federal/State	\$ (882)	\$ (11,168)	\$ (2,270)
International	(11,224)	(3,188)	(5,928)
	\$ (12,106)	\$ (14,356)	\$ (8,198)
Total	\$ 95,149	\$ 78,017	\$ 87,065

A reconciliation of the provision for income taxes with the amount computed by applying the statutory federal income tax rate of 21% to income before provision for income taxes is as follows:

Years Ended December 31,	2022	2021	2020
Income tax at statutory rate	\$ 70,288	\$ 67,547	\$ 63,243
State income taxes, net of federal tax effect	1,475	1,616	2,396
Excess tax benefits from share-based compensation	(3,306)	(16,060)	(11,625)
Deferred tax (benefits) charges, incl. tax rate changes	(2,349)	(1,040)	4,110
U.S. Global Intangible Low-Taxed Income ("GILTI") and Base Erosion Anti-Abuse Tax ("BEAT")	3,129	—	(3,909)
Valuation allowance	1,486	4,485	1,332
Legal entity reorganization	5,850	—	—
Rate differential on earnings of foreign operations	19,165	20,831	24,901
Other items, net	(589)	638	6,617
Actual income tax provision	\$ 95,149	\$ 78,017	\$ 87,065
Effective income tax rate	28.4 %	24.3 %	28.9 %

The 2022 effective tax rate of 28.4% includes a \$5.9 million charge for taxes related to a legal entity reorganization intended to enhance our dividend and cash management capabilities. Excluding this impact, the effective tax rate was 26.7%. The provision for income tax is favorably impacted by excess tax benefits on deductible share-based compensation. The tax provision for 2022 reflects a \$3.3 million benefit from this item compared with a \$16.1 million and \$11.6 million tax benefit for 2021 and 2020, respectively. Valuation allowances against deferred tax assets are comprised of cumulative losses, credits and other timing differences. Our mix of earnings has an unfavorable tax rate impact since a majority of our pretax income is earned in higher tax jurisdictions.

Significant deferred tax assets and liabilities as of December 31, 2022 and 2021 are composed of the following temporary differences:

	2022	2021
Deferred Tax Assets:		
Net operating loss carryforwards	\$ 45,823	\$ 47,660
Operating and finance leases	20,974	22,492
Pension liabilities	8,178	29,770
Share-based compensation	9,970	6,764
U.S. federal tax credits	—	4,226
U.S. state tax credits	6,777	7,047
Vacation and bonus	14,681	13,450
U.S. capitalized research expenditures	27,840	19,633
Inventory	4,736	6,969
Accrued liabilities and other reserves	10,346	3,109
Other	11,744	16,194
Total gross deferred tax assets	\$ 161,069	\$ 177,314
Less valuation allowance	(46,239)	(47,149)
Net deferred tax assets	\$ 114,830	\$ 130,165
Deferred Tax Liabilities:		
Acquisition related intangibles	\$ 59,084	\$ 68,174
Depreciation and amortization	29,142	30,997
Operating and finance leases	23,041	24,560
Other	6,563	7,489
Total gross deferred tax liabilities	\$ 117,830	\$ 131,220
Net deferred tax liabilities	\$ (3,000)	\$ (1,055)

We evaluate the deferred tax assets and record a valuation allowance when it is believed it is more likely than not that the benefit will not be realized. We have established a valuation allowance for \$39.2 million of the \$45.8 million of tax effected net operating loss carryforwards. These losses are generally in locations that have not produced cumulative three year operating profit. A valuation allowance of \$4.0 million has also been established against the \$6.8 million of U.S. state tax credit carryforwards.

There is no expiration date on \$42.5 million of the tax-effected net operating loss carryforwards and \$3.3 million (tax effected) will expire in the years 2023 to 2042. The U.S. state tax credit carryforwards of \$6.8 million (tax effected) will expire in the years 2023 to 2037.

None of the earnings accumulated outside of the U.S. will be subject to U.S. taxation under the current U.S. federal income tax laws. Aside from the earnings in Germany and the pre-2020 earnings in Italy, Switzerland and Colombia, we maintain our assertion that all other cash and distributable reserves at our non-U.S. affiliates will continue to be indefinitely reinvested. We estimate the amount of additional local income tax and withholding tax that would be payable on distributions to be in the range of \$15 million to \$20 million if earnings accumulated outside the U.S. are repatriated to the U.S.

We have not provided for taxes on certain tax-deferred income related to a foreign operation. The income arose predominately from government grants. Taxes of approximately \$1.3 million would become payable in the event the terms of the grant are not fulfilled.

Income Tax Uncertainties

We provide a liability for the amount of tax benefits realized from uncertain tax positions. A reconciliation of the beginning and ending amount of income tax uncertainties is as follows:

	2022	2021	2020
Balance at January 1	\$ 7,225	\$ 4,504	\$ 3,647
Increases based on tax positions for the current year	1,433	262	212
Increases based on tax positions of prior years	966	3,348	790
Decreases based on tax positions of prior years	(2,582)	—	—
Settlements	(80)	(567)	—
Lapse of statute of limitations	(43)	(322)	(145)
Balance at December 31	\$ 6,919	\$ 7,225	\$ 4,504

The amount of income tax uncertainties that, if recognized, would impact the effective tax rate is approximately \$6.9 million. We estimate that it is reasonably possible that the liability for uncertain tax positions will decrease by approximately \$3.4 million in the next twelve months from the resolution of various uncertain positions as a result of the completion of tax audits, litigation and the expiration of the statute of limitations in various jurisdictions.

We recognize interest and penalties accrued related to unrecognized tax benefits as a component of income taxes. As of December 31, 2022, 2021 and 2020, we had approximately \$4.9 million, \$4.6 million and \$3.6 million, respectively, accrued for the payment of interest and penalties, of which approximately \$0.3 million, \$1.1 million and \$1.7 million was recognized in income tax expense for the years ended December 31, 2022, 2021 and 2020, respectively.

Aptar or its subsidiaries file income tax returns in the U.S. Federal jurisdiction and various state and foreign jurisdictions. The major tax jurisdictions we file in, with the years still subject to income tax examinations, are listed below:

Major Tax Jurisdiction	Tax Years Subject to Examination
United States — Federal	2019-2022
United States — State	2018-2022
France	2019-2022
Germany	2018-2022
Italy	2016-2022
China	2012-2022

NOTE 7 DEBT

Revolving Credit Facility and Overdrafts

At December 31, 2022 and 2021, our revolving credit facility and overdrafts consisted of the following:

	2022	2021
Revolving credit facility 1.68%	\$ —	\$ 144,383
Overdrafts 15.37%	3,810	2,893
	<u>\$ 3,810</u>	<u>\$ 147,276</u>

On June 30, 2021, we entered into an amended and restated multi-currency revolving credit facility (the "revolving credit facility") with a syndicate of banks to replace the then-existing facility maturing July 2022 (the "prior credit facility") and to amend and restate the unsecured term loan facility extended to our wholly-owned UK subsidiary under the prior credit facility (as amended, the "amended term facility"). The revolving credit facility matures in June 2026, subject to a maximum of two one-year extensions in certain circumstances, and provides for unsecured financing of up to \$600 million available in the U.S. and to our wholly-owned UK subsidiary. The amended term facility matured in July 2022 and was repaid in full. The revolving credit facility can be drawn in various currencies including USD, EUR, GBP, and CHF to the equivalent of \$600 million, which may be increased by up to \$300 million subject to the satisfaction of certain conditions. As of December 31, 2022, there were no borrowings under the revolving credit facility in the U.S. or by our wholly-owned UK subsidiary. As of December 31, 2021, \$133 million was utilized under the revolving credit facility in the U.S., €10 million (approximately \$11.4 million based on the exchange rates at the end of 2021) was utilized by our wholly-owned UK subsidiary and \$56 million remained outstanding under the amended term facility.

There are no compensating balance requirements associated with our revolving credit facility. Each borrowing under the revolving credit facility will bear interest at rates based on LIBOR (in the case of USD), EURIBOR (in the case of EUR), SONIA (in the case of GBP), SARON (in the case of CHF), prime rates or other similar rates, in each case plus an applicable margin. The revolving credit facility provides mechanics relating to a transition away from LIBOR (in the case of USD) and the designated benchmark rates for other available currencies and the replacement of any such applicable benchmark by a replacement alternative benchmark rate or mechanism for loans made in the applicable currency. A facility fee on the total amount of the revolving credit facility is also payable quarterly, regardless of usage. The applicable margins for borrowings under the revolving credit facility and the facility fee percentage may change from time to time depending on changes in our consolidated leverage ratio. We incurred approximately \$1.2 million and \$1.1 million in interest and fees related to our credit facility during 2022 and 2021, respectively.

Average borrowings under the revolving credit facility and notes payable were \$38.5 million and \$37.8 million for 2022 and 2021, respectively. The average annual interest rate on the revolving credit facility and notes payable was 1.2% and 1.1% for 2022 and 2021, respectively.

In October 2020, we entered into an unsecured money market borrowing arrangement to provide short term financing of up to \$30 million that is available in the U.S. No borrowing on this facility is permitted over a quarter end date. As such, no balance was utilized under this arrangement as of December 31, 2022 or December 31, 2021.

Long-Term Obligations

On March 7, 2022, we issued \$400 million aggregate principal amount of 3.60% Senior Notes due March 2032 in an underwritten public offering. The form and terms of the notes were established pursuant to an Indenture, dated as of March 7, 2022, as amended and supplemented by a First Supplemental Indenture, dated as of March 7, 2022, each between the Company and U.S. Bank Trust Company, National Association, as trustee. Interest is payable semi-annually in arrears. The notes are unsecured obligations and rank equally in right of payment with all of our other existing and future senior, unsecured indebtedness.

We redeemed all \$75.0 million of our 3.25% senior unsecured notes during the second quarter of 2022 at a price equal to the principal amount plus accrued interest and a \$0.4 million make-whole payment.

We redeemed all \$125.0 million of our 3.49% senior unsecured notes during the third quarter of 2022 at a price equal to the principal amount plus accrued interest.

At December 31, 2022 and 2021, our long-term obligations consisted of the following:

	December 31, 2022	December 31, 2021
Notes payable 0.00% – 16.42%, due in monthly and annual installments through 2030	\$ 29,167	\$ 22,785
Senior unsecured notes 3.2%, due in 2022	—	75,000
Senior unsecured debts 2.19% USD floating swapped to 1.36% EUR fixed, due in 2022	—	56,000
Senior unsecured notes 3.5%, due in 2023	—	125,000
Senior unsecured notes 1.0%, due in 2023	106,995	113,830
Senior unsecured notes 3.4%, due in 2024	50,000	50,000
Senior unsecured notes 3.5%, due in 2024	100,000	100,000
Senior unsecured notes 1.2%, due in 2024	213,990	227,660
Senior unsecured notes 3.6%, due in 2025	125,000	125,000
Senior unsecured notes 3.6%, due in 2026	125,000	125,000
Senior unsecured notes 3.6%, due in 2032, net of discount of \$1.0 million	399,050	—
Finance Lease Liabilities	26,934	30,185
Unamortized debt issuance costs	(4,558)	(1,085)
	\$ 1,171,578	\$ 1,049,375
Current maturities of long-term obligations	(118,981)	(142,351)
Total long-term obligations	\$ 1,052,597	\$ 907,024

The aggregate long-term maturities, excluding finance lease liabilities, which are discussed in Note 8, due annually for the next five years and thereafter are:

2023	\$ 115,815
2024	369,183
2025	133,313
2026	131,647
2027	73
Thereafter	399,171

Covenants

Our revolving credit facility and corporate long-term obligations require us to satisfy certain financial and other covenants including:

	Requirement	Level at December 31, 2022
Consolidated Leverage Ratio (1)	Maximum of 3.50 to 1.00	1.71 to 1.00
Consolidated Interest Coverage Ratio (1)	Minimum of 3.00 to 1.00	15.00 to 1.00

(1) Definitions of ratios are included as part of the revolving credit facility agreement and the private placement agreements.

NOTE 8 LEASE COMMITMENTS

We lease certain warehouse, plant, and office facilities as well as certain equipment under noncancelable operating and finance leases expiring at various dates through the year 2034. Most of the operating leases contain renewal options and certain leases include options to purchase the related asset during or at the end of the lease term.

Amortization expense related to finance leases is included in depreciation expense while rent expense related to operating leases is included within cost of sales and selling research & development and administrative expenses ("SG&A").

The components of lease expense for the years ended December 31, 2022 and 2021 were as follows:

Year Ended December 31,	2022	2021
Operating lease cost	\$ 21,105	\$ 23,040
Finance lease cost:		
Amortization of right-of-use assets	\$ 4,249	\$ 4,228
Interest on lease liabilities	1,249	1,360
Total finance lease cost	\$ 5,498	\$ 5,588
Short-term lease and variable lease costs	\$ 15,454	\$ 12,259

Supplemental cash flow information related to leases was as follows:

Year Ended December 31,	2022	2021
Cash paid for amounts included in the measurement of lease liabilities:		
Operating cash flows from operating leases	\$ 20,488	\$ 22,821
Operating cash flows from finance leases	1,264	1,374
Financing cash flows from finance leases	3,662	4,349
Right-of-use assets obtained in exchange for lease obligations:		
Operating leases	\$ 16,754	\$ 17,785
Finance leases	1,011	5,922

Supplemental balance sheet information related to leases was as follows:

	December 31, 2022	December 31, 2021
Operating Leases		
Operating lease right-of-use assets	\$ 58,675	\$ 62,454
Accounts payable, accrued and other liabilities	\$ 16,985	\$ 15,356
Operating lease liabilities	42,948	48,010
Total operating lease liabilities	\$ 59,933	\$ 63,366
Finance Leases		
Property, plant and equipment, gross	\$ 50,173	\$ 51,821
Accumulated depreciation	(12,781)	(9,864)
Property, plant and equipment, net	\$ 37,392	\$ 41,957
Current maturities of long-term obligations, net of unamortized debt issuance cost	\$ 3,234	\$ 3,744
Long-term obligations, net of unamortized debt issuance cost	23,700	26,441
Total finance lease liabilities	\$ 26,934	\$ 30,185
Weighted Average Remaining Lease Term (in years)		
Operating leases	4.6	5.2
Finance leases	6.6	7.4
Weighted Average Discount Rate		
Operating leases	4.01 %	3.80 %
Finance leases	4.76 %	4.62 %

Maturities of lease liabilities as of December 31, 2022, were as follows:

	Operating Leases	Finance Leases
Year 1	\$ 19,193	\$ 4,454
Year 2	14,414	3,691
Year 3	10,011	3,572
Year 4	8,479	2,807
Year 5	6,908	6,003
Thereafter	6,860	11,832
Total lease payments	65,865	32,359
Less imputed interest	(5,932)	(5,425)
Total	\$ 59,933	\$ 26,934

As of December 31, 2022, we have additional operating leases that have not yet commenced of \$0.4 million and no finance leases that have not yet commenced. These operating leases will commence in 2023 with lease terms of 3 to 5 years.

NOTE 9 RETIREMENT AND DEFERRED COMPENSATION PLANS

We have various noncontributory retirement plans covering certain of our domestic and foreign employees. Benefits under our retirement plans are based on participants' years of service and annual compensation as defined by each plan. Annual cash contributions to fund pension costs accrued under our domestic plans are generally at least equal to the minimum funding amounts required by the Employee Retirement Income Security Act of 1974, as amended ("ERISA"). Certain pension commitments under our foreign plans are also funded according to local requirements or at our discretion.

Effective January 1, 2021, our domestic noncontributory retirement plans were closed to new employees and employees who were rehired after December 31, 2020. These employees are instead eligible for additional contribution to their defined contribution 401(k) employee savings plan. All domestic employees with hire/rehire dates prior to January 1, 2021 are still eligible for the domestic pension plans and continue to accrue plan benefits after this date.

The following table presents the changes in the benefit obligations and plan assets for the most recent two years for our domestic and foreign plans.

	Domestic Plans		Foreign Plans	
	2022	2021	2022	2021
Change in benefit obligation:				
Benefit obligation at beginning of year	\$ 255,457	\$ 272,471	\$ 123,386	\$ 134,426
Service cost	15,784	16,356	7,547	8,159
Interest cost	6,970	6,366	1,388	843
Curtailement/Settlement	—	—	68	5
Prior service cost	—	—	813	—
Actuarial gain	(92,724)	(18,526)	(26,826)	(6,489)
Benefits paid	(21,615)	(21,210)	(4,615)	(4,555)
Foreign currency translation adjustment	—	—	(7,762)	(9,003)
Benefit obligation at end of year	\$ 163,872	\$ 255,457	\$ 93,999	\$ 123,386

	Domestic Plans		Foreign Plans	
	2022	2021	2022	2021
Change in plan assets:				
Fair value of plan assets at beginning of year	\$ 193,770	\$ 192,034	\$ 85,421	\$ 85,087
Actual return on plan assets	(25,517)	22,480	(4,897)	2,811
Employer contribution	15,513	466	1,871	7,966
Benefits paid	(21,615)	(21,210)	(4,615)	(4,555)
Transfer	—	—	—	124
Foreign currency translation adjustment	—	—	(5,257)	(6,012)
Fair value of plan assets at end of year	\$ 162,151	\$ 193,770	\$ 72,523	\$ 85,421
Funded status at end of year	\$ (1,721)	\$ (61,687)	\$ (21,476)	\$ (37,965)

The following table presents the funded status amounts recognized in our Consolidated Balance Sheets as of December 31, 2022 and 2021.

	Domestic Plans		Foreign Plans	
	2022	2021	2022	2021
Non-current assets	\$ 9,304	\$ —	\$ —	\$ 1,832
Current liabilities	(515)	(500)	(31)	(33)
Non-current liabilities	(10,510)	(61,187)	(21,445)	(39,764)
	\$ (1,721)	\$ (61,687)	\$ (21,476)	\$ (37,965)

The following table presents the amounts not recognized as components of periodic benefit cost that are recognized in accumulated other comprehensive (gain) loss as of December 31, 2022 and 2021.

	Domestic Plans		Foreign Plans	
	2022	2021	2022	2021
Net actuarial (gain) loss	\$ (3,338)	\$ 57,627	\$ 11,383	\$ 32,269
Net prior service cost	—	—	1,150	509
Tax effects	2,271	(12,873)	(5,518)	(11,049)
	\$ (1,067)	\$ 44,754	\$ 7,015	\$ 21,729

Changes in benefit obligations and plan assets recognized in other comprehensive income in 2022, 2021 and 2020 are as follows:

	Domestic Plans		
	2022	2021	2020
Current year actuarial gain (loss)	\$ 54,295	\$ 28,714	\$ (33,335)
Amortization of net loss	6,670	10,099	5,684
	\$ 60,965	\$ 38,813	\$ (27,651)
	Foreign Plans		
	2022	2021	2020
Current year actuarial gain (loss)	\$ 19,181	\$ 6,257	\$ (2,530)
Current year prior service cost	(818)	—	2,701
Transfer actuarial loss	17	—	—
Amortization of net loss	1,688	2,325	2,121
Amortization of prior service cost	177	166	398
	\$ 20,245	\$ 8,748	\$ 2,690

Components of net periodic benefit cost:

	Domestic Plans		
	2022	2021	2020
Service cost	\$ 15,784	\$ 16,356	\$ 14,278
Interest cost	6,970	6,366	7,046
Expected return on plan assets	(12,912)	(12,293)	(12,248)
Amortization of net loss	6,670	10,099	5,684
Net periodic benefit cost	\$ 16,512	\$ 20,528	\$ 14,760
		Foreign Plans	
		2022	2021
		2020	
Service cost	\$ 7,547	\$ 8,159	\$ 7,311
Interest cost	1,388	843	1,410
Expected return on plan assets	(2,728)	(2,838)	(2,620)
Amortization of net loss	1,688	2,325	2,121
Amortization of prior service cost	177	166	398
Net periodic benefit cost	\$ 8,072	\$ 8,655	\$ 8,620
Curtailement	(24)	5	(8)
Total Net periodic benefit cost	\$ 8,048	\$ 8,660	\$ 8,612

The accumulated benefit obligation (“ABO”) for our domestic defined benefit pension plans was \$152.4 million and \$236.3 million at 2022 and 2021, respectively. The ABO for our foreign defined benefit pension plans was \$73.8 million and \$96.0 million at December 31, 2022 and 2021, respectively.

The following table provides the projected benefit obligation (“PBO”), ABO, and fair value of plan assets for all pension plans with an ABO in excess of plan assets as of December 31, 2022 and 2021.

	Domestic Plans		Foreign Plans	
	2022	2021	2022	2021
Projected benefit obligation	\$ 11,025	\$ 255,457	\$ 54,455	\$ 89,595
Accumulated benefit obligation	10,087	236,295	40,481	63,614
Fair value of plan assets	—	193,770	34,446	49,916

The following table provides the PBO, ABO and fair value of plan assets for all pension plans with a PBO in excess of plan assets as of December 31, 2022 and 2021.

	Domestic Plans		Foreign Plans	
	2022	2021	2022	2021
Projected benefit obligation	\$ 11,025	\$ 255,457	\$ 71,730	\$ 97,221
Accumulated benefit obligation	10,087	236,295	52,173	69,630
Fair value of plan assets	—	193,770	47,236	56,228

Assumptions:

	Domestic Plans			Foreign Plans		
	2022	2021	2020	2022	2021	2020
Weighted-average assumptions used to determine benefit obligations at December 31:						
Discount rate	5.15 %	2.75 %	2.40 %	3.69 %	1.09 %	0.54 %
Rate of compensation increase	3.20 %	3.17 %	3.19 %	3.21 %	3.05 %	3.05 %
Weighted-average assumptions used to determine net periodic benefit cost for years ended December 31:						
Discount rate	2.75 %	2.40 %	3.20 %	1.20 %	0.66 %	1.12 %
Expected long-term return on plan assets	7.00 %	7.00 %	7.00 %	3.53 %	3.56 %	3.59 %
Rate of compensation increase	3.20 %	3.17 %	4.00 %	3.20 %	3.05 %	3.05 %

We develop the expected long-term rate of return assumptions based on historical experience and by evaluating input from the plans' asset managers, including the managers' review of asset class return expectations and benchmarks, economic indicators and long-term inflation assumptions.

In order to determine the 2023 net periodic benefit cost, we expect to use the December 31, 2022 discount rates, December 31, 2022 rates of compensation increase assumptions and the same assumed long-term returns on domestic and foreign plan assets used for the 2022 net periodic benefit cost.

Our domestic and foreign pension plan weighted-average asset allocations at December 31, 2022 and 2021 by asset category are as follows:

Plan Assets:

	Domestic Plans Assets at December 31,		Foreign Plans Assets at December 31,	
	2022	2021	2022	2021
Equity securities	47 %	48 %	5 %	6 %
Fixed income securities	27 %	27 %	1 %	1 %
Corporate debt securities	—	—	1 %	2 %
Infrastructure	8 %	8 %	—	—
Hedge funds	10 %	11 %	—	—
Money market	1 %	1 %	1 %	1 %
Investment Funds	—	—	92 %	90 %
Real estate	7 %	5 %	—	—
Total	100 %	100 %	100 %	100 %

Our investment strategy for our domestic and foreign pension plans is to maximize the long-term rate of return on plan assets within an acceptable level of risk. The investment policy strives to have assets sufficiently diversified so that adverse or unexpected results from one security type will not have an unduly detrimental impact on the entire portfolio and accordingly, establishes a target allocation for each asset category within the portfolio. The domestic plan asset allocation is reviewed on a quarterly basis and the foreign plan asset allocation is reviewed annually. Rebalancing occurs as needed to comply with the investment strategy. The domestic plan target allocation for 2023 is 58% equity securities and 42% fixed income securities and infrastructure. The foreign plan target allocation for 2023 is 100% investment funds.

Authoritative guidelines require the categorization of assets and liabilities into three levels based upon the assumptions (inputs) used to price the assets or liabilities. Level 1 provides the most reliable measure of fair value, whereas Level 3 generally requires significant management judgment. The three levels are defined as follows:

- Level 1: Unadjusted quoted prices in active markets for identical assets and liabilities.
- Level 2: Observable inputs other than those included in Level 1. For example, quoted prices for similar assets or liabilities in active markets or quoted prices for identical assets or liabilities in inactive markets.
- Level 3: Unobservable inputs reflecting management's own assumptions about the inputs used in pricing the asset or liability.

(In Thousands \$)	Domestic Fair Value Measurement at December 31, 2022				Foreign Fair Value Measurement at December 31, 2022			
	Total	(Level 1)	(Level 2)	(Level 3)	Total	(Level 1)	(Level 2)	(Level 3)
Cash and Short-term Securities (a)	\$ 1,260	\$ 1,260	\$ —	\$ —	\$ 516	\$ 516	\$ —	\$ —
USD	—	1,260	—	—	—	—	—	—
EUR	—	—	—	—	—	505	—	—
Others	—	—	—	—	—	11	—	—
Equity Securities (a)	\$ 66,338	\$ 66,338	\$ —	\$ —	\$ 3,769	\$ 3,769	\$ —	\$ —
U.S. Large Cap Equities	—	37,537	—	—	—	—	—	—
U.S. Small Cap Equities	—	7,918	—	—	—	—	—	—
International Equities	—	20,883	—	—	—	3,769	—	—
Fixed Income (a)(b)	\$ 28,443	\$ 28,443	\$ —	\$ —	\$ 723	\$ 723	\$ —	\$ —
Corporate debts securities	\$ —	\$ —	\$ —	\$ —	\$ 1,135	\$ 1,135	\$ —	\$ —
Euro Corporate Bonds (a)	—	—	—	—	—	1,135	—	—
Investment Funds	\$ —	\$ —	\$ —	\$ —	\$ 66,380	\$ 21,952	\$ 44,428	\$ —
Mutual Funds in Equities (a)	—	—	—	—	—	5,221	—	—
Mutual Funds in Bonds (a)	—	—	—	—	—	15,901	—	—
Mutual Funds Diversified (a)(b)	—	—	—	—	—	830	44,428	—
Total Investments in Fair Value Hierarchy	\$ 96,041	\$ 96,041	\$ —	\$ —	\$ 72,523	\$ 28,095	\$ 44,428	\$ —
Investments at Net Asset Value per Share	66,110	—	—	—	—	—	—	—
Total Investments	\$ 162,151	\$ 96,041	\$ —	\$ —	\$ 72,523	\$ 28,095	\$ 44,428	\$ —

(In Thousands \$)	Domestic Fair Value Measurement at December 31, 2021				Foreign Fair Value Measurement at December 31, 2021			
	Total	(Level 1)	(Level 2)	(Level 3)	Total	(Level 1)	(Level 2)	(Level 3)
Cash and Short-term Securities (a)	\$ 1,864	\$ 1,864	\$ —	\$ —	\$ 547	\$ 547	\$ —	\$ —
USD	—	1,864	—	—	—	—	—	—
EUR	—	—	—	—	—	539	—	—
Others	—	—	—	—	—	8	—	—
Equity Securities (a)	\$ 82,927	\$ 82,927	\$ —	\$ —	\$ 4,881	\$ 4,881	\$ —	\$ —
U.S. Large Cap Equities	—	49,637	—	—	—	—	—	—
U.S. Small Cap Equities	—	9,112	—	—	—	—	—	—
International Equities	—	24,178	—	—	—	4,881	—	—
Fixed Income (a)(b)	\$ 34,584	\$ 34,584	\$ —	\$ —	\$ 772	\$ 772	\$ —	\$ —
Corporate debts securities	\$ —	\$ —	\$ —	\$ —	\$ 1,413	\$ 1,413	\$ —	\$ —
Euro Corporate Bonds (a)	—	—	—	—	—	1,413	—	—
Investment Funds	\$ —	\$ —	\$ —	\$ —	\$ 77,808	\$ 26,381	\$ 51,427	\$ —
Mutual Funds in Equities (a)	—	—	—	—	—	4,576	—	—
Mutual Funds in Bonds (a)	—	—	—	—	—	20,810	—	—
Mutual Funds Diversified (a)(b)	—	—	—	—	—	995	51,427	—
Total Investments in Fair Value Hierarchy	\$ 119,375	\$ 119,375	\$ —	\$ —	\$ 85,421	\$ 33,994	\$ 51,427	\$ —
Investments at Net Asset Value per Share	74,395	—	—	—	—	—	—	—
Total Investments	\$ 193,770	\$ 119,375	\$ —	\$ —	\$ 85,421	\$ 33,994	\$ 51,427	\$ —

(a) Based on third party quotation from financial institution.

(b) Based on observable market transactions.

Contributions

Annual cash contributions to fund pension costs accrued under our domestic plans are generally at least equal to the minimum funding amounts required by ERISA. We contributed \$15.5 million to our domestic defined benefit plans in 2022 and although we have no minimum funding requirement, we plan to contribute approximately \$0.5 million to pay our ongoing SERP annuity contracts in 2023. Contributions to fund pension costs accrued under our foreign plans are made in accordance with local laws or at our discretion. We contributed approximately \$1.9 million to our foreign defined benefit plan in 2022 and expect to contribute approximately \$0.5 million in 2023.

Estimated Future Benefit Payments

As of December 31, 2022, we expect the plans to make the following estimated benefit payments relating to our defined benefit plans over the next ten years:

	Domestic Plans	Foreign Plans
2023	\$ 10,184	\$ 2,652
2024	10,948	4,781
2025	11,241	6,658
2026	12,743	5,136
2027	11,828	7,700
2028 - 2032	70,372	38,262

Other Plans

We have a non-qualified supplemental pension plan for domestic employees which provides for pension amounts that would have been payable from our principal domestic pension plan if it were not for limitations imposed by income tax regulations. The liability for this plan, which is not funded, was \$11.0 million and \$14.9 million at December 31, 2022 and 2021, respectively. This amount is included in the liability for domestic plans shown above.

We have a defined contribution 401(k) employee savings plan ("401(k) plan") available to substantially all domestic employees. Company matching contributions are made in cash up to a maximum of 3% of the participating employee's salary subject to income tax regulations. For each of the years ended December 31, 2022, 2021 and 2020, total contributions made to these plans were approximately \$5.0 million, \$4.5 million and \$4.3 million, respectively. As discussed above, domestic employees hired after December 31, 2020 will no longer be eligible for the pension plans and will instead receive an annual Aptar Retirement Savings Account contribution of 5% of their eligible earnings in the 401(k) plan. For the years ended December 31, 2022 and 2021, total contributions for these eligible employees was approximately \$2.0 million and \$0.7 million, respectively.

We have several foreign defined contribution plans, which require us to contribute a percentage of the participating employee's salary according to local regulations. For each of the years ended December 31, 2022, 2021 and 2020, total contributions made to these plans were approximately \$2.9 million, \$2.9 million and \$2.4 million, respectively.

We have no additional postretirement or postemployment benefit plans.

NOTE 10 ACCUMULATED OTHER COMPREHENSIVE INCOME/(LOSS)

Changes in Accumulated Other Comprehensive Income/(Loss) by Component:

	Foreign Currency	Defined Benefit Pension Plans	Derivatives	Total
Balance - December 31, 2019	\$ (257,124)	\$ (83,147)	\$ (1,677)	\$ (341,948)
Other comprehensive (loss) income before reclassifications	79,099	(25,389)	(9,172)	44,538
Amounts reclassified from accumulated other comprehensive income	—	6,214	9,487	15,701
Net current-period other comprehensive (loss) income	79,099	(19,175)	315	60,239
Balance - December 31, 2020	\$ (178,025)	\$ (102,322)	\$ (1,362)	\$ (281,709)
Other comprehensive income (loss) before reclassifications	(71,475)	26,409	8,584	(36,482)
Amounts reclassified from accumulated other comprehensive income (loss)	—	9,427	(7,277)	2,150
Net current-period other comprehensive income (loss)	(71,475)	35,836	1,307	(34,332)
Balance - December 31, 2021	\$ (249,500)	\$ (66,486)	\$ (55)	\$ (316,041)
Other comprehensive (loss) income before reclassifications	(79,240)	54,149	(6,666)	(31,757)
Amounts reclassified from accumulated other comprehensive income	—	6,386	46	6,432
Net current-period other comprehensive (loss) income	(79,240)	60,535	(6,620)	(25,325)
Balance - December 31, 2022	\$ (328,740)	\$ (5,951)	\$ (6,675)	\$ (341,366)

Reclassifications Out of Accumulated Other Comprehensive Income/(Loss):

Details about Accumulated Other Comprehensive Income Components	Amount Reclassified from Accumulated Other Comprehensive Income			Affected Line in the Statement Where Net Income is Presented
	2022	2021	2020	
Year Ended December 31,				
Defined Benefit Pension Plans				
Amortization of net loss	\$ 8,358	\$ 12,424	\$ 7,805	(1)
Amortization of prior service cost	177	166	398	(1)
	8,535	12,590	8,203	Total before tax
	(2,149)	(3,163)	(1,989)	Tax benefit
	\$ 6,386	\$ 9,427	\$ 6,214	Net of tax
Derivatives				
Changes in cross currency swap: interest component	\$ (171)	\$ (13)	\$ (1,474)	Interest Expense
Changes in cross currency swap: foreign exchange component	217	(7,264)	10,961	Miscellaneous, net
	46	(7,277)	9,487	Total before tax
	—	—	—	Tax benefit
	\$ 46	\$ (7,277)	\$ 9,487	Net of tax
Total reclassifications for the period	\$ 6,432	\$ 2,150	\$ 15,701	

(1) These accumulated other comprehensive income components are included in the computation of total net periodic benefit costs, net of tax (see Note 9 - Retirement and Deferred Compensation Plans for additional details).

NOTE 11 DERIVATIVE INSTRUMENTS AND HEDGING ACTIVITIES

We maintain a foreign exchange risk management policy designed to establish a framework to protect the value of our non-functional currency denominated transactions from adverse changes in exchange rates. Sales of our products can be denominated in a currency different from the currency in which the related costs to produce the product are denominated. Changes in exchange rates on such inter-country sales or intercompany loans can impact our results of operations. Our policy is not to engage in speculative foreign currency hedging activities, but to minimize our net foreign currency transaction exposure defined as firm commitments and transactions recorded and denominated in currencies other than the functional currency. We may use foreign currency forward exchange contracts, options and cross currency swaps to economically hedge these risks.

For derivative instruments designated as hedges, we formally document the nature and relationships between the hedging instruments and the hedged items, as well as the risk management objectives, strategies for undertaking the various hedge transactions, and the method of assessing hedge effectiveness at inception. Quarterly thereafter, we formally assess whether the derivatives that are used in hedging transactions are highly effective in offsetting changes in the fair value or cash flows of the hedged item. Additionally, in order to designate any derivative instrument as a hedge of an anticipated transaction, the significant characteristics and expected terms of any anticipated transaction must be specifically identified, and it must be probable that the anticipated transaction will occur. All derivative financial instruments used as hedges are recorded at fair value in the Consolidated Balance Sheets (See Note 12 – Fair Value).

Cash Flow Hedge

For derivative instruments that are designated and qualify as cash flow hedges, the changes in fair values are recorded in accumulated other comprehensive loss and included in changes in derivative gain/loss. The changes in the fair values of derivatives designated as cash flow hedges are reclassified from accumulated other comprehensive loss to net income when the underlying hedged item is recognized in earnings. Cash flows from the settlement of derivative contracts designated as cash flow hedges offset cash flows from the underlying hedged items and are included in operating activities in the Consolidated Statements of Cash Flows.

In 2017 our wholly owned UK subsidiary borrowed \$280 million in term loan borrowings under our prior credit facility. In order to mitigate the currency risk of U.S. dollar debt on a euro functional currency entity and to mitigate the risk of variability in interest rates, we entered into a EUR/USD floating-to-fixed cross currency swap on July 20, 2017 in the notional amount of \$280 million to effectively hedge the foreign exchange and interest rate exposure on the \$280 million term loan. This EUR/USD swap agreement fixed our U.S. dollar floating-rate debt to 1.36% euro fixed-rate debt. The swap agreement expired on July 20, 2022.

Net Investment Hedge

A significant number of our operations are located outside of the United States. Because of this, movements in exchange rates may have a significant impact on the translation of the financial condition and results of operations of our foreign entities. A weakening U.S. dollar relative to foreign currencies has an additive translation effect on our financial condition and results of operations. Conversely, a strengthening U.S. dollar has a dilutive effect. In some cases we maintain debt in these subsidiaries to offset the net asset exposure. In the event we plan on a full or partial liquidation of any of our foreign subsidiaries where our net investment is likely to be monetized, we will consider hedging the currency exposure associated with such a transaction.

On July 6, 2022, we entered into a seven year USD/EUR fixed-to-fixed cross currency interest rate swap to effectively hedge the interest rate exposure relating to \$203 million of the \$400 million 3.60% Senior Notes due March 2032, which were issued by AptarGroup, Inc. on March 7, 2022. This USD/EUR swap agreement exchanged \$203 million of fixed-rate 3.60% USD debt to €200 million of fixed-rate 2.5224% EUR debt. We pay semi-annual fixed rate interest payments on the euro notional amount of €2.5 million and receive semi-annual fixed rate interest payments on the USD notional amount of \$3.7 million. This swap has been designated as a net investment hedge to effectively hedge the foreign exchange risk associated with €200 million of our euro denominated net assets. We elected the spot method for recording the net investment hedge. Gains and losses resulting from the settlement of the excluded components are recorded in interest expense in the Consolidated Statements of Income. Gains and losses resulting from the fair value adjustments to the cross currency swap agreements are recorded in accumulated other comprehensive loss as the swaps are effective in hedging the designated risk. As of December 31, 2022, the fair value of the cross currency swap was a \$8.8 million liability. The swap agreement will mature on September 15, 2029.

Other

As of December 31, 2022, we have recorded the fair value of foreign currency forward exchange contracts of \$1.1 million in prepaid and other and \$0.3 million in Accounts payable, accrued and other liabilities in the balance sheet. All forward exchange contracts outstanding as of December 31, 2022 had an aggregate notional contract amount of \$52.2 million.

Fair Value of Derivative Instruments in the Consolidated Balance Sheets as of December 31, 2022 and December 31, 2021

		December 31, 2022		December 31, 2021	
		Derivatives Designated as Hedging Instruments	Derivatives not Designated as Hedging Instruments	Derivatives Designated as Hedging Instruments	Derivatives not Designated as Hedging Instruments
Balance Sheet Location					
Derivative Assets					
Foreign Exchange Contracts	Prepaid and other	\$ —	\$ 1,107	\$ —	\$ 331
Cross Currency Swap Contract (1)	Prepaid and other	—	—	511	—
		\$ —	\$ 1,107	\$ 511	\$ 331
Derivative Liabilities					
Foreign Exchange Contracts	Accounts payable, accrued and other liabilities	\$ —	\$ 269	\$ —	\$ 221
Cross Currency Swap Contract (1)	Accounts payable, accrued and other liabilities	8,840	—	—	—
		\$ 8,840	\$ 269	\$ —	\$ 221

(1) This cross currency swap contract is composed of both an interest component and a foreign exchange component.

The Effect of Derivatives Designated as Hedging Instruments on Accumulated Other Comprehensive Income (Loss) for the Fiscal Years Ended December 31, 2022 and December 31, 2021

Derivatives in Cash Flow Hedging Relationships	Amount of Gain (Loss) Recognized in Other Comprehensive Income on Derivative		Location of (Loss) Gain Recognized in Income on Derivatives	Amount of Gain (Loss) Reclassified from Accumulated Other Comprehensive Income on Derivative		Total Amount of Affected Income Statement Line Item
	2022	2021		2022	2021	
Cross currency swap contract:						
Interest component	\$ 229	\$ 1,319	Interest expense	\$ 171	\$ 13	\$ (40,827)
Foreign exchange component	(6,894)	7,265	Miscellaneous, net	(217)	7,264	(4,799)
	<u>\$ (6,665)</u>	<u>\$ 8,584</u>		<u>\$ (46)</u>	<u>\$ 7,277</u>	

The Effect of Derivatives Not Designated as Hedging Instruments on the Consolidated Statements of Income for the Fiscal Years Ended December 31, 2022 and December 31, 2021

Derivatives Not Designated as Hedging Instruments	Location of (Loss) Gain Recognized in Income on Derivatives	Amount of (Loss) Gain Recognized in Income on Derivatives	
		2022	2021
Foreign Exchange Contracts	Other (Expense) Income: Miscellaneous, net	\$ 606	\$ (87)
		<u>\$ 606</u>	<u>\$ (87)</u>

Description	Gross Amount	Gross Amounts Offset in the Statement of Financial Position	Net Amounts Presented in the Statement of Financial Position	Gross Amounts not Offset in the Statement of Financial Position		Net Amount
				Financial Instruments	Cash Collateral Received	
December 31, 2022						
Derivative Assets	\$ 1,107	\$ —	\$ 1,107	\$ —	\$ —	\$ 1,107
Total Assets	<u>\$ 1,107</u>	<u>\$ —</u>	<u>\$ 1,107</u>	<u>\$ —</u>	<u>\$ —</u>	<u>\$ 1,107</u>
Derivative Liabilities	\$ 9,109	\$ —	\$ 9,109	\$ —	\$ —	\$ 9,109
Total Liabilities	<u>\$ 9,109</u>	<u>\$ —</u>	<u>\$ 9,109</u>	<u>\$ —</u>	<u>\$ —</u>	<u>\$ 9,109</u>
December 31, 2021						
Derivative Assets	\$ 842	\$ —	\$ 842	\$ —	\$ —	\$ 842
Total Assets	<u>\$ 842</u>	<u>\$ —</u>	<u>\$ 842</u>	<u>\$ —</u>	<u>\$ —</u>	<u>\$ 842</u>
Derivative Liabilities	\$ 221	\$ —	\$ 221	\$ —	\$ —	\$ 221
Total Liabilities	<u>\$ 221</u>	<u>\$ —</u>	<u>\$ 221</u>	<u>\$ —</u>	<u>\$ —</u>	<u>\$ 221</u>

NOTE 12 FAIR VALUE

Authoritative guidelines require the categorization of assets and liabilities into three levels based upon the assumptions (inputs) used to price the assets or liabilities. Level 1 provides the most reliable measure of fair value, whereas Level 3 generally requires significant management judgment. The three levels are defined as follows:

- Level 1: Unadjusted quoted prices in active markets for identical assets and liabilities.
- Level 2: Observable inputs other than those included in Level 1. For example, quoted prices for similar assets or liabilities in active markets or quoted prices for identical assets or liabilities in inactive markets.
- Level 3: Unobservable inputs reflecting management's own assumptions about the inputs used in pricing the asset or liability.

As of December 31, 2022, the fair values of our financial assets and liabilities were categorized as follows:

	Total	Level 1	Level 2	Level 3
Assets				
Investment in equity securities ⁽¹⁾	\$ 5,297	\$ 5,297	\$ —	\$ —
Foreign exchange contracts ⁽²⁾	1,107	—	1,107	—
Convertible notes	5,650	—	—	5,650
Total assets at fair value	\$ 12,054	\$ 5,297	\$ 1,107	\$ 5,650
Liabilities				
Foreign exchange contracts ⁽²⁾	\$ 269	\$ —	\$ 269	\$ —
Cross currency swap contract ⁽²⁾	8,840	—	8,840	—
Contingent consideration obligation	25,310	—	—	25,310
Total liabilities at fair value	\$ 34,419	\$ —	\$ 9,109	\$ 25,310

As of December 31, 2021, the fair values of our financial assets and liabilities were categorized as follows:

	Total	Level 1	Level 2	Level 3
Assets				
Investment in equity securities ⁽¹⁾	\$ 9,006	\$ 9,006	\$ —	\$ —
Foreign exchange contracts ⁽²⁾	331	—	331	—
Cross currency swap contract ⁽²⁾	511	—	511	—
Total assets at fair value	\$ 9,848	\$ 9,006	\$ 842	\$ —
Liabilities				
Foreign exchange contracts ⁽²⁾	\$ 221	\$ —	\$ 221	\$ —
Contingent consideration obligation	33,908	—	—	33,908
Total liabilities at fair value	\$ 34,129	\$ —	\$ 221	\$ 33,908

⁽¹⁾ Investment in PureCycle Technologies ("PCT" or "PureCycle"). See Note 20 - Investment in Equity Securities for discussion of this investment.

⁽²⁾ Market approach valuation technique based on observable market transactions of spot and forward rates.

The carrying amounts of our other current financial instruments such as cash and equivalents, accounts and notes receivable, notes payable and current maturities of long-term obligations approximate fair value due to the short-term maturity of the instrument. We consider our long-term debt obligations a Level 2 liability and utilize the market approach valuation technique based on interest rates that are currently available to us for issuance of debt with similar terms and maturities. The estimated fair value of our long-term obligations was \$0.9 billion as of December 31, 2022 and December 31, 2021.

During the first quarter of 2022, we invested \$5.0 million in a convertible note in Enable Injections, Inc. This investment is recorded at fair value and is a Level 3 fair value measurement.

During the second quarter of 2022, we invested \$1.0 million in a convertible note in Siklus Refill Pte. Ltd. ("Siklus"). During the fourth quarter of 2022, Siklus repaid \$0.4 million of its convertible note. This investment is recorded at fair value and is a Level 3 fair value measurement.

As discussed in Note 19 – Acquisitions, we have a contingent consideration obligation to the selling equity holders of:

- Fusion in connection with the Fusion Acquisition (as defined herein) based on 2022 cumulative performance targets, and
- Noble in connection with the Noble Acquisition (as defined herein) based on 2024 cumulative performance targets

We consider these obligations a Level 3 liability and have estimated the aggregate fair value for these contingent consideration arrangements as follows:

	December 31, 2022	December 31, 2021
Fusion Acquisition	\$ 25,310	\$ 27,166
Noble Acquisition	—	6,742
	\$ 25,310	\$ 33,908

Changes in the fair value of these obligations are recorded within selling, research & development and administrative expenses in our Consolidated Statements of Income. Significant changes to the inputs, as noted above, can result in a significantly higher or lower fair value measurement. The following table provides a summary of changes in our Level 3 fair value measurements:

Balance, December 31, 2020	\$	31,140
Increase in fair value recorded in earnings		2,768
Balance, December 31, 2021	\$	33,908
Decrease in fair value recorded in earnings		(8,598)
Balance, December 31, 2022	\$	25,310

NOTE 13 COMMITMENTS AND CONTINGENCIES

In the normal course of business, we are subject to a number of lawsuits and claims both actual and potential in nature. While management believes the resolution of these claims and lawsuits will not have a material adverse effect on our financial position or results of operations or cash flows, claims and legal proceedings are subject to inherent uncertainties, and unfavorable outcomes could occur that could include amounts in excess of any accruals which management has established. Were such unfavorable final outcomes to occur, it is possible that they could have a material adverse effect on our financial position, results of operations and cash flows.

We have various purchase commitments for raw materials, supplies, and property and equipment obtained in the normal course of business. As of December 31, 2022, we have unconditional purchase commitments of approximately \$82.6 million over the next five years, for which no liabilities have been recorded.

Under our Certificate of Incorporation, we have agreed to indemnify our officers and directors for certain events or occurrences while the officer or director is, or was, serving at our request in such capacity. The maximum potential amount of future payments we could be required to make under these indemnification agreements is unlimited; however, we have a directors and officers liability insurance policy that covers a portion of our exposure. As a result of our insurance policy coverage, we believe the estimated fair value of these indemnification agreements is minimal. We have no liabilities recorded for these agreements as of December 31, 2022.

A fire caused damage to our facility in Annecy, France in June 2016. We were insured for the damages caused by the fire, including business interruption insurance. During the second quarter of 2022, we filed a lawsuit against the insurance company to recover a part of our claim. No gain contingencies have been recognized as our ability to realize those gains remains uncertain.

In March 2017, the Supreme Court of Brazil issued a decision that a certain state value added tax should not be included in the calculation of federal gross receipts taxes. We submitted our claim and on September 30, 2021, we received a formal decision statement from the Federal Regional Court of Brazil that the favorable court decisions are final. In 2021 and 2020, we received favorable court decisions of \$7.4 million and \$0.7 million, respectively, for the retrospective right to recover part of our claim. These amounts are recorded in cost of sales as a favorable impact of \$5.6 million and \$0.7 million in 2021 and 2020, respectively, and \$1.8 million was recognized as interest income in 2021. We do not expect to receive any further amounts in future periods.

We are periodically subject to loss contingencies resulting from custom duties assessments. We accrue for anticipated costs when an assessment has indicated that a loss is probable and can be reasonably estimated. We have received claims worth approximately \$13 million in principal and \$5 million to \$6 million for interest and penalties. We are currently defending our position with respect to these claims in the respected administrative procedures. Due to uncertainty in the amount of the assessment and the timing of our appeal, no liability is recorded as of December 31, 2022.

We will continue to evaluate these liabilities periodically based on available information, including the progress of remedial investigations, the status of discussions with regulatory authorities regarding the methods and extent of remediation and the apportionment of costs and penalties among potentially responsible parties.

NOTE 14 STOCK REPURCHASE PROGRAM

On April 18, 2019, we announced a share repurchase authorization of up to \$350 million of common stock. This authorization replaces previous authorizations and has no expiration date. Aptar may repurchase shares through the open market, privately negotiated transactions or other programs, subject to market conditions.

In 2022 and 2021, we repurchased approximately 860 thousand and 615 thousand shares, respectively, of our outstanding common stock at a total cost of \$92.1 million and \$78.1 million, respectively. In 2020, we did not repurchase any shares. As of December 31, 2022, there was \$108.3 million of authorized share repurchases available to us.

NOTE 15 CAPITAL STOCK

We have 199 million authorized shares of common stock. The number of shares of common stock and treasury stock and the share activity were as follows:

	Common Shares			Treasury Shares		
	2022	2021	2020	2022	2021	2020
Balance at the beginning of the year	70,370,812	69,516,805	68,608,508	4,852,709	4,528,051	4,836,027
Employee option exercises	301,463	634,572	802,046	(157,682)	(290,316)	(307,976)
Director option exercises	—	47,500	26,551	—	—	—
Restricted stock vestings	176,535	171,935	79,700	—	—	—
Common stock repurchases	—	—	—	860,000	614,974	—
Balance at the end of the year	70,848,810	70,370,812	69,516,805	5,555,027	4,852,709	4,528,051

The cash dividends paid on the common stock for the years ended December 31, 2022, 2021 and 2020 aggregated \$99.5 million, \$98.5 million and \$92.7 million, respectively.

NOTE 16 STOCK-BASED COMPENSATION

We issue restricted stock units (“RSUs”), which consist of time-based and performance-based awards, to employees under stock awards plans approved by stockholders. In addition, RSUs are issued to non-employee directors under a Restricted Stock Unit Award Agreement for Directors pursuant to the Company's 2018 Equity Incentive Plan. RSUs granted to employees vest according to a specified performance period and/or vesting period. Time-based RSUs generally vest over three years. Performance-based RSUs vest at the end of the specified performance period, generally three years, assuming required performance or market vesting conditions are met. Performance-based RSUs have one of two vesting conditions: (1) based on our internal financial performance metrics or (2) based on our total shareholder return (“TSR”) relative to total shareholder returns of an industrial peer group. At the time of vesting, the vested shares of common stock are issued in the employee's name. In addition, RSU awards are generally net settled (shares are withheld to cover the employee tax obligation). RSUs granted to directors are only time-based and generally vest over one year.

The fair value of both time-based RSUs and performance-based RSUs pertaining to internal performance metrics is determined using the closing price of our common stock on the grant date. The fair value of performance-based RSUs pertaining to TSR is estimated using a Monte Carlo simulation. Inputs and assumptions used to calculate the fair value are shown in the table below. The fair value of these RSUs is expensed over the vesting period using the straight-line method or using the graded vesting method when an employee becomes eligible to retain the award at retirement.

Year Ended December 31,	2022	2021	2020
Fair value per stock award	\$ 141.95	\$ 171.63	\$ 94.98
Grant date stock price	\$ 114.52	\$ 141.59	\$ 83.93
Assumptions:			
Aptar's stock price expected volatility	20.20 %	21.40 %	23.80 %
Expected average volatility of peer companies	41.70 %	50.00 %	48.50 %
Correlation assumption	41.20 %	58.10 %	63.50 %
Risk-free interest rate	2.04 %	0.32 %	0.31 %
Dividend yield assumption	1.33 %	1.02 %	1.72 %

A summary of RSU activity as of December 31, 2022, and changes during the period then ended is presented below:

	Time-Based RSUs		Performance-Based RSUs	
	Units	Weighted Average Grant-Date Fair Value	Units	Weighted Average Grant-Date Fair Value
Nonvested at January 1, 2022	485,479	\$ 108.73	650,553	\$ 111.04
Granted	205,403	111.50	249,656	123.97
Vested	(256,872)	106.07	(43,388)	134.97
Forfeited	(7,649)	111.73	(245,950)	100.75
Nonvested at December 31, 2022	426,361	\$ 111.60	610,871	\$ 118.77

Included in the December 31, 2022 time-based RSUs are 11,797 units granted to non-employee directors and 10,007 units vested related to non-employee directors.

Year Ended December 31,	2022	2021	2020
Compensation expense	\$ 40,937	\$ 38,643	\$ 32,085
Fair value of units vested	32,013	32,414	12,038
Intrinsic value of units vested	33,024	42,970	14,446

The actual tax benefit realized for the tax deduction from RSUs was approximately \$8.0 million for the year ended December 31, 2022. As of December 31, 2022, there was \$47.8 million of total unrecognized compensation cost relating to RSU awards which is expected to be recognized over a weighted average period of 1.9 years.

Historically we issued stock options to our employees and non-employee directors. We have not issued stock options between 2019 and 2022. Stock options were awarded with the exercise price equal to the market price on the date of grant and generally vest over three years and expire 10 years after grant. For stock option grants, we used historical data to estimate expected life and volatility.

A summary of option activity under our stock plans as of December 31, 2022, and changes during the period then ended is presented below:

	Stock Awards Plans		Director Stock Option Plans	
	Options	Weighted Average Exercise Price	Options	Weighted Average Exercise Price
Outstanding, January 1, 2022	3,072,503	\$ 71.99	51,700	\$ 63.91
Exercised	(447,109)	64.05	—	—
Forfeited or expired	(1,450)	78.30	—	—
Outstanding at December 31, 2022	2,623,944	\$ 73.34	51,700	\$ 63.91
Exercisable at December 31, 2022	2,623,944	\$ 73.34	51,700	\$ 63.91

Weighted-Average Remaining Contractual Term (Years):

Outstanding at December 31, 2022	3.3	1.1
Exercisable at December 31, 2022	3.3	1.1

Aggregate Intrinsic Value:

Outstanding at December 31, 2022	\$ 96,149	\$ 2,382
Exercisable at December 31, 2022	\$ 96,149	\$ 2,382

Intrinsic Value of Options Exercised During the Years Ended:

December 31, 2022	\$ 20,608	\$ —
December 31, 2021	\$ 69,862	\$ 4,248
December 31, 2020	\$ 59,179	\$ 2,318

Year Ended December 31,	2021	2020
Compensation expense (included in SG&A)	\$ 185	\$ 1,693
Compensation expense (included in Cost of sales)	42	370
Compensation expense, Total	\$ 227	\$ 2,063
Compensation expense, net of tax	174	1,573
Grant date fair value of options vested	2,421	7,601

The reduction in stock option expense is due to our move to RSUs as discussed above. Cash received from option exercises was approximately \$28.5 million and the actual tax benefit realized for the tax deduction from option exercises was approximately \$4.4 million in the year ended December 31, 2022. As of December 31, 2022, there is no remaining valuation of stock options to be expensed in future periods.

NOTE 17 EARNINGS PER SHARE

Basic net income per share is calculated by dividing net income attributable to Aptar by the weighted-average number of common shares outstanding during the period. Diluted net income per share is calculated by dividing the net income attributable to Aptar by the weighted-average number of common and common equivalent shares outstanding during the applicable period. The difference between basic and diluted earnings per share is attributable to stock based compensation awards. Stock-based compensation awards for which total employee proceeds exceed the average market price over the applicable period would have an antidilutive effect on earnings per share, and accordingly, are excluded from the calculation of diluted earnings per share. The reconciliation of basic and diluted earnings per share ("EPS") for the years ended December 31, 2022, 2021 and 2020 are as follows:

	Income (Numerator)	Shares (Denominator)	Per Share Amount
For the Year Ended December 31, 2022			
Basic EPS			
Income available to common stockholders	\$ 239,288	65,402	\$ 3.66
Effect of Dilutive Securities			
Stock options		978	
Restricted stock		339	
Diluted EPS			
Income available to common stockholders	\$ 239,288	66,719	\$ 3.59
For the Year Ended December 31, 2021			
Basic EPS			
Income available to common stockholders	\$ 244,097	65,663	\$ 3.72
Effect of Dilutive Securities			
Stock options		1,600	
Restricted stock		419	
Diluted EPS			
Income available to common stockholders	\$ 244,097	67,682	\$ 3.61
For the Year Ended December 31, 2020			
Basic EPS			
Income available to common stockholders	\$ 214,040	64,418	\$ 3.32
Effect of Dilutive Securities			
Stock options		1,800	
Restricted stock		439	
Diluted EPS			
Income available to common stockholders	\$ 214,040	66,657	\$ 3.21

NOTE 18 SEGMENT INFORMATION

During the years ended December 31, 2022, 2021 and 2020, we were organized into three reporting segments. Operations that sell dispensing systems, drug delivery systems, sealing solutions and services to the prescription drug, consumer health care, injectables, active material science solutions and digital health markets formed the Pharma segment. Operations that sell dispensing systems and sealing solutions primarily to the beauty, personal care and home care markets formed the Beauty + Home segment. Operations that sell dispensing systems, sealing solutions and food service trays to the food and beverage markets formed the Food + Beverage segment.

The accounting policies of the segments are the same as those described in Note 1 – Summary of Significant Accounting Policies. We evaluate performance of our reporting segments and allocate resources based upon Adjusted EBITDA. Adjusted EBITDA is defined as earnings before net interest, taxes, depreciation, amortization, unallocated corporate expenses, restructuring initiatives, acquisition-related costs, net unrealized investment gains and losses related to observable market price changes on equity securities and other special items.

Financial information regarding our reporting segments is shown below:

Year Ended December 31,	2022	2021	2020
Total Sales:			
Pharma	\$ 1,372,449	\$ 1,297,996	\$ 1,234,107
Beauty + Home	1,461,894	1,456,208	1,320,988
Food + Beverage	523,643	511,112	407,435
Total Sales	\$ 3,357,986	\$ 3,265,316	\$ 2,962,530
Less: Intersegment Sales:			
Pharma	\$ 11,193	\$ 13,372	\$ 8,328
Beauty + Home	23,360	22,186	22,837
Food + Beverage	1,184	2,537	2,025
Total Intersegment Sales	\$ 35,737	\$ 38,095	\$ 33,190
Net Sales:			
Pharma	\$ 1,361,256	\$ 1,284,624	\$ 1,225,779
Beauty + Home	1,438,534	1,434,022	1,298,151
Food + Beverage	522,459	508,575	405,410
Net Sales	\$ 3,322,249	\$ 3,227,221	\$ 2,929,340
Adjusted EBITDA (1):			
Pharma	\$ 441,622	\$ 425,714	\$ 428,469
Beauty + Home	166,465	154,689	129,299
Food + Beverage	71,531	79,377	71,995
Corporate & Other, unallocated	(62,930)	(52,314)	(43,443)
Acquisition-related costs (2)	(231)	(3,811)	(6,087)
Restructuring Initiatives (3)	(6,597)	(23,240)	(26,492)
Net unrealized investment (loss) gain (4)	(3,323)	2,709	—
Depreciation and amortization (5)	(233,706)	(234,853)	(220,300)
Interest Expense	(40,827)	(30,284)	(33,244)
Interest Income	2,700	3,668	958
Income before Income Taxes	\$ 334,704	\$ 321,655	\$ 301,155
Depreciation and Amortization:			
Pharma	\$ 94,396	\$ 90,510	\$ 75,874
Beauty + Home	93,027	96,611	95,880
Food + Beverage	40,337	40,323	37,768
Corporate & Other	5,946	7,409	10,778
Depreciation and Amortization	\$ 233,706	\$ 234,853	\$ 220,300
Capital Expenditures:			
Pharma	\$ 164,396	\$ 154,077	\$ 117,835
Beauty + Home	86,048	100,531	93,980
Food + Beverage	32,378	34,136	29,956
Corporate & Other	29,491	29,686	15,690
Transfer of Corporate Technology Expenditures (6)	(1,886)	(10,495)	(11,507)
Capital Expenditures	\$ 310,427	\$ 307,935	\$ 245,954
Total Assets:			
Pharma	\$ 1,872,843	\$ 1,833,512	\$ 1,549,781
Beauty + Home	1,625,596	1,615,917	1,610,058
Food + Beverage	552,871	574,269	549,270
Corporate & Other	152,148	117,666	280,944
Total Assets	\$ 4,203,458	\$ 4,141,364	\$ 3,990,053

- (1) We evaluate performance of our reporting segments and allocate resources based upon Adjusted EBITDA. Adjusted EBITDA is defined as earnings before net interest, taxes, depreciation, amortization, unallocated corporate expenses, restructuring initiatives, acquisition-related costs, net unrealized investment gains and losses related to observable market price changes on equity securities and other special items.
- (2) Acquisition-related costs include transaction costs and purchase accounting adjustments related to acquisitions and investments (see Note 19 – Acquisitions and Note 20 – Investment in Equity Securities for further details).
- (3) Restructuring Initiatives includes expense items for the years ended December 31, 2022, 2021 and 2020 as follows (see Note 21 – Restructuring Initiatives for further details):

Year Ended December 31,	2022	2021	2020
Restructuring Initiatives by Segment			
Pharma	\$ —	\$ 76	\$ 220
Beauty + Home	6,460	10,447	24,464
Food + Beverage	137	404	1,903
Corporate & Other	—	12,313	(95)
Total Restructuring Initiatives	\$ 6,597	\$ 23,240	\$ 26,492

- (4) Net unrealized investment (loss) gain represents the change in fair value of our investment in PCT (see Note 20 - Investment in Equity Securities for further details).
- (5) Depreciation and amortization includes amortization related to acquisition purchase accounting adjustments. See the reconciliation of Non-U.S. GAAP measures.
- (6) The transfer of corporate technology expenditures represents amounts of projects managed by corporate for the benefit of specific entities within each segment. Once the projects are complete, all related costs are allocated from corporate to and paid by the appropriate entity and the associated assets are then depreciated at the entity level.

Geographic Information

The following are net sales and long-lived asset information by geographic area and product information for the years ended December 31, 2022, 2021 and 2020:

	2022	2021	2020
Net Sales to Unaffiliated Customers (1):			
United States	\$ 1,100,159	\$ 1,081,823	\$ 965,986
Europe:			
France	938,637	906,057	854,639
Germany	512,709	486,928	448,405
Italy	154,823	161,676	148,636
Other Europe	167,226	170,521	152,376
Total Europe	1,773,395	1,725,182	1,604,056
China	156,577	148,671	118,791
Other Foreign Countries	292,118	271,545	240,507
Total	\$ 3,322,249	\$ 3,227,221	\$ 2,929,340
Property, Plant and Equipment, Net			
United States	\$ 346,382	\$ 321,511	\$ 298,616
Europe:			
France	482,091	455,105	426,353
Germany	194,898	197,643	194,553
Italy	42,522	50,828	57,333
Other Europe	53,317	58,121	55,933
Total Europe	772,828	761,697	734,172
China	98,469	74,535	46,005
Other Foreign Countries	125,985	118,134	119,955
Total	\$ 1,343,664	\$ 1,275,877	\$ 1,198,748

- (1) Sales are attributed to countries based upon where the sales invoice to unaffiliated customers is generated.

No single customer or group of affiliated customers represents greater than 5% of our net sales in 2022, 2021 or 2020.

Effective January 1, 2023, there was a realignment of two of our segments, allowing us to better serve our customers and positioning us for long-term profitable growth. We will continue to have three reporting segments and they will be called Aptar Pharma, Aptar Beauty and Aptar Closures.

We are combining all of our closures operations into a single segment - Aptar Closures. The Aptar Closures business will serve multiple markets, including food, beverage, personal care, home care, beauty and healthcare. Closures that were developed in Beauty + Home and Pharma will move to Aptar Closures together with the operations of legacy Food + Beverage. Aptar's food protection business and our elastomeric flow-control technology business will continue to report through the Aptar Closures segment.

At the same time, we are simplifying and focusing our Beauty + Home segment to better leverage our complex spray and dispensing solutions for prestige and premium brands in the beauty and personal care markets. For many of our customers, personal care products are considered part of "beauty" and so we are renaming this segment, simply, Aptar Beauty.

NOTE 19 ACQUISITIONS

Business Combinations

On August 31, 2022, we completed the acquisition of all the outstanding capital stock of Metaphase Design Group Inc. ("Metaphase"). Metaphase, located in St. Louis, Missouri, is a leading expert in ergonomic and industrial design of handheld devices including medical devices. The purchase price was approximately \$5.1 million (net of \$0.1 million cash acquired) and was funded with cash on hand. As of the acquisition date, \$1.0 million was held in restricted cash for an indemnity escrow. The results of Metaphase have been included in the consolidated financial statements within our Pharma segment since the date of acquisition.

On September 2, 2021, following the signature of a share purchase agreement on July 22, 2021 and the approval of the French Ministry of Economy under the foreign investment clearance regulations, we completed the acquisition of 64.3% of the share capital of Voluntis S.A. ("Voluntis"). Voluntis, based in Paris, France and Boston, MA, is a pioneer in digital therapeutics. We acquired from certain members of the management and certain shareholders the entirety of their shares representing approximately 64.3% of the share capital of Voluntis (on a non-diluted basis) at a price of €8.70 per share for approximately €50.8 million (approximately \$60.4 million) funded with available cash on hand. This values the full company equity (on a fully diluted basis) at approximately €79.1 million (approximately \$93.9 million). Aptar launched a mandatory cash simplified tender offer to acquire Voluntis's remaining shares for the same price of €8.70 per share (the "tender offer"). During September 2021, Aptar acquired €8.4 million (approximately \$9.9 million) of additional shares from the tender offer, bringing the total investment as of September 30, 2021 to approximately €59.2 million (approximately \$70.3 million) representing 74.9% of the total share capital, and implies a non-controlling interest valued at €19.9 million (approximately \$23.6 million). Following completion of the tender offer, Aptar implemented a mandatory squeeze-out on the remaining outstanding shares of Voluntis on the same financial terms as those of the tender offer. During the fourth quarter of 2021, the tender offer and squeeze-out were completed and funded with available cash on hand and we acquired the remaining 25.1% of the share capital for €19.5 million (approximately \$22.6 million), resulting in Aptar owning 100.0% of the share capital of Voluntis.

The fair value of the Voluntis assets acquired include an acquired technology intangible asset of \$27.9 million and other intangible assets of \$8.4 million. The technology intangible asset was valued using the Multi-Period Excess Earnings Method ("MPEEM") valuation approach. Judgment was applied with respect to determining the fair value of the acquired technology, which involved the use of significant estimates and assumptions with respect to the revenue growth rate, technology obsolescence rate and discount rate.

On August 17, 2021, we completed the acquisition (the "Hengyu Acquisition") of 80% of the equity interests of Weihai Hengyu Medical Products Co., Ltd. ("Hengyu"). Hengyu, a leading Chinese manufacturer of elastomeric and plastic components used in injectable drug delivery, is based in Weihai, China. Under the terms of the agreement, 90% of the estimated purchase price for 80% ownership, RMB 347.7 million (approximately \$53.6 million), was paid to the sellers in August 2021, with available cash on hand. A final purchase price adjustment of RMB 1.5 million (approximately \$0.2 million) was recorded to Accounts payable, accrued and other liabilities and was paid in the fourth quarter of 2021. The remaining 10% of the acquisition price for 80% ownership, RMB 38.7 million (approximately \$6.0 million), is payable to the sellers eighteen months after closing plus simple interest of 4% and is expected to be funded with available cash on hand. This values the full company equity (on a fully diluted basis) at RMB 484.9 million (approximately \$74.8 million) and implies a non-controlling interest valued at RMB 97.0 million (approximately \$15.0 million) as of the acquisition date. Pursuant to the agreement, we have the option to acquire the remaining 20% of the equity of Hengyu upon the fifth anniversary of the closing date.

The fair value of the Hengyu assets acquired include a customer relationship intangible asset of \$24.1 million and other intangible assets of \$5.6 million. The customer relationship intangible asset was valued using the MPEEM valuation approach. Judgment was applied with respect to determining the fair value of the customer relationships, which involved the use of significant estimates and assumptions with respect to the revenue growth rates, customer attrition rates, Adjusted EBIT margins and discount rate.

For the year ended December 31, 2022, we recognized \$0.2 million in transaction costs related to the acquisition of Metaphase. For the year ended December 31, 2021, we recognized \$3.8 million in transaction costs related to the acquisitions of Voluntis and Hengyu. These costs are reflected in the selling, research & development and administration section of the Consolidated Statements of Income and within acquisition-related costs as disclosed in Note 18 – Segment Information. Pro forma, 2022, and 2021 reported results of operations for the 2022 and 2021 acquisitions have not been presented as the effects of these business combinations individually and in aggregate were not material to the consolidated results of operations.

The following table summarizes the assets acquired and liabilities assumed for the Voluntis and Hengyu acquisitions as of the acquisition date at estimated fair value.

	2021
Assets	
Cash and equivalents	\$ 3,852
Accounts receivable	5,208
Inventories	606
Other receivable	286
Prepaid and other	1,863
Property, plant and equipment	14,081
Goodwill	104,433
Intangible assets	65,981
Operating lease right-of-use assets	2,309
Other miscellaneous assets	78
Liabilities	
Current maturities of long-term obligations, net of unamortized debt issuance costs	1,410
Accounts payable, accrued and other liabilities	9,663
Deferred income taxes	16,792
Operating lease liabilities	2,306
Deferred and other non-current liabilities	5,770
Net assets acquired	\$ 162,756

The following table is a summary of the fair value estimates of the acquired identifiable intangible assets and weighted-average useful lives for the Voluntis and Hengyu acquisitions as of the acquisition date:

	2021	
	Weighted-Average Useful Life (in years)	Estimated Fair Value of Asset
Acquired technology	10	\$ 34,322
Customer relationships	11.6	30,258
License agreements and other	0.25	1,401
Total		\$ 65,981

Goodwill in the amount of \$3.0 million and \$104.4 million was recorded related to the 2022 and 2021 acquisitions, respectively, and is included in the Pharma segment. Goodwill is calculated as the excess of the consideration transferred over the net assets acquired and represents the estimated future economic benefits arising from other assets acquired that could not be individually identified and separately recognized. Goodwill acquired in our 2022 acquisition expands our portfolio of services as well as the ability to become a single source provider to our pharmaceutical and biotech customers, while goodwill acquired in our 2021 acquisitions largely consists of expansion into the digital health solutions market, by adding digital therapeutic solutions and broadening our digital health services provided to customers; as well as strengthening our capabilities in high-growth economies by enhancing the ability to respond to changing local market needs in the injectables market. Goodwill will not be amortized, but will be tested for impairment at least annually. For 2022 and 2021 acquisitions, no goodwill will be deductible for tax purposes.

NOTE 20 INVESTMENT IN EQUITY SECURITIES

Our investment in equity securities consisted of the following:

	December 31, 2022	December 31, 2021
Equity Method Investments		
BTY	\$ 31,490	\$ 33,199
Sonmol	4,997	5,904
Desotec GmbH	863	919
Other Investments		
PureCycle	5,297	9,006
YAT	5,508	5,978
Loop	2,894	2,894
Others	1,259	1,585
	\$ 52,308	\$ 59,485

Equity Method Investments

BTY

On January 1, 2020, we acquired 49% of the equity interests in three related companies: Suzhou Hsing Kwang, Suqian Hsing Kwang and Suzhou BTY (collectively referred to as “BTY”) for an approximate purchase price of \$32 million. We have a call option to acquire an additional 26% to 31% of BTY’s equity interests following the initial lock-up period of 5 years based on a predetermined formula. Subsequent to the second lock-up period, which ends 3 years after the initial lock-up period, we have a call option to acquire the remaining equity interests of BTY based on a predetermined formula. Additionally, the selling shareholders of BTY have a put option for the remaining equity interest to be acquired by Aptar based on a predetermined formula. The BTY entities are leading Chinese manufacturers of high quality, decorative metal components, metal-plastic sub-assemblies, and complete color cosmetics packaging solutions for the beauty industry.

Sonmol

On April 1, 2020, we invested \$5 million to acquire 30% of the equity interests in Healthcare, Inc., Shanghai Sonmol Internet Technology Co., Ltd. and its subsidiary, Shanghai Sonmol Medical Equipment Co., Ltd. (collectively referred to as “Sonmol”). Sonmol is a leading Chinese pharmaceutical company that provides consumer electric devices and connected devices for asthma control.

Kali Care

During 2017, we invested \$5 million to acquire 20% of the equity interests in Kali Care, a technology company that provides digital monitoring systems for medical devices. Since our investment, we have recognized approximately \$1.6 million of our cumulative pro-rata share of operating losses. During 2021 and 2020, we recognized an other than temporary impairment of \$0.4 million (\$0.3 million after-tax) and \$3.0 million (\$2.3 million after-tax), respectively, on our underlying assets in this investment as a result of a reassessment of the future value of the business and continued reduction in operating cash flows. In addition to our investment, we also hold a note receivable from Kalicare for \$1.5 million which is included in accounts and notes receivable in the Consolidated Balance Sheets. In March 2022, we recorded an expected credit loss reserve against the outstanding note receivable from Kali Care for \$1.5 million as a result of a proposed sale of the business. During the second quarter, we recovered \$0.1 million on this note and expect to receive similar amounts in annual payments over the next three years.

Desotec GmbH

During 2009, we invested €574 thousand to acquire 23% of the equity interests in Desotec GmbH, a leading manufacturer of special assembly machines for bulk processing for the pharmaceutical, beauty and home and food and beverages markets.

Other Investments

During August 2019, we invested \$2.5 million and \$1.0 million in the preferred equity of sustainability companies Loop and PureCycle, respectively, that were accounted for at cost less impairment, if any, plus or minus changes resulting from observable price changes in orderly transactions for identical or similar investments of the same issuer. During 2020, we invested an additional \$0.4 million and \$1.0 million in Loop and PureCycle, respectively, and also received \$333 thousand of equity in PureCycle in exchange for our resource dedication for technological partnership and support. In November 2020, we increased the value of the PureCycle investment by \$3.1 million based on observable price changes and recorded the gain in miscellaneous income in the Consolidated Statements of Income.

In March 2021, PureCycle was purchased by a special purpose acquisition company and was subsequently listed on Nasdaq under the ticker PCT. At that time, our investment in PureCycle was converted into shares of PCT resulting in less than a 1% ownership interest. This investment is now recorded at fair value based on observable market prices for identical assets and the change in fair value is recorded as a net investment gain or (loss) in the Consolidated Statements of Income. During 2021, we received \$333 thousand of shares of PCT in exchange for our resource dedication for technological partnership and support and exercised an option to purchase \$1.0 million of additional shares in connection with an FDA milestone.

We have sold the following PCT shares related to the PureCycle investment:

	Shares Sold	Proceeds	Realized Gain
October 2021	191,349 \$	2,434 \$	2,000
March 2022	107,600 \$	1,088 \$	841
August 2022	50,000 \$	511 \$	372

For the years ended December 31, 2022, 2021 and 2020 we recorded the following net investment gain/(loss) on our investment in PureCycle:

	2022	2021	2020
Net investment (loss) gain	\$ (2,110)	\$ 4,709	\$ 3,064

On July 7, 2021, we invested approximately \$5.9 million to acquire 10% of the equity interests in YAT, a multi-functional, science-driven online skincare solutions company.

Other than the expected credit loss reserve against the outstanding Kali Care note receivable, there were no indications of impairment noted in the year ended December 31, 2022 related to these investments.

NOTE 21 RESTRUCTURING INITIATIVES

In late 2017, we began a business transformation to drive profitable sales growth, increase operational excellence, enhance our approach to innovation and improve organizational effectiveness. The primary focus of the plan was the Beauty + Home segment; however, certain global general and administrative functions were also addressed. As of the end of 2021, we had completed the vast majority of our planned initiatives related to our transformation plan and do not expect additional restructuring expenses related to this plan going forward. During 2022, 2021 and 2020, we recognized \$0.4 million, \$23.2 million and \$26.5 million of restructuring costs related to this plan, respectively. During 2020, \$2.5 million of the \$26.5 million recognized was related to asset impairment. The cumulative expense incurred as of December 31, 2022 was \$136.6 million.

As of December 31, 2022 we have recorded the following activity associated with the transformation plan:

	Beginning Reserve at 12/31/2021	Net Charges for the Year Ended 12/31/2022	Cash Paid	Interest and FX Impact	Ending Reserve at 12/31/2022
Employee severance	\$ 3,535	\$ 303	\$ (3,131)	\$ (153)	\$ 554
Professional fees and other costs	260	70	(313)	(11)	6
Totals	\$ 3,795	\$ 373	\$ (3,444)	\$ (164)	\$ 560

During the third quarter of 2022, we began an initiative to optimize our operations and SG&A expenses. For the year ended December 31, 2022, we recognized \$6.2 million of restructuring costs related to this plan.

As of December 31, 2022, we have recorded the following activity associated with our optimization plan:

	Beginning Reserve at 12/31/2021	Net Charges for the Year Ended 12/31/2022	Cash Paid	Interest and FX Impact	Ending Reserve at 12/31/2022
Employee severance	\$ —	\$ 5,454	\$ (491)	\$ 30	\$ 4,993
Professional fees and other costs	—	770	(770)	—	—
Totals	\$ —	\$ 6,224	\$ (1,261)	\$ 30	\$ 4,993

REPORT OF INDEPENDENT REGISTERED PUBLIC ACCOUNTING FIRM

To the Board of Directors and Stockholders of AptarGroup, Inc.

Opinions on the Financial Statements and Internal Control over Financial Reporting

We have audited the accompanying consolidated balance sheets of AptarGroup, Inc. and its subsidiaries (the "Company") as of December 31, 2022 and 2021, and the related consolidated statements of income, comprehensive income, changes in equity and cash flows for each of the three years in the period ended December 31, 2022, including the related notes, and schedule of valuation and qualifying accounts for each of the three years in the period ended December 31, 2022 listed in the index appearing under Item 15(a)(2) (collectively referred to as the "consolidated financial statements"). We also have audited the Company's internal control over financial reporting as of December 31, 2022, based on criteria established in *Internal Control - Integrated Framework* (2013) issued by the Committee of Sponsoring Organizations of the Treadway Commission (COSO).

In our opinion, the consolidated financial statements referred to above present fairly, in all material respects, the financial position of the Company as of December 31, 2022 and 2021, and the results of its operations and its cash flows for each of the three years in the period ended December 31, 2022 in conformity with accounting principles generally accepted in the United States of America. Also in our opinion, the Company maintained, in all material respects, effective internal control over financial reporting as of December 31, 2022, based on criteria established in *Internal Control - Integrated Framework* (2013) issued by the COSO.

Basis for Opinions

The Company's management is responsible for these consolidated financial statements, for maintaining effective internal control over financial reporting, and for its assessment of the effectiveness of internal control over financial reporting, included in the accompanying Management's Report on Internal Control over Financial Reporting appearing under Item 9A. Our responsibility is to express opinions on the Company's consolidated financial statements and on the Company's internal control over financial reporting based on our audits. We are a public accounting firm registered with the Public Company Accounting Oversight Board (United States) (PCAOB) and are required to be independent with respect to the Company in accordance with the U.S. federal securities laws and the applicable rules and regulations of the Securities and Exchange Commission and the PCAOB.

We conducted our audits in accordance with the standards of the PCAOB. Those standards require that we plan and perform the audits to obtain reasonable assurance about whether the consolidated financial statements are free of material misstatement, whether due to error or fraud, and whether effective internal control over financial reporting was maintained in all material respects.

Our audits of the consolidated financial statements included performing procedures to assess the risks of material misstatement of the consolidated financial statements, whether due to error or fraud, and performing procedures that respond to those risks. Such procedures included examining, on a test basis, evidence regarding the amounts and disclosures in the consolidated financial statements. Our audits also included evaluating the accounting principles used and significant estimates made by management, as well as evaluating the overall presentation of the consolidated financial statements. Our audit of internal control over financial reporting included obtaining an understanding of internal control over financial reporting, assessing the risk that a material weakness exists, and testing and evaluating the design and operating effectiveness of internal control based on the assessed risk. Our audits also included performing such other procedures as we considered necessary in the circumstances. We believe that our audits provide a reasonable basis for our opinions.

Definition and Limitations of Internal Control over Financial Reporting

A company's internal control over financial reporting is a process designed to provide reasonable assurance regarding the reliability of financial reporting and the preparation of financial statements for external purposes in accordance with generally accepted accounting principles. A company's internal control over financial reporting includes those policies and procedures that (i) pertain to the maintenance of records that, in reasonable detail, accurately and fairly reflect the transactions and dispositions of the assets of the company; (ii) provide reasonable assurance that transactions are recorded as necessary to permit preparation of financial statements in accordance with generally accepted accounting principles, and that receipts and expenditures of the company are being made only in accordance with authorizations of management and directors of the company; and (iii) provide reasonable assurance regarding prevention or timely detection of unauthorized acquisition, use, or disposition of the company's assets that could have a material effect on the financial statements.

Because of its inherent limitations, internal control over financial reporting may not prevent or detect misstatements. Also, projections of any evaluation of effectiveness to future periods are subject to the risk that controls may become inadequate because of changes in conditions, or that the degree of compliance with the policies or procedures may deteriorate.

Critical Audit Matters

The critical audit matter communicated below is a matter arising from the current period audit of the consolidated financial statements that was communicated or required to be communicated to the audit committee and that (i) relates to accounts or disclosures that are material to the consolidated financial statements and (ii) involved our especially challenging, subjective, or complex judgments. The communication of critical audit matters does not alter in any way our opinion on the consolidated financial statements, taken as a whole, and we are not, by communicating the critical audit matter below, providing a separate opinion on the critical audit matter or on the accounts or disclosures to which it relates.

Revenue Recognition – Product Sales

As described in Notes 1 and 2 to the consolidated financial statements, product sales include the manufacturing and sale of drug delivery, consumer product dispensing and active material science solutions. The Company's consolidated net sales were \$3.3 billion for the year ended December 31, 2022, of which the majority is related to product sales at the time of shipment of the goods. Management recognizes revenue from these product sales when (or as) the performance obligations are satisfied (i.e., when the customer obtains control of the good or service). To determine when control transfers, management assesses, among other things, the shipping terms of the contract, shipping being one of the indicators of transfer of control. For a majority of product sales, control of the goods transfers to the customer at the time of shipment of the goods.

The principal consideration for our determination that performing procedures relating to revenue recognition for product sales is a critical audit matter is a high degree of auditor effort in performing procedures related to the Company's revenue recognition for product sales at the time of shipment of the goods.

Addressing the matter involved performing procedures and evaluating audit evidence in connection with forming our overall opinion on the consolidated financial statements. These procedures included testing the effectiveness of controls relating to the revenue recognition process, including controls over the recording of product sales upon satisfaction of the performance obligation at the time of shipment. These procedures also included, among others (i) testing the completeness and accuracy of certain data provided by management; (ii) evaluating certain revenue transactions by agreeing certain information between the sales order and related delivery document and billing document, and where applicable, obtaining and inspecting source documents, such as invoices, sales contracts, shipping documents, and cash receipts; (iii) evaluating certain revenue transactions, on a sample basis, by obtaining and inspecting source documents, such as invoices, sales contracts, shipping documents, and cash receipts; (iv) testing credit memos, on a sample basis, by obtaining and inspecting source documents, such as credit memos, invoices, and customer correspondence; and (v) testing, on a sample basis, outstanding customer invoice balances at year end and obtaining and inspecting evidence, such as confirmations, invoices, sales contracts, shipping documents, and subsequent cash receipts.

/s/ PricewaterhouseCoopers LLP

Chicago, Illinois
February 17, 2023

We have served as the Company's auditor since 1992.

ITEM 9. CHANGES IN AND DISAGREEMENTS WITH ACCOUNTANTS ON ACCOUNTING AND FINANCIAL DISCLOSURE

None.

ITEM 9A. CONTROLS AND PROCEDURES

DISCLOSURE CONTROLS AND PROCEDURES

Management has evaluated, with the participation of the chief executive officer and chief financial officer of the Company, the effectiveness of our disclosure controls and procedures (as such term is defined in Rule 13a-15(e) under the Securities Exchange Act of 1934) as of December 31, 2022. Based on that evaluation, the chief executive officer and chief financial officer have concluded that these controls and procedures were effective as of such date.

MANAGEMENT'S REPORT ON INTERNAL CONTROL OVER FINANCIAL REPORTING

Our management is responsible for establishing and maintaining adequate internal control over financial reporting, as such term is defined in Rule 13a-15(f) under the Securities Exchange Act of 1934. Because of its inherent limitations, internal control over financial reporting may not prevent or detect misstatements. Also, projections of any evaluation of effectiveness to future periods are subject to the risk that controls may become inadequate because of changes in conditions, or that the degree of compliance with the policies or procedures may deteriorate. Management has evaluated, with the participation of the chief executive officer and chief financial officer of the Company, the effectiveness of our internal control over financial reporting as of December 31, 2022 based on the framework in *Internal Control—Integrated Framework (2013)* issued by the Committee of Sponsoring Organizations of the Treadway Commission. Based on that evaluation under the framework in *Internal Control—Integrated Framework*, management has concluded that our internal control over financial reporting was effective as of December 31, 2022.

PricewaterhouseCoopers LLP, an independent registered public accounting firm, has issued an attestation report on the effectiveness of our internal control over financial reporting. This report appears on page 78.

CHANGES IN INTERNAL CONTROL OVER FINANCIAL REPORTING

No changes in our internal control over financial reporting (as such term is defined in Rule 13a-15(f) under the Securities Exchange Act of 1934) occurred during our fiscal quarter ended December 31, 2022 that materially affected, or are reasonably likely to materially affect, our internal control over financial reporting.

ITEM 9B. OTHER INFORMATION

On February 16, 2023, the Company and Robert Kuhn entered into an employment agreement amendment that extends the expiration date of the agreement until December 31, 2024, a copy of which is filed as Exhibit 10.69 to this report and is incorporated by reference.

ITEM 9C. DISCLOSURE REGARDING FOREIGN JURISDICTIONS THAT PREVENT INSPECTIONS

Not applicable.

PART III

ITEM 10. DIRECTORS, EXECUTIVE OFFICERS AND CORPORATE GOVERNANCE

Information with respect to directors may be found under the caption “Election of Directors” in our Proxy Statement for the Annual Meeting of Stockholders to be held on May 3, 2023 (the “2023 Proxy Statement”) and is incorporated herein by reference.

Information with respect to executive officers may be found under the caption “Information About Our Executive Officers” in Part I of this report and is incorporated herein by reference.

Information with respect to audit committee members and audit committee financial experts may be found under the caption “Corporate Governance—Audit Committee” in the 2023 Proxy Statement and is incorporated herein by reference.

Information with respect to our Code of Business Conduct and Ethics may be found under the caption “Corporate Governance—Code of Business Conduct and Ethics” in the 2023 Proxy Statement and is incorporated herein by reference. Our Code of Business Conduct and Ethics is available through the Corporate Governance link on the Investors page of our website (www.aptar.com).

The information set forth under the heading “Delinquent Section 16(a) Reports” in the 2023 Proxy Statement, if any, is incorporated herein by reference.

ITEM 11. EXECUTIVE COMPENSATION

The information set forth under the headings “Board Compensation”, “Executive Officer Compensation” and “Management Development and Compensation Committee Report” in the 2023 Proxy Statement is incorporated herein by reference. The information included under the heading “Management Development and Compensation Committee Report” in the 2023 Proxy Statement shall not be deemed to be “soliciting” material or to be “filed” with the SEC or subject to Regulation 14A or 14C, or to the liabilities of Section 18 of the Securities Exchange Act of 1934, as amended.

ITEM 12. SECURITY OWNERSHIP OF CERTAIN BENEFICIAL OWNERS AND MANAGEMENT AND RELATED STOCKHOLDER MATTERS

The information set forth under the heading “Security Ownership of Certain Beneficial Owners, Directors and Management” and “Equity Compensation Plan Information” in the 2023 Proxy Statement is incorporated herein by reference.

ITEM 13. CERTAIN RELATIONSHIPS AND RELATED TRANSACTIONS, AND DIRECTOR INDEPENDENCE

The information set forth under the heading “Transactions with Related Persons” and “Corporate Governance—Independence of Directors” in the 2023 Proxy Statement is incorporated herein by reference.

ITEM 14. PRINCIPAL ACCOUNTANT FEES AND SERVICES

Information with respect to the independent registered public accounting firm fees and services may be found under the caption “Ratification of the Appointment of PricewaterhouseCoopers LLP as the Independent Registered Public Accounting Firm for 2023” in the 2023 Proxy Statement. Such information is incorporated herein by reference.

PART IV

ITEM 15. EXHIBITS AND FINANCIAL STATEMENT SCHEDULES

(a) The following documents are filed as a part of this report:

Description

1) *All Financial Statements*

The financial statements are set forth under Item 8 of this report on Form 10-K

Consolidated Statements of Income for the Years Ended December 31, 2022, 2021 and 2020 34

Consolidated Statements of Comprehensive Income for the Years Ended December 31, 2022, 2021 and 2020 35

Consolidated Balance Sheets as of December 31, 2022 and 2021 36

Consolidated Statements of Changes in Equity for the Years Ended December 31, 2022, 2021 and 2020 38

Consolidated Statements of Cash Flows for the Years Ended December 31, 2022, 2021 and 2020 39

Notes to Consolidated Financial Statements 41

Report of Independent Registered Public Accounting Firm (PCAOB ID 238) 78

2) *II – Valuation and Qualifying Accounts* 89

All other schedules have been omitted because they are not applicable or not required.

(b) Exhibits required by Item 601 of Regulation S-K are incorporated by reference to the Index to Exhibits on pages 83-87 of this report.

ITEM 16. FORM 10-K SUMMARY

None.

INDEX TO EXHIBITS

Exhibit Number	Description
3.1	<u>Amended and Restated Certificate of Incorporation of AptarGroup, Inc., as amended, filed as Exhibit 4(a) to the Company's Registration Statement on Form S-8, filed on July 25, 2008, is hereby incorporated by reference.</u>
3.2	<u>Amended and Restated By-Laws of AptarGroup, Inc., filed as Exhibit 3.1 to the Company's quarterly report on Form 10-Q for the quarter ended June 30, 2020, is hereby incorporated by reference.</u>
	The Company hereby agrees to provide the Commission, upon request, copies of instruments defining the rights of holders of long-term debt of the Company and its subsidiaries as are specified by item 601(b)(4)(iii)(A) of Regulation S-K.
4.1	<u>Note Purchase Agreement dated as of July 31, 2008, among AptarGroup, Inc. and the purchasers listed on Schedule A thereto, filed as Exhibit 4.1 to the Company's quarterly report on Form 10-Q for the quarter ended June 30, 2008, is hereby incorporated by reference.</u>
4.2	<u>First Amendment to 2008 Note Purchase Agreement, dated as of November 30, 2010, among the Company and each of the institutions listed as signatories thereto, filed as Exhibit 4.2 to the Company's current report on Form 8-K filed on December 1, 2010, is hereby incorporated by reference.</u>
4.3	<u>Second Supplemental Note Purchase Agreement, dated as of September 5, 2012, among the Company and each of the purchasers listed in Exhibit A thereto, filed as Exhibit 4.1 to the Company's current report on Form 8-K filed on September 5, 2012, is hereby incorporated by reference.</u>
4.4	<u>Form of AptarGroup, Inc. 3.40% Series 2008-C-2 Senior Notes Due September 5, 2024, filed as Exhibit 4.3 to the Company's current report on Form 8-K filed on September 5, 2012, is hereby incorporated by reference.</u>
4.5	<u>Note Purchase Agreement, dated as of December 16, 2014, among the Company and each of the purchasers listed in Schedule B thereto, filed as Exhibit 4.1 to the Company's current report on Form 8-K filed on December 17, 2014, is hereby incorporated by reference.</u>
4.6	<u>Form of AptarGroup, Inc. 3.49% Series 2014-A-2 Senior Notes due February 26, 2024 (included as a part of Exhibit 4.5), filed as Exhibit 4.3 to the Company's current report on Form 8-K filed on December 17, 2014, is hereby incorporated by reference.</u>
4.7	<u>Form of AptarGroup, Inc. 3.61% Series 2014-A-3 Senior Notes due December 16, 2025 (included as a part of Exhibit 4.5), filed as Exhibit 4.4 to the Company's current report on Form 8-K filed on December 17, 2014, is hereby incorporated by reference.</u>
4.8	<u>Form of AptarGroup, Inc. 3.61% Series 2014-A-4 Senior Notes due February 26, 2026 (included as a part of Exhibit 4.5), filed as Exhibit 4.5 to the Company's current report on Form 8-K filed on December 17, 2014, is hereby incorporated by reference.</u>
4.9	<u>Second Amendment to 2008 Note Purchase Agreement, dated as of December 16, 2014, among the Company and each of the noteholders listed on the signature pages thereto, filed as Exhibit 4.7 to the Company's current report on Form 8-K filed on December 17, 2014, is hereby incorporated by reference.</u>
4.10	<u>Note Purchase and Guaranty Agreement, dated as of July 19, 2017, among AptarGroup UK Holdings, Limited and each of the purchasers listed in Purchasers Schedule thereto, filed as Exhibit 4.1 to the Company's current report on Form 8-K filed on July 25, 2017, is hereby incorporated by reference.</u>
4.11	<u>Form of AptarGroup, Inc. 0.98% Series D Senior Notes due July 19, 2023 (included as a part of Exhibit 4.10), filed as Exhibit 4.2 to the Company's current report on Form 8-K filed on July 25, 2017, is hereby incorporated by reference.</u>
4.12	<u>Form of AptarGroup, Inc. 1.17% Series E Senior Notes due July 19, 2024 (included as a part of Exhibit 4.10), filed as Exhibit 4.3 to the Company's current report on Form 8-K filed on July 25, 2017, is hereby incorporated by reference.</u>
4.13	<u>Assignment, Assumption and Amendment Agreement, dated as of March 1, 2022, among AptarGroup, Inc., AptarGroup UK Holdings Limited, and the holders of the 0.98% Series D Senior Notes due July 19, 2023 and 1.17% Series E Senior Notes due July 19, 2024, filed as Exhibit 4.4 to the Company's quarterly report on Form 10-Q for the quarter ended March 31, 2022, is hereby incorporated by reference.</u>
4.14	<u>Third Amendment to the 2008 Note Purchase Agreement, dated as of July 19, 2017, among the Company and each of the noteholders listed on the signature pages thereto, filed as Exhibit 4.4 to the Company's current report on Form 8-K filed on July 25, 2017, is hereby incorporated by reference.</u>
4.15	<u>First Amendment to 2014 Note Purchase Agreement, dated as of July 19, 2017, among the Company and each of the noteholders listed on the signature pages thereto, filed as Exhibit 4.5 to the Company's current report on Form 8-K filed on July 25, 2017, is hereby incorporated by reference.</u>
4.16	<u>Description of the Company's Securities, filed as Exhibit 4.17 to the Company's annual report on Form 10-K for the fiscal year ended December 31, 2020, is hereby incorporated by reference.</u>
4.17	<u>Indenture, dated as of March 7, 2022, between AptarGroup, Inc. and U.S. Bank Trust Company, National Association, as trustee, filed as Exhibit 4.1 to AptarGroup, Inc.'s current report on Form 8-K filed on March 7, 2022, is hereby incorporated by reference.</u>
4.18	<u>First Supplemental Indenture, dated as of March 7, 2022, between AptarGroup, Inc. and U.S. Bank Trust Company, National Association, as trustee, filed as Exhibit 4.2 to AptarGroup, Inc.'s current report on Form 8-K filed on March 7, 2022, is hereby incorporated by reference.</u>

Exhibit Number	Description
4.19	<u>Form of 3.600% Senior Notes due 2032 (included as a part of Exhibit 4.18).</u>
10.1	<u>AptarGroup, Inc. 2000 Stock Awards Plan, filed as Appendix A to the Company's Proxy Statement, dated April 6, 2000, is hereby incorporated by reference.**</u>
10.2	<u>AptarGroup, Inc. 2004 Stock Awards Plan, filed as Appendix A to the Company's Proxy Statement, dated March 26, 2004, is hereby incorporated by reference.**</u>
10.3	<u>AptarGroup, Inc. 2004 Director Stock Option Plan, filed as Appendix B to the Company's Proxy Statement, dated March 26, 2004, is hereby incorporated by reference.**</u>
10.4	<u>AptarGroup, Inc., Stock Option Agreement for Employees pursuant to the AptarGroup, Inc. 2004 Stock Awards Plan, filed as Exhibit 10.1 to the Company's quarterly report on Form 10-Q for the quarter ended September 30, 2004, is hereby incorporated by reference.**</u>
10.5	<u>AptarGroup, Inc. Stock Option Agreement for Non-Employee Directors pursuant to the AptarGroup, Inc. 2004 Director Option Plan, filed as Exhibit 10.2 to the Company's quarterly report on Form 10-Q for the quarter ended September 30, 2004, is hereby incorporated by reference.**</u>
10.6	<u>AptarGroup, Inc. Stock Option Agreement for Employees pursuant to the AptarGroup, Inc. 2000 Stock Awards Plan, filed as Exhibit 10.3 to the Company's quarterly report on Form 10-Q for the quarter ended September 30, 2004, is hereby incorporated by reference.**</u>
10.7	<u>AptarGroup, Inc. Restricted Stock Award Agreement pursuant to the AptarGroup, Inc. 2000 Stock Awards Plan, filed as Exhibit 10.4 to the Company's quarterly report on Form 10-Q for the quarter ended September 30, 2004, is hereby incorporated by reference.**</u>
10.8	<u>Form of AptarGroup, Inc. Stock Option Agreement for Employees pursuant to the AptarGroup, Inc. 2014 Stock Awards Plan, filed as Exhibit 10.2 to the Company's quarterly report on Form 10-Q for the quarter ended June 30, 2014, is hereby incorporated by reference.**</u>
10.9	<u>Form of AptarGroup, Inc. Restricted Stock Unit Award Agreement pursuant to the AptarGroup, Inc. 2014 Stock Awards Plan, filed as Exhibit 10.3 to the Company's quarterly report on Form 10-Q for the quarter ended June 30, 2014, is hereby incorporated by reference.**</u>
10.10	<u>Supplementary Pension Plan—France dated August 24, 2001, filed as Exhibit 10.2 to the Company's quarterly report on Form 10-Q for the quarter ended March 31, 2004, is hereby incorporated by reference.**</u>
10.11	<u>AptarGroup, Inc. Supplemental Retirement Plan (amended and restated effective January 1, 2009), filed as Exhibit 10.1 to the Company's quarterly report on Form 10-Q for the quarter ended September 30, 2008, is hereby incorporated by reference.**</u>
10.12	<u>Employment Agreement, dated November 21, 2016, between AptarGroup, Inc. and Stephan B. Tanda, filed as Exhibit 10.1 to the Company's current report on Form 8-K filed on November 22, 2016, is hereby incorporated by reference.**</u>
10.13	<u>Employment Agreement effective January 1, 2012 of Robert W. Kuhn, filed as Exhibit 10.2 to the Company's quarterly report on Form 10-Q for the quarter ended September 30, 2012, is hereby incorporated by reference.**</u>
10.14	<u>Employment Agreement dated March 30, 2011 and amended February 10, 2016 of Gael Touya, filed as Exhibit 10.17 to the Company's annual report on Form 10-K for the fiscal year ended December 31, 2015, is hereby incorporated by reference.**</u>
10.15	<u>Amendment No. 2 to the Employment Agreement dated March 30, 2011 and amended February 10, 2016 of Gael Touya, filed as Exhibit 10.1 to the Company's quarterly report on Form 10-Q for the quarter ended September 30, 2020, is hereby incorporated by reference.**</u>
10.16	<u>Expatriate Letter Agreement, dated as of January 25, 2022, among AptarGroup, Inc., Aptar Europe Holding SAS and Gael Touya, including the Employment Contract Amendment Suspending the French Contract, filed as Exhibit 10.1 to AptarGroup, Inc.'s current report on Form 8-K filed on January 25, 2022, is hereby incorporated by reference.**</u>
10.17	<u>Employment Agreement effective December 1, 2019 of Marc Prieur, filed as Exhibit 10.16 to the Company's annual report on Form 10-K for the fiscal year ended December 31, 2020, is hereby incorporated by reference.**</u>
10.18	<u>Addendum to Employment Agreement of Marc Prieur dated April 14, 2021, filed as Exhibit 10.1 to the Company's quarterly report on Form 10-Q for the quarter ended March 31, 2021, is hereby incorporated by reference.**</u>
10.19	<u>AptarGroup, Inc. 2008 Stock Option Plan, filed as Exhibit 10.3 to the Company's current report on Form 8-K filed on May 1, 2008, is hereby incorporated by reference.**</u>
10.20	<u>AptarGroup, Inc. 2008 Director Stock Option Plan, filed as Exhibit 10.1 to the Company's current report on Form 8-K filed on May 1, 2008, is hereby incorporated by reference.**</u>
10.21	<u>Form of AptarGroup, Inc. Stock Option Agreement for Employees pursuant to the AptarGroup, Inc. 2008 Stock Option Plan, filed as Exhibit 10.4 to the Company's quarterly report on Form 10-Q for the quarter ended June 30, 2008, is hereby incorporated by reference.**</u>
10.22	<u>Form of AptarGroup, Inc. Stock Option Agreement for Directors pursuant to the AptarGroup, Inc. 2008 Director Stock Option Plan, filed as Exhibit 10.5 to the Company's quarterly report on Form 10-Q for the quarter ended June 30, 2008, is hereby incorporated by reference.**</u>

Exhibit Number	Description
10.23	<u>Form of AptarGroup, Inc. Restricted Stock Unit Award Agreement pursuant to the AptarGroup, Inc. 2004 Stock Awards Plan, filed as Exhibit 10.34 to the Company's annual report on Form 10-K for the fiscal year ended December 31, 2009, is hereby incorporated by reference.**</u>
10.24	<u>Form of AptarGroup, Inc. Stock Option Agreement for Employees pursuant to the AptarGroup, Inc. 2011 Stock Awards Plan, filed as Exhibit 10.2 to the Company's quarterly report on Form 10-Q for the quarter ended September 30, 2011, is hereby incorporated by reference.**</u>
10.25	<u>Form of AptarGroup, Inc. Restricted Stock Unit Award Agreement pursuant to the AptarGroup, Inc. 2011 Stock Awards Plan, filed as Exhibit 10.3 to the Company's quarterly report on Form 10-Q for the quarter ended September 30, 2011, is hereby incorporated by reference.**</u>
10.26	<u>AptarGroup, Inc. 2011 Stock Awards Plan, filed as Exhibit 10.1 to the Company's current report on Form 8-K filed on May 10, 2011, is hereby incorporated by reference.**</u>
10.27	<u>AptarGroup, Inc. 2014 Stock Awards Plan, filed as Exhibit 10.1 to the Company's current report on Form 8-K filed on May 12, 2014, is hereby incorporated by reference.**</u>
10.28	<u>Amendment to Stock Option Award Agreements, filed as Exhibit 10.1 to the Company's quarterly report on Form 10-Q for the quarter ended September 30, 2015, is hereby incorporated by reference.**</u>
10.29	<u>AptarGroup Performance Incentive Plan, filed as Exhibit 10.1 to the Company's current report on Form 8-K filed on May 13, 2013, is hereby incorporated by reference.**</u>
10.30	<u>AptarGroup, Inc. 2014 Long-Term Incentive Program (as Amended and Restated) under the AptarGroup, Inc. Performance Incentive Plan, filed as Exhibit 10.28 to the Company's annual report on Form 10-K for the fiscal year ended December 31, 2013, is hereby incorporated by reference.**</u>
10.31	<u>AptarGroup, Inc. 2014 Long-Term Incentive Program (as Amended and Restated) under the AptarGroup, Inc. Performance Incentive Plan filed as Exhibit 10.31 to the Company's annual report on Form 10-K for the fiscal year ended December 31, 2014, is hereby incorporated by reference.**</u>
10.32	<u>AptarGroup, Inc. 2015 Director Restricted Stock Unit Plan, filed as Exhibit 4(c) to the Company's Registration Statement on Form S-8, filed on May 6, 2015, is hereby incorporated by reference.**</u>
10.33	<u>Form of AptarGroup, Inc. 2015 Restricted Stock Unit Award Agreement for Directors pursuant to the AptarGroup, Inc. 2015 Director Restricted Stock Unit Plan, filed as Exhibit 10.2 to the Company's quarterly report on Form 10-Q for the quarter ended June 30, 2015, is hereby incorporated by reference.**</u>
10.34	<u>AptarGroup, Inc. 2016 Equity Incentive Plan, filed as Exhibit 10.1 to the Company's current report on Form 8-K filed on May 9, 2016, is hereby incorporated by reference.**</u>
10.35	<u>Form of AptarGroup, Inc. Stock Option Agreement for Employees pursuant to the AptarGroup, Inc. 2016 Equity Incentive Plan, filed as Exhibit 10.1 to the Company's quarterly report on Form 10-Q for the quarter ended March 31, 2016, is hereby incorporated by reference.**</u>
10.36	<u>Form of AptarGroup, Inc. Restricted Stock Unit Award Agreement pursuant to the AptarGroup, Inc. 2016 Equity Incentive Plan, filed as Exhibit 10.2 to the Company's quarterly report on Form 10-Q for the quarter ended March 31, 2016, is hereby incorporated by reference.**</u>
10.37	<u>Form of AptarGroup, Inc. 2016 Restricted Stock Unit Award Agreement for Directors pursuant to the AptarGroup, Inc. 2016 Equity Incentive Plan, filed as Exhibit 10.3 to the Company's quarterly report on Form 10-Q for the quarter ended March 31, 2016, is hereby incorporated by reference.**</u>
10.38	<u>Amended and Restated Credit Agreement, dated as of June 30, 2021, among AptarGroup, Inc., AptarGroup UK Holdings Limited, the financial institutions party thereto as Lenders and Wells Fargo Bank, National Association, as administrative agent and swingline lender, filed as Exhibit 10.1 to the Company's current report on Form 8-K filed on July 2, 2021, is hereby incorporated by reference.</u>
10.39	<u>AptarGroup 2018 Performance Incentive Plan, filed as Exhibit 10.1 to the Company's current report on Form 8-K filed on February 8, 2018, is hereby incorporated by reference.**</u>
10.40	<u>AptarGroup, Inc. Restricted Stock Unit Award Agreement (Service-Based Vesting Form), filed as Exhibit 10.43 to the Company's annual report on Form 10-K for the fiscal year ended December 31, 2017, is hereby incorporated by reference.**</u>
10.41	<u>AptarGroup, Inc. Restricted Stock Unit Award Agreement (Performance-Based Vesting Form), filed as Exhibit 10.44 to the Company's annual report on Form 10-K for the fiscal year ended December 31, 2017, is hereby incorporated by reference.**</u>
10.42	<u>AptarGroup, Inc. 2018 Equity Incentive Plan (as amended and restated effective May 6, 2020), filed as Exhibit 10.1 to the Company's current report on Form 8-K filed on May 7, 2020, is hereby incorporated by reference.**</u>
10.43	<u>2018 Equity Incentive Plan Restricted Stock Unit Award Agreement (Service-Based Vesting Form), filed as Exhibit 10.1 to the Company's quarterly report on Form 10-Q for the quarter ended June 30, 2018, is hereby incorporated by reference.**</u>
10.44	<u>2018 Equity Incentive Plan Restricted Stock Unit Award Agreement (Performance-Based Vesting Form), filed as Exhibit 10.2 to the Company's quarterly report on Form 10-Q for the quarter ended June 30, 2018, is hereby incorporated by reference.**</u>

Exhibit Number	Description
10.45	<u>2018 Equity Incentive Plan Restricted Stock Unit Award Agreement for Directors, filed as Exhibit 10.3 to the Company's quarterly report on Form 10-Q for the quarter ended June 30, 2018, is hereby incorporated by reference.**</u>
10.46	<u>Form of AptarGroup, Inc. Retention Award Restricted Stock Unit Award Agreement (Service-Based Vesting Form) (French employee version) pursuant to the AptarGroup, Inc. 2018 Equity Incentive Plan, filed as Exhibit 10.1 to the Company's quarterly report on Form 10-Q for the quarter ended June 30, 2019, is hereby incorporated by reference.**</u>
10.47	<u>Form of AptarGroup, Inc. Retention Award Restricted Stock Unit Award Agreement (Service-Based Vesting Form) (Non-French employee version) pursuant to the AptarGroup, Inc. 2018 Equity Incentive Plan, filed as Exhibit 10.2 to the Company's quarterly report on Form 10-Q for the quarter ended June 30, 2019, is hereby incorporated by reference.**</u>
10.48	<u>Form of AptarGroup, Inc. Restricted Stock Unit Award Agreement (Service-Based Vesting Form) (French employee version) pursuant to the AptarGroup, Inc. 2018 Equity Incentive Plan, filed as Exhibit 10.3 to the Company's quarterly report on Form 10-Q for the quarter ended June 30, 2019, is hereby incorporated by reference.**</u>
10.49	<u>Form of AptarGroup, Inc. Restricted Stock Unit Award Agreement (Service-Based Vesting Form) (Non-French employee version) pursuant to the AptarGroup, Inc. 2018 Equity Incentive Plan, filed as Exhibit 10.4 to the Company's quarterly report on Form 10-Q for the quarter ended June 30, 2019, is hereby incorporated by reference.**</u>
10.50	<u>Form of AptarGroup, Inc. Restricted Stock Unit Award Agreement (Service-Based Vesting Form) (Chinese employee version) pursuant to the AptarGroup, Inc. 2018 Equity Incentive Plan, filed as Exhibit 10.5 to the Company's quarterly report on Form 10-Q for the quarter ended June 30, 2019, is hereby incorporated by reference.**</u>
10.51	<u>Form of AptarGroup, Inc. Restricted Stock Unit Award Agreement (Performance-Based Vesting Form) (French employee version) pursuant to the AptarGroup, Inc. 2018 Equity Incentive Plan, filed as Exhibit 10.6 to the Company's quarterly report on Form 10-Q for the quarter ended June 30, 2019, is hereby incorporated by reference.**</u>
10.52	<u>Form of AptarGroup, Inc. Restricted Stock Unit Award Agreement (Performance-Based Vesting Form) (Non-French employee version) pursuant to the AptarGroup, Inc. 2018 Equity Incentive Plan, filed as Exhibit 10.7 to the Company's quarterly report on Form 10-Q for the quarter ended June 30, 2019, is hereby incorporated by reference.**</u>
10.53	<u>AptarGroup, Inc. Employment Agreement of Xiangwei Gong as of May 30, 2018, filed as Exhibit 10.8 to the Company's quarterly report on Form 10-Q for the quarter ended June 30, 2019, is hereby incorporated by reference.**</u>
10.54	<u>Form of AptarGroup, Inc. Restricted Stock Unit Award Agreement (Performance-Based Vesting Form) (U.S./Mexico/Argentina employee version) pursuant to the AptarGroup, Inc. 2018 Equity Incentive Plan, filed as Exhibit 10.1 to the Company's quarterly report on Form 10-Q for the quarter ended March 31, 2020, is hereby incorporated by reference.**</u>
10.55	<u>Form of AptarGroup, Inc. Restricted Stock Unit Award Agreement (Performance-Based Vesting Form) (French employee version) pursuant to the AptarGroup, Inc. 2018 Equity Incentive Plan, filed as Exhibit 10.2 to the Company's quarterly report on Form 10-Q for the quarter ended March 31, 2020, is hereby incorporated by reference.**</u>
10.56	<u>Form of AptarGroup, Inc. Restricted Stock Unit Award Agreement (Performance-Based Vesting Form) (All Other Employees) pursuant to the AptarGroup, Inc. 2018 Equity Incentive Plan, filed as Exhibit 10.3 to the Company's quarterly report on Form 10-Q for the quarter ended March 31, 2020, is hereby incorporated by reference.**</u>
10.57	<u>Form of AptarGroup, Inc. Restricted Stock Unit Award Agreement (Service-Based Vesting Form) (U.S./Mexico/Argentina employee version) pursuant to the AptarGroup, Inc. 2018 Equity Incentive Plan, filed as Exhibit 10.4 to the Company's quarterly report on Form 10-Q for the quarter ended March 31, 2020, is hereby incorporated by reference.**</u>
10.58	<u>Form of AptarGroup, Inc. Restricted Stock Unit Award Agreement (Service-Based Vesting Form) (non-French employee version) pursuant to the AptarGroup, Inc. 2018 Equity Incentive Plan, filed as Exhibit 10.57 to the Company's annual report on Form 10-K for the fiscal year ended December 31, 2020, is hereby incorporated by reference.**</u>
10.59	<u>Form of AptarGroup, Inc. Restricted Stock Unit Award Agreement (Service-Based Vesting Form) (French employee version) pursuant to the AptarGroup, Inc. 2018 Equity Incentive Plan, filed as Exhibit 10.6 to the Company's quarterly report on Form 10-Q for the quarter ended March 31, 2020, is hereby incorporated by reference.**</u>
10.60	<u>Amendment No. 1 to Employment Agreement dated as of February 17, 2022 between AptarGroup, Inc. and Stephan Tanda, filed as Exhibit 10.59 to the Company's annual report on Form 10-K for the fiscal year ended December 31, 2021, is hereby incorporated by reference.**</u>
10.61	<u>Amendment No. 1 to Employment Agreement dated as of February 17, 2022 between AptarGroup, Inc. and Robert Kuhn, filed as Exhibit 10.60 to the Company's annual report on Form 10-K for the fiscal year ended December 31, 2021, is hereby incorporated by reference.**</u>

Exhibit Number	Description
10.62	<u>Amendment No. 1 to Employment Agreement dated as of February 17, 2022 between AptarGroup, Inc. and Xiangwei Gong, filed as Exhibit 10.61 to the Company's annual report on Form 10-K for the fiscal year ended December 31, 2021, is hereby incorporated by reference.**</u>
10.63	<u>Form of AptarGroup, Inc. Restricted Stock Unit Award Agreement (Performance-Based Vesting Form) (U.S./Mexico/Argentina employee version) pursuant to the AptarGroup, Inc. 2018 Equity Incentive Plan (2022), filed as Exhibit 10.62 to the Company's annual report on Form 10-K for the fiscal year ended December 31, 2021, is hereby incorporated by reference.**</u>
10.64	<u>Form of AptarGroup, Inc. Restricted Stock Unit Award Agreement (Performance-Based Vesting Form) (French employee version) pursuant to the AptarGroup, Inc. 2018 Equity Incentive Plan (2022), filed as Exhibit 10.63 to the Company's annual report on Form 10-K for the fiscal year ended December 31, 2021, is hereby incorporated by reference.**</u>
10.65	<u>Form of AptarGroup, Inc. Restricted Stock Unit Award Agreement (Performance-Based Vesting Form) (All Other Employees) pursuant to the AptarGroup, Inc. 2018 Equity Incentive Plan (2022), filed as Exhibit 10.64 to the Company's annual report on Form 10-K for the fiscal year ended December 31, 2021, is hereby incorporated by reference.**</u>
10.66	<u>Form of AptarGroup, Inc. Restricted Stock Unit Award Agreement (Service-Based Vesting Form) (U.S./Mexico/Argentina employee version) pursuant to the AptarGroup, Inc. 2018 Equity Incentive Plan (2022), filed as Exhibit 10.65 to the Company's annual report on Form 10-K for the fiscal year ended December 31, 2021, is hereby incorporated by reference.**</u>
10.67	<u>Form of AptarGroup, Inc. Restricted Stock Unit Award Agreement (Service-Based Vesting Form) (non-French employee version) pursuant to the AptarGroup, Inc. 2018 Equity Incentive Plan (2022), filed as Exhibit 10.66 to the Company's annual report on Form 10-K for the fiscal year ended December 31, 2021, is hereby incorporated by reference.**</u>
10.68	<u>Form of AptarGroup, Inc. Restricted Stock Unit Award Agreement (Service-Based Vesting Form) (French employee version) pursuant to the AptarGroup, Inc. 2018 Equity Incentive Plan (2022), filed as Exhibit 10.67 to the Company's annual report on Form 10-K for the fiscal year ended December 31, 2021, is hereby incorporated by reference.**</u>
10.69*	<u>Amendment No. 2 to Employment Agreement dated as of February 16, 2023 between AptarGroup, Inc. and Robert Kuhn.**</u>
21*	<u>List of Subsidiaries.</u>
23*	<u>Consent of Independent Registered Public Accounting Firm.</u>
31.1*	<u>Certification Pursuant to Section 302 of the Sarbanes-Oxley Act of 2002.</u>
31.2*	<u>Certification Pursuant to Section 302 of the Sarbanes-Oxley Act of 2002.</u>
32.1*	<u>Certification Pursuant to 18 U.S.C. Section 1350, as Adopted Pursuant to Section 906 of the Sarbanes-Oxley Act of 2002.</u>
32.2*	<u>Certification Pursuant to 18 U.S.C. Section 1350 as Adopted Pursuant to Section 906 of the Sarbanes-Oxley Act of 2002.</u>
101*	The following financial information from AptarGroup, Inc.'s annual report on Form 10-K for the fiscal year ended December 31, 2022, filed with the SEC on February 17, 2023, formatted in Inline Extensible Business Reporting Language (XBRL): (i) the Cover Page (ii) the Consolidated Statements of Income for the years ended December 31, 2022, 2021 and 2020, (iii) the Consolidated Statements of Comprehensive Income for the years ended December 31, 2022, 2021 and 2020, (iv) the Consolidated Balance Sheets as of December 31, 2022 and 2021, (v) the Consolidated Statements of Cash Flows for the years ended December 31, 2022, 2021 and 2020, (vi) the Consolidated Statements of Changes in Equity for the years ended December 31, 2022, 2021 and 2020 and (vii) Notes to the Consolidated Financial Statements.
104*	Cover Page Interactive Data File (embedded within the Inline XBRL document).

* Filed or furnished herewith.

** Management contract or compensatory plan or arrangement.

SIGNATURES

Pursuant to the requirements of Section 13 or 15(d) of the Securities Exchange Act of 1934, the Registrant has duly caused this report to be signed on its behalf by the undersigned thereunto duly authorized.

AptarGroup, Inc.

(Registrant)

Date: February 17, 2023

By /s/ Robert W. Kuhn

Robert W. Kuhn

Executive Vice President and Chief Financial Officer

Pursuant to the requirements of the Securities Exchange Act of 1934, this report has been signed below by the following persons on behalf of the Registrant in the capacities and on the date indicated.

Signature	Title	Date
/s/ GEORGE L. FOTIADES George L. Fotiades	Chairman of the Board and Director	February 17, 2023
/s/ STEPHAN B. TANDA Stephan B. Tanda	President and Chief Executive Officer and Director (Principal Executive Officer)	February 17, 2023
/s/ ROBERT W. KUHN Robert W. Kuhn	Executive Vice President and Chief Financial Officer (Principal Accounting and Financial Officer)	February 17, 2023
/s/ MARITZA GOMEZ MONTIEL Maritza Gomez Montiel	Director	February 17, 2023
/s/ GIOVANNA KAMPOURI MONNAS Giovanna Kampouri Monnas	Director	February 17, 2023
/s/ ANDREAS KRAMVIS Andreas Kramvis	Director	February 17, 2023
/s/ ISABEL MAREY-SEMPER Isabel Marey-Semper	Director	February 17, 2023
/s/ CANDACE MATTHEWS Candace Matthews	Director	February 17, 2023
/s/ B. CRAIG OWENS B. Craig Owens	Director	February 17, 2023
/s/ MATTHEW TREROTOLA Matthew Trerotola	Director	February 17, 2023
/s/ RALF WUNDERLICH Ralf Wunderlich	Director	February 17, 2023

AptarGroup, Inc
SCHEDULE II – VALUATION AND QUALIFYING ACCOUNTS

For the years ended December 31, 2022, 2021 and 2020

Dollars in thousands

	Balance at Beginning Of Period	Charged to Costs and Expenses	Charged to Other Accounts	Deductions from Reserve (a)	Balance at End of Period
2022					
CECL	\$ 7,374	\$ 3,213	\$ —	\$ (1,068)	\$ 9,519
Deferred tax valuation allowance	47,149	3,754	380	(5,044)	46,239
2021					
CECL	\$ 5,918	\$ 1,601	\$ 391	\$ (536)	\$ 7,374
Deferred tax valuation allowance (b)	23,105	5,355	20,572	(1,883)	47,149
2020					
CECL	\$ 3,626	\$ 865	\$ 1,647	\$ (220)	\$ 5,918
Deferred tax valuation allowance	23,320	3,085	700	(4,000)	23,105

(a) Write-off accounts considered uncollectible, net of recoveries and foreign currency impact adjustments.

(b) The 2021 increase to the deferred tax valuation allowance in the charged to other accounts reflects the establishment of a \$20.5 million deferred tax valuation allowance as part of the purchase accounting for the Voluntis acquisition.

Executive Officers, Directors & Board Committees

EXECUTIVE OFFICERS

Stephan Tanda

President and
Chief Executive Officer

Robert Kuhn

Executive Vice President,
Chief Financial Officer

Kimberly Chainey

Executive Vice President,
Chief Legal Officer and Secretary

Shiela Vinczeller

Chief Human Resources Officer

Xiangwei Gong

President, Aptar Asia

Marc Prieur

President, Aptar Beauty

Hedi Tlili

President, Aptar Closures

Gael Touya

President, Aptar Pharma

BOARD OF DIRECTORS

George Fotiades

Chairman of the Board; Former President
and Chief Executive Officer of Cantel
Medical Corp.; Director of Prologis, Inc.

Giovanna Kampouri Monnas

Director of Exea Ventures BV;
Director of Puig S.L.

Andreas Kramvis

Operating Partner, AEA Investors LP

Isabel Marey-Semper

Senior Advisor to Jolt Capital;
Director of Damae Medical,
Imagine Institute and Inria Foundation

Candace Matthews

Former Chief Reputation Officer for Amway
Corp.; Director of MillerKnoll, Inc., Société
BIC S.A and Spectrum Health Foundation

Maritza Montiel

Former Deputy Chief Executive Officer
and Vice Chairman of Deloitte LLP (retired);
Baptist Health South Florida Inc. Board
of Trustees; Director of McCormick &
Company, Inc., Royal Caribbean Cruises
Ltd. and Comcast Corporation

B. Craig Owens

Former Chief Financial Officer
and Chief Administrative Officer
of Campbell Soup Company;
Director of Crown Holdings, Inc.

Stephan Tanda

President and Chief Executive
Officer; Director of Ingredion

Matt Trerotola

Chief Executive Officer for Enovis
Corporation; Director of Enovis Corporation

Ralf Wunderlich

Independent Consultant and Senior
Advisor to private equity firms;
Director of Essentra PLC, Huhtamaki Oyj
and Shepherd Building Group Ltd.

Julie Xing

Executive Chair of Mundipharma China;
Board Advisor on the Board of Directors for
Mars, Incorporated

BOARD COMMITTEES

Audit Committee

Maritza Montiel, Chair
Andreas Kramvis
B. Craig Owens

Management Development and Compensation Committee

Giovanna Kampouri Monnas, Chair
B. Craig Owens
Ralf Wunderlich

Corporate Governance Committee

Candace Matthews, Chair
Isabel Marey-Semper
Matt Trerotola

Corporate Information

CORPORATE HEADQUARTERS

AptarGroup, Inc.
265 Exchange Drive, Suite 301
Crystal Lake, Illinois 60014
+1-815-477-0424

COUNSEL

Sidley Austin LLP
One South Dearborn Street
Chicago, Illinois 60603

INDEPENDENT REGISTERED PUBLIC ACCOUNTING FIRM

PricewaterhouseCoopers LLP
One North Upper Wacker Drive
Chicago, Illinois 60606

STOCK EXCHANGE

AptarGroup common stock is listed on the New York Stock Exchange (symbol: ATR)

ANNUAL MEETING

The Annual Meeting of Stockholders will be held May 3, 2023. Please visit investors.aptar.com for more information about this event.

STOCK TRANSFER AND STOCKHOLDER SERVICES

EQ Shareowner Services
P.O. Box 64874
St. Paul, Minnesota 55164-0874
U.S. & Canada: +1-800-468-9716
International: +1-651-450-4064
For additional information, visit:
www.shareowneronline.com

BY COURIER OR EXPRESS DELIVERY

EQ Shareowner Services
1110 Centre Pointe Curve, Suite 101
Mendota Heights, Minnesota 55120-4100
+1-800-468-9716

Notices regarding changes of address and inquiries regarding lost or stolen certificates and transfers of stock should be directed to the transfer agent.

OTHER INFORMATION

You may access a copy of the AptarGroup, Inc. Form 10-K Report filed with the Securities and Exchange Commission through the Reports & SEC Filings link on the Investor Relations page of our web site at www.aptar.com or you may receive a copy of the Report by emailing us at investorrelations@aptar.com.

Investor Relations Contact

Mary Skafidas
Senior Vice President, Investor Relations and Communications
1-815-479-5658
mary.skafidas@aptar.com

WEBSITE

www.aptar.com

Environment, Social and Governance

Aptar believes transparency is necessary for a responsible company. We publish an annual sustainability report, highlighting our efforts toward the **Sustainable Development Goals (SDG)** according to the **Global Reporting Initiative (GRI)** standards, and we provide a supplemental overview according to the **Sustainability Accounting Standards Board (SASB)** standards as well.

We include our climate-related financial disclosures within our annual CDP (formerly Carbon Disclosure Project) Climate and Water assessment responses and publish a stand-alone overview in accordance with the **Task Force on Climate-Related Financial Disclosures (TCFD)** framework. We also publish an annual Communication of Progress according to the **United Nations Global Compact Communication** requirements.



Sustainable Product Innovations



FUTURE
Mono-material
fully recyclable
pump



SIMPLYCYCLE™
Fully recyclable
flow control
valve



APF FUTURITY
Metal-free, highly
recyclable nasal
pump

Key Progress

OVER

80%

of waste from our operations is recycled or reused.

MORE THAN

95%

of our global electricity consumption comes from renewable sources.

65%

of our sites are Landfill Free certified through our internal program.

45%

of our Board of Directors are women.**

27%

of Board members identify as persons of color.**

6%

Total Recordable Incident Rate (TRIR) reduction from year end 2021.

7%

Lost Time Frequency Rate (LTFR) reduction from year end 2021.

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** as of 3/1/2023



Aptar 

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[aptar.com](https://www.aptar.com)