

APTARGROUP INC  
Form 10-K  
February 26, 2018  
Table of Contents

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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, 2017

OR

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

FOR THE TRANSITION PERIOD FROM            TO

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COMMISSION FILE NUMBER 1 11846

AptarGroup, Inc.

DELAWARE 36 3853103

475 WEST TERRA COTTA AVENUE, SUITE E, CRYSTAL LAKE, ILLINOIS 60014

815 477 0424

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

Title of each class	Name of each exchange on which registered
Common Stock \$.01 par value	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

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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 and posted on its corporate Web site, if any, every Interactive Data File required to be submitted and posted pursuant to Rule 405 of Regulation S T during the preceding 12 months (or for such shorter period that the registrant was required to submit and post such files).

Yes No

Indicate by check mark if disclosure of delinquent filers pursuant to Item 405 of Regulation S K is not contained herein, and will not be contained, to the best of registrant's knowledge, in definitive proxy or information statements incorporated by reference in Part III of this Form 10 K or any amendment to this Form 10 K.

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 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 filerSmaller reporting companyEmerging growth company

(Do not check if a smaller reporting 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 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, 2017 was \$5,835,925,185.

The number of shares outstanding of common stock, as of February 19, 2018, was 62,111,611 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 2, 2018 are incorporated by reference into Part III of this report.



Table of Contents

AptarGroup, Inc.

FORM 10 K

For the Year Ended December 31, 2017

INDEX

	Page
<u>Part I</u>	
<u>Item 1. Business</u>	1
<u>Item 1A. Risk Factors</u>	8
<u>Item 1B. Unresolved Staff Comments</u>	10
<u>Item 2. Properties</u>	11
<u>Item 3. Legal Proceedings</u>	11
<u>Item 4. Mine Safety Disclosures</u>	11
<u>Part II</u>	
<u>Item 5. Market for Registrant’s Common Equity, Related Stockholder Matters and Issuer Purchases of Equity Securities</u>	12
<u>Item 6. Selected Financial Data</u>	14
<u>Item 7. Management’s Discussion and Analysis of Financial Condition and Results of Operations</u>	15
<u>Item 7A. Quantitative and Qualitative Disclosure about Market Risk</u>	33
<u>Item 8. Financial Statements and Supplementary Data</u>	34
<u>Item 9. Changes in and Disagreements with Accountants on Accounting and Financial Disclosure</u>	71
<u>Item 9A. Controls and Procedures</u>	71
<u>Item 9B. Other Information</u>	71
<u>Part III</u>	
<u>Item 10. Directors, Executive Officers and Corporate Governance</u>	71
<u>Item 11. Executive Compensation</u>	72
<u>Item 12. Security Ownership of Certain Beneficial Owners and Management and Related Stockholder Matters</u>	72
<u>Item 13. Certain Relationships and Related Transactions, and Director Independence</u>	72
<u>Item 14. Principal Accountant Fees and Services</u>	72
<u>Part IV</u>	
<u>Item 15. Exhibits and Financial Statement Schedules</u>	72
<u>Item 16. Form 10-K Summary</u>	72
<u>Index of Exhibits</u>	73
<u>Signatures</u>	78

i/ATR 2017 Form 10-K

---

Table of Contents

PART I

ITEM 1. BUSINESS

BUSINESS OF APTARGROUP

We are a leading global provider of a broad range of innovative packaging, dispensing and sealing solutions, primarily for the beauty, personal care, home care, prescription drug, consumer health care, injectables, food and beverage markets. Our creative packaging solutions enhance the convenience, safety and security of consumers around the globe and allow our customers to differentiate their products in the market.

Our business was started in the late 1940's, manufacturing and selling aerosol valves in the United States, and has grown primarily through the acquisition of relatively small companies and internal expansion. We were incorporated in Delaware in 1992. 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 South America. We have approximately 5,000 customers with no single customer or group of affiliated customers accounting for greater than 7% of our 2017 net sales.

Consumers' preference for convenience and product differentiation through packaging design 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.

While we offer a wide variety of dispensing and sealing solutions, our primary products are dispensing pumps, closures, aerosol valves and elastomeric primary packaging components.

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 perfume and pharmaceutical products 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 which 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.

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, as well as dropper bulbs and syringe plungers.

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](http://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 (<http://www.sec.gov>). You may also read and copy any document we file with the SEC at the SEC's Public Reference Room at 100 F Street, NE, Washington, DC

20549. Please call the SEC at 1-800-SEC-0330 for further information on the reference room.

Also posted on our website are the charters for our Audit, Management Development and Compensation, Governance and Executive Committees, our Governance Principles, our Code of Business Conduct & Ethics, 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.

1/ATR 2017 Form 10-K

---

## Table of Contents

### OUR STRATEGY

We seek to enhance our position as a leading global provider of innovative packaging dispensing and sealing solutions and deliver increased value to our customers and stockholders through strategic focus and execution in the following areas:

- (i) **Successful Transformation:** To strengthen our performance and deepen our position as a true market shaper, we need to continually evaluate our business. We have launched a comprehensive business transformation plan spanning all of Beauty + Home and key corporate support functions including Finance, HR, IT and Purchasing.
- (ii) **Focus on Organic Growth:** We will be focused strongly on accelerating our top line growth with added emphasis on high growth economies. In order to develop this focus, we are creating empowered, regional, cross functional P&L teams who are fully accountable to drive profitable growth.
- (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 Talent and Leadership:** Execution of our strategy requires a talented, motivated, diverse, international team. We have a focused talent acquisition and development strategy to ensure our teams have the right skills to execute our strategy.
- (v) **Partnerships and Acquisitions:** 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 customers, suppliers and all stakeholders.

### DESCRIPTION OF APTARGROUP’S REPORTING SEGMENTS

#### INFORMATION ABOUT SEGMENTS

AptarGroup’s organizational structure consists of three market focused business segments which are Beauty + Home, Pharma and Food + Beverage. This is a strategic structure which allows us to be more closely aligned with our customers and the markets in which they operate. We primarily sell our products through our own sales force to beauty, personal care, pharmaceutical, 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.

Operations that sell dispensing systems and sealing solutions primarily to the beauty, personal care and home care markets form the Beauty + Home segment. Operations that sell dispensing systems and sealing solutions to the prescription drug, consumer health care and injectables markets form the Pharma segment. Operations that sell dispensing systems and sealing solutions to the food and beverage markets form the Food + Beverage segment. Each of these three business segments is described more fully below. A summary of sales, segment income and total assets based upon this reporting structure for each of the last three years is shown in Note 17 to the Consolidated Financial Statements in Item 8 (which is incorporated by reference herein).

#### BEAUTY + HOME

The Beauty + Home segment is our largest segment in terms of net sales and total assets representing 53% and 43% of AptarGroup’s Net Sales and Total Assets, respectively, in 2017. The Beauty + Home segment primarily sells pumps, closures, aerosol valves, accessories and sealing solutions to the personal care and home care markets and pumps and



decorative components to the beauty market. We believe we are a leading supplier for the majority of the products we sell primarily to the beauty and personal care markets.

2/ATR 2017 Form 10-K

---

## Table of Contents

Beauty. Sales to the beauty market accounted for approximately 48% of the segment's total net sales in 2017. 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, time 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 will also provide growth opportunities. We see continued growth opportunities in Latin America and significant opportunities for growth in the sale of our products for cosmetic applications in Asia.

Personal Care. Sales to the personal care market accounted for approximately 44% of the segment's total net sales in 2017 and primarily included sales of fine mist spray pumps, lotion pumps, closures, elastomeric flow-control components and continuous spray aerosol valves. Personal care spray pump applications include hair care, body care and sun care products. Typical lotion pump applications include skin moisturizers, hand sanitizers and soap. Personal care closures applications include shampoos and conditioners. Personal care continuous spray aerosol valve 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 8% of the segment's total net sales in 2017 and primarily included sales of continuous or metered dose spray aerosol valves, closures and to a lesser degree spray and lotion pumps. Applications for continuous spray valves include disinfectants, spray paints, insecticides and automotive products. Metered dose valves are used for air fresheners. Closure applications include liquid detergents, automotive products and household cleansers. Spray and lotion pump applications primarily include household, insect repellent and industrial cleaners.

## PHARMA

The Pharma segment is our second largest segment in terms of net sales and total assets, accounting for 33% and 28% of AptarGroup's Net Sales and Total Assets, respectively, in 2017 and is our most profitable segment. We believe we are a leading supplier of pumps and metered dose inhaler valves ("MDIs") to the pharmaceutical market worldwide and we are a supplier of elastomer for injectable primary packaging components worldwide. 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 an alternative to traditional medication forms such as pills with value added, convenient 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 54% of the segment's total net sales in 2017. 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. Recently, there is a trend of nasal allergy products moving from prescription only to being sold over-the-counter without a prescription. This trend could provide us with growth opportunities as this movement could allow consumers easier access to these types of treatments. Our nasal pumps and unit dose devices are also used to deliver pain management products. Potential opportunities for providing alternatives to traditional pill and injectable dosage forms of medication include pump dispensing systems for vaccines, cold and flu treatments, central nervous systems applications and hormone replacement 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 system. Currently the majority of our MDIs sold are used for respiratory ailments such as asthma and COPD (chronic obstructive pulmonary disease).

We continue to develop new dispensing systems and accessories in this segment. For example, we provide single dose delivery devices suitable for central nervous system applications. 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 which use our dispensing systems.

3/ATR 2017 Form 10-K

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## Table of Contents

Consumer Health Care. Sales to the consumer health care market accounted for approximately 27% of the segment's total net sales in 2017. Applications for this market are similar to the prescription market; however, these applications are sold over-the-counter without a prescription. Typical consumer health care spray pump applications include nasal decongestants, nasal salines and cough and cold applications. Typical consumer health care valve 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 applications. Other products sold to this market include airless pump systems for dermal drug delivery applications. We have recently seen a trend to 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 19% of the segment's total net sales in 2017. Injectables are elastomeric primary packaging components for injectable drug delivery. 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 investment in this business allows us to market coated stoppers which better preserve the contents of the vial and adds value to our customers and the consumer. Pharmaceutical applications for this market include vaccines, anti thrombotic, small molecules and biologics.

## FOOD + BEVERAGE

The Food + Beverage segment is our smallest segment in terms of net sales and total assets representing 14% and 9% of AptarGroup's Net Sales and Total Assets, respectively, in 2017 but has been experiencing strong product growth over recent years. 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 bonded aluminum liners to plastic, 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 a number of product solutions that address the increased use of flexible packaging formats.

Food. Sales to the food market accounted for approximately 61% of the segment's total net sales in 2017 and primarily include sales of dispensing closures and elastomeric flow control components. To a lesser degree we also sell non dispensing closures, continuous spray aerosol valves and spray pumps to this market. Applications for dispensing closures include sauces, condiments, infant nutrition and other food products. Applications for continuous spray aerosol valves include cooking sprays. Spray pump applications primarily include butter or salad dressing sprays.

Beverage. Sales to the beverage market accounted for approximately 39% of the segment's total net sales in 2017 and primarily include sales of dispensing closures and elastomeric flow control components. Sales of dispensing closures to the beverage market have increased significantly over the last several years 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, innovative packaging delivery solutions 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. Expenditures for research and development activities, net of certain research and development credits, were \$68.2 million, \$66.2 million and \$67.1 million in 2017, 2016 and 2015, respectively.

#### PATENTS AND TRADEMARKS

We customarily seek patent and trademark protection for our products and brands. We own and currently have numerous 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 in making our products that make it 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 the Company's consolidated results.

4/ATR 2017 Form 10-K

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## Table of Contents

### 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 for the pharmaceutical industry. 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 are experts in molding liquid silicone that is used in certain dispensing closures as well as rubber gasket formulation and production primarily for the prescription drug and consumer health care markets.

### 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, metal and rubber 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. Our pharmaceutical products often use plastic resin and rubber components specifically approved by our customers. 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.

### BACKLOG

Our sales are primarily made pursuant to standard purchase orders for delivery of products. While most orders placed with us are ready for delivery within 120 days, we continue to experience a trend towards shorter lead times requested by our customers. Some customers place blanket orders, which extend beyond this delivery period. However, deliveries against purchase orders are subject to change, and only a small portion of the order backlog is noncancelable. The dollar amount associated with the noncancelable portion is not material. Therefore, we do not believe that backlog as of any particular date is an accurate indicator of future results.

### CUSTOMERS

We have approximately 5,000 customers with no single customer or group of affiliated customers accounting for greater than 7% of 2017 net sales. A consolidation of our customer base has been occurring and this trend is expected to continue. A concentration of customers presents 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.

### 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 where sales for the years ended December 31, 2017, 2016

and 2015 were approximately 58%, 57% and 56%, respectively. Asia and Latin America when aggregated represented approximately 16%, 16% and 17% of our consolidated sales for the years ended December 31, 2017, 2016 and 2015, respectively. Export sales from the United States were \$152.8 million, \$165.1 million and \$151.2 million in 2017, 2016 and 2015, respectively. We are a net exporter of goods from the U.S. and Europe and a net importer of goods to the Asian and Latin American regions. For additional financial information about geographic areas, please refer to Note 17 in the Notes to the Consolidated Financial Statements in Item 8 (which is incorporated by reference herein).

#### 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 South American currencies. A weakening U.S. dollar relative to foreign currencies has an additive translation effect on our financial statements. Conversely, a strengthening U.S. dollar has a dilutive 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.

5/ATR 2017 Form 10-K

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## Table of Contents

### WORKING CAPITAL PRACTICES

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.

### EMPLOYEE AND LABOR RELATIONS

AptarGroup has approximately 13,200 full time employees. Of the full time employees, approximately 8,200 are located in Europe, 3,000 are located in Asia and South America and the remaining 2,000 are 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 and approximately 140 of the North American employees are covered by a collective bargaining agreement. 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 2017 and management considers our employee relations to be satisfactory.

### 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. We believe our competitive advantages are consistent high levels of innovation, quality and service, geographic diversity, financial strength and stability and breadth of products. 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 for Aptar to have global manufacturing capabilities. Both of these serve as barriers to entry for new competitors wanting to enter our business.

While we have experienced some competition in Europe, Latin America and the United States from low cost Asian suppliers, particularly in the low end beauty and personal care market, this has not been significant. Although using low cost Asian supplies may have a cost advantage, some customers prefer local suppliers citing better quality, better customer service and shorter lead times.

### ENVIRONMENT

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.

Recently there is increased interest and awareness from consumers, and from our customers, in environmentally sustainable products, 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 are designing for sustainability by providing products that improve recyclability and use less material. Future regulations on environmental matters regarding recycling or material inputs could impact our business.

#### GOVERNMENT REGULATION

Certain of our products are indirectly affected by government regulation. Demand for aerosol and pump packaging is affected by government regulations regarding the release of volatile organic compounds (“VOCs”) into the atmosphere. Europe and the United States have regulations that require the reduction in the amount of VOCs that can be released into the atmosphere and the potential exists for this type of regulation to expand worldwide. These regulations required certain of our customers to reformulate certain aerosol and pump products, which may have affected the demand for such products. We own patents and have developed systems to function with alternative propellant and product formulations.

6/ATR 2017 Form 10-K

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Table of Contents

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.

EXECUTIVE OFFICERS

Our executive officers as of February 26, 2018 are as follows:

Name	Age	Position with the Company
Stephan Tanda	52	President and Chief Executive Officer 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.
Robert Kuhn	55	Executive Vice President, Chief Financial Officer and Secretary Mr. Kuhn has been Executive Vice President and Chief Financial Officer since September 2008. Mr. Kuhn has been Secretary since June 2011.
Eldon Schaffer	52	President, Aptar Beauty + Home Mr. Schaffer has been President of Aptar Beauty + Home since January 2016. Prior to this, Mr. Schaffer was President of Aptar Food + Beverage from 2012 to 2015 and President of Aptar Beauty + Home North America from 2010 to 2011.
Gael Touya	48	President, Aptar Food + Beverage Mr. Touya has been President of Aptar Food + Beverage since January 2016. Prior to this, Mr. Touya was President of Aptar Food + Beverage Europe from 2012 to 2015 and Business Development Vice President Skin Care and Color Cosmetics from 2010 to 2011.
Salim Haffar	44	President, Aptar Pharma Mr. Haffar has been President of Aptar Pharma since January 2014. From 2012 to 2013 Mr. Haffar worked with Capsugel, a leading pharmaceutical supplier of gelatin capsules for the oral drug delivery industry. From 2010 to 2012, he was President of Aptar Pharma's Prescription division.
Ursula Saint Léger	54	Vice President of Human Resources Ms. Saint Léger has been Vice President of Human Resources since October 2010.

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



Table of Contents

ITEM 1A. RISK FACTORS

Set forth below and elsewhere in this report and in other documents we file with the Securities and Exchange Commission are risks and uncertainties that could cause our actual results to materially differ from the results contemplated by the forward looking statements contained in this report and in other documents we file with the Securities and Exchange Commission. 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 on Form 10 K before purchasing any shares of our common stock.

If there is deterioration in economic conditions in a particular region or market, 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 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 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.

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 price competition in all product lines and segments. Competitors include privately and publicly held entities. Our competitors mainly range from regional to international companies. If we are unable to compete successfully, our market share may decline, which could materially adversely affect our results of operations and financial condition.

Geopolitical conditions, including direct or indirect 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 such as international boycotts and sanctions, acts of war, terrorist activity or other similar events. Such events could make it difficult or impossible to manufacture or deliver products to our customers, receive production materials from our suppliers, or perform critical functions, which could adversely affect our business globally or in certain regions. While we maintain similar manufacturing capacities at different locations and coordinate multi source supplier programs on many of our materials which would better enable us to respond to these types of events, we cannot be sure that our plans will fully protect us from all such disruptions. 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.

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 South American currencies. A weakening U.S. dollar relative to foreign currencies has an additive translation effect on our financial statements. Conversely, a strengthening U.S. dollar has a dilutive 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. The volatility of currency exchange rates may materially affect our operating

results.

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 manufacturing processes or the technologies we use forcing us to invest in alternative materials or assets used in the production of our products.

Future government regulations of healthcare cost containment policies may impact our pharmaceutical sales. Review by governments 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.

Consolidation of 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.

8/ATR 2017 Form 10-K

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## Table of Contents

If our expansion initiatives are unsuccessful, our operating results and reputation may suffer. We are expanding our operations in a number of markets, including facilities expansions in North America, Europe and Asia. Expansion of our operations require a significant amount of time and attention from our senior management and/or capital investment. These activities present considerable challenges and risks, including the general economic and political conditions in the markets that we enter, attracting, training and retaining qualified and talented employees, infrastructure disruptions, fluctuations in currency exchange rates, the imposition of restrictions by governmental authorities, compliance with current, new and changing governmental laws and regulations and the cost of such compliance activities. If any of our expansion efforts are unsuccessful, our operating results and reputation may suffer.

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 increase our selling prices 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 unrest and instability in energy producing nations, and supply and demand pressures. Raw material costs may increase in the coming years and, although we have generally been able to increase selling prices to cover increased costs, 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.

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 do 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.

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 and approximately 140 of our North American employees are covered by a collective bargaining agreement. 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 incur higher labor costs or 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. The Company sources 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 product to

our customers. Similarly, we have certain components and / or 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 product to our customers.

If we were to incur a significant product liability claim above our current insurance coverage, our business, operating results and financial condition could be materially adversely affected. 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. A product liability claim in excess of our insurance coverage or not covered by existing insurance may materially adversely affect our business, operating results and financial condition.

9/ATR 2017 Form 10-K

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## Table of Contents

Increased cybersecurity threats 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. We continue to assess potential threats and make investments seeking to reduce the risk of these threats by employing a number of security measures, including employee training, comprehensive monitoring of our networks and systems, and maintenance of backup and protective systems. We also periodically test our systems for vulnerabilities and have on occasion used a third party 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. 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, which in turn could adversely affect our reputation, competitiveness and results of operations.

We have approximately \$443.9 million in recorded goodwill at December 31, 2017, 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 or changes in market conditions 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 for additional information.

We are subject to tax regulations in the many jurisdictions in which we operate, and changes in tax regulations could materially impact our results. Future changes in tax laws or in the interpretation of tax laws in jurisdictions where we have significant operations could materially impact our provision for income taxes, the amount of taxes payable and our deferred tax asset and liability balances. We recorded a provisional tax expense of \$24.7 million in 2017 related to the tax law changes enacted in the U.S. This amount could materially change as we continue to evaluate the law and its impacts on our business and as additional regulatory guidance is issued.

We are currently implementing a business transformation plan, with the main objective to return our Beauty + Home segment to historical growth and profit margins. Certain elements of this transformation plan can be disruptive to our business and our associates if we do not manage the change properly. Furthermore, the transformation plan may take longer to complete than currently expected, may be more costly to complete than currently expected and may not be successful in returning Beauty + Home to historical growth and profit margins. Any such effects could materially adversely impact our business.

**Ownership by Certain Significant Stockholders.** Currently, Aptar has four institutional stockholders who each own between 6% 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

The Company has no unresolved comments from the SEC.





Table of Contents

## 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. The locations of our principal manufacturing facilities, by country, are set forth below:

ARGENTINA	GERMANY	SPAIN
Berazategui (1 & 2)	Böhringen (1 & 2)	Madrid (1)
Tortuguitas (1 & 3)	Dortmund (1)	Torello (1 & 3)
	Eigeltingen (2)	
BRAZIL	Freyung (1 & 3)	SWITZERLAND
Cajamar (1)	Menden (1)	Mezzovico (2)
Maringá Paraná (1 & 3)	Villingen-Schwenningen (1 & 2)	
Jundiá (1)		THAILAND
	INDIA	Chonburi (1)
CHINA	Himachal Pradesh (1)	
Suzhou (1, 2 & 3)	Hyderabad (1 & 3)	UNITED KINGDOM
	Mumbai (2)	Leeds, England (1 & 3)
COLOMBIA		
Cali (1)	INDONESIA	UNITED STATES
	Cikarang, Bekasi (1)	Cary, Illinois (1, 2 & 3)
CZECH REPUBLIC		Congers, New York (2)
Ckyne (1 & 3)	IRELAND	Eatontown, New Jersey (1 & 2)
	Ballinasloe, County Galway (1)	Libertyville, Illinois (1 & 3)
FRANCE		Lincolnton, North Carolina (3)
Anney (1 & 2)	ITALY	McHenry, Illinois (1 & 2)
Brecey (2)	Manoppello (1)	Midland, Michigan (1 & 3)
Charleval (1 & 2)	San Giovanni Teatino (Chieti) (1 & 3)	Mukwonago, Wisconsin (1, 2 & 3)
Granville (2)		Stratford, Connecticut (1)
Le Neubourg (1)	MEXICO	Torrington, Connecticut (1)
Le Vaudreuil (2)	Queretaro (1 & 3)	Watertown, Connecticut (1)
Oyonnax (1)		
Poincy (1 & 3)	RUSSIA	
Verneuil Sur Avre (1)	Vladimir (1 & 3)	

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(1) Locations of facilities manufacturing for the Beauty + Home segment.

(2) Locations of facilities manufacturing for the Pharma segment.

(3) Locations of facilities manufacturing for the Food + Beverage segment.

We also have sales personnel in countries other than those listed above. Our corporate office is located in Crystal Lake, Illinois.

## ITEM 3. LEGAL PROCEEDINGS

The Company, in the normal course of business, is 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 the Company's 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.

ITEM 4. MINE SAFETY DISCLOSURES

Not applicable.

11/ATR 2017 Form 10-K

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Table of Contents

## 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. Information regarding market prices of our Common Stock and dividends declared may be found in Note 21 to the Consolidated Financial Statements in Item 8 (which is incorporated by reference herein). As of February 19, 2018, there were approximately 215 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.

## 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 Banque Nationale de Paris 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, 2017, the Plan purchased 1,417 shares of our Common Stock on behalf of the participants at an average price of \$85.62 per share, for an aggregate amount of \$121 thousand, and sold 2,380 shares of our Common Stock on behalf of the participants at an average price of \$85.85 per share, for an aggregate amount of \$204 thousand. At December 31, 2017, the Plan owned 74,173 shares of our Common Stock.

## ISSUER PURCHASES OF EQUITY SECURITIES

On October 20, 2016, the Company 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.

The Company spent \$48.3 million to repurchase approximately 555 thousand shares during the fourth quarter of 2017.

The following table summarizes the Company’s purchases of its securities for the quarter ended December 31, 2017:

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 – 10/31/17	—	\$ —	—	\$ 190.2
11/1 – 11/30/17	240,000	86.15	240,000	169.5
12/1 – 12/31/17	315,000	87.60	315,000	141.9
Total	555,000	\$ 86.97	555,000	\$ 141.9



Table of Contents

SHARE PERFORMANCE

The following graph shows a five year comparison of the cumulative total stockholder return on AptarGroup's 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: A. Schulman, Inc., Bemis Company, Inc., Berry Global Group, Inc., Crown Holdings, Inc., Graphic Packaging Holding Company, Greif Inc., H.B. Fuller Company, International Flavors & Fragrances, Inc., KapStone Paper and Packaging Corporation, Owen's Illinois, Inc., Packaging Corporation of America, PH Glatfelter Company., Rayonier Inc., Sealed Air Corporation, Sensient Technologies Corporation, Silgan Holdings, Inc., Sonoco Products Company, Stepan Company, TriMas Corporation 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 Securities and Exchange Commission or subject to Regulation 14A or 14C, or to the liabilities of Section 18 of the Securities Exchange Act of 1934, as amended.

13/ATR 2017 Form 10-K

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Table of Contents

## ITEM 6. SELECTED FINANCIAL DATA

## FIVE YEAR SUMMARY OF SELECTED FINANCIAL DATA

Dollars in millions, except per share data

Years Ended December 31,	2017	2016	2015	2014	2013
<b>Statement of Income Data:</b>					
Net Sales	\$ 2,469.3	\$ 2,330.9	\$ 2,317.1	\$ 2,597.8	\$ 2,520.0
Cost of sales (exclusive of depreciation and amortization shown below) (1)	1,604.2	1,498.1	1,502.7	1,755.3	1,708.9
% of Net Sales	65.0 %	64.3 %	64.8 %	67.6 %	67.8 %
Selling, research & development and administrative	388.3	367.6	351.5	383.9	364.7
% of Net Sales	15.7 %	15.8 %	15.2 %	14.8 %	14.4 %
Depreciation and amortization	153.1	154.8	138.9	152.2	150.0
% of Net Sales	6.2 %	6.6 %	6.0 %	5.8 %	6.0 %
Restructuring initiatives	2.2	—	—	—	11.8
% of Net Sales	0.1 %	—	—	— %	0.5 %
Operating Income	321.5	310.5	324.1	306.4	284.6
% of Net Sales	13.0 %	13.3 %	14.0 %	11.8 %	11.3 %
Net Income	220.0	205.6	199.3	191.6	171.9
% of Net Sales	8.9 %	8.8 %	8.6 %	7.4 %	6.8 %
Net Income Attributable to AptarGroup, Inc.	220.0	205.6	199.3	191.7	172.0
% of Net Sales	8.9 %	8.8 %	8.6 %	7.4 %	6.8 %
Net Income Attributable to AptarGroup, Inc. per Common Share:					
Basic	3.52	3.27	3.19	2.95	2.60
Diluted	3.41	3.17	3.09	2.85	2.52
<b>Balance Sheet and Other Data:</b>					
Capital Expenditures	\$ 156.6	\$ 129.0	\$ 149.3	\$ 161.9	\$ 151.5
Total Assets	3,137.8	2,606.8	2,437.0	2,436.5	2,497.1
Long-Term Obligations	1,191.1	772.7	760.8	588.2	354.1
Net Debt (2)	544.7	480.3	298.1	440.4	184.0
AptarGroup, Inc. Stockholders' Equity	1,311.7	1,174.0	1,149.4	1,103.4	1,479.8
Capital Expenditures % of Net Sales	6.3 %	5.5 %	6.4 %	6.2 %	6.0 %
Interest Bearing Debt to Total Capitalization (3)	48.9 %	44.6 %	41.6 %	43.2 %	25.0 %
Net Debt to Net Capitalization (4)	29.3 %	29.0 %	20.6 %	28.5 %	11.1 %
Cash Dividends Declared per Common Share	1.28	1.22	1.14	1.09	1.00

- (1) Cost of sales includes \$7.4 million reduction in expense for 2015 due to a change in accounting method relating to our inventory accounting methods.
- (2) Net Debt is interest bearing debt less cash and cash equivalents.
- (3) Total Capitalization is AptarGroup, Inc. Stockholders' Equity plus Interest Bearing Debt.
- (4) Net Capitalization is AptarGroup, Inc. Stockholders' Equity plus Net Debt.

14/ATR 2017 Form 10-K

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## Table of Contents

### 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 Consolidated Results of Operations and Financial Condition ("MD&A") is to help the reader understand the financial performance of AptarGroup, Inc. MD&A is presented in eight sections: Overview, Results of Operations, Liquidity and Capital Resources, Off Balance Sheet Arrangements, Overview of Contractual Obligations, Recently Issued Accounting Pronouncements, 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

We are a leading global provider of a broad range of innovative packaging dispensing and sealing solutions primarily for the beauty, personal care, home care, prescription drug, consumer health care, injectables, food and beverage markets. Our creative packaging solutions enhance the convenience, safety and security of consumers around the globe and allow our customers to differentiate their products in the market.

In addition to the information presented herein that conforms to 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 better 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 of non-U.S. GAAP measures starting on page 23.

For the year ended December 31, 2017, reported sales increased 6% to \$2.5 billion from \$2.3 billion a year ago. Excluding the positive impacts from changes in currency exchange rates and acquisitions, core sales increased approximately 4%. A reconciliation of core sales growth to reported net sales growth, the most directly comparable U.S. GAAP measure, can be found on page 16. During 2017, we developed a business transformation plan to address challenges within Beauty + Home and began implementing company-wide operating, commercial and innovation excellence initiatives. With the start of some of these initiatives and the strong finish to the year, our Beauty + Home segment achieved core sales growth for 2017. Our Pharma segment delivered another strong year with core sales growth in each end market, and we invested in additional capacity to better serve our customers in the U.S. injectables market. Our Food + Beverage segment also grew core sales in each end market, primarily driven by strong demand for our innovative dispensing closures in the infant nutrition and bottled water categories. We also broke ground in the second half of the year on a new facility in southern China to position us for growth in this critical country and across Asia. Due to the execution of our growth strategy, each segment reported core sales growth in 2017 within their

long-term target rates. We increased core sales in each region and within each market, with the exception of home care, as demand for our dispensing and drug delivery systems was strong.

#### 2017 HIGHLIGHTS

- Reported sales increased 6% to \$2.5 billion due to core sales growth (+4%), positive impacts from currency rates (+1%) and the effects of an acquisition completed in early 2016 (+1%).
- Reported annual earnings per share of \$3.41 versus \$3.17 in the prior year.
- Reported annual net income increased to \$220 million.
- Adjusted annual EBITDA decreased slightly to \$475 million.
- We paid increased annual dividends for the 24th consecutive year (current annualized dividend is \$1.28 per share).

15/ATR 2017 Form 10-K

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Table of Contents

## RESULTS OF OPERATIONS

The following table sets forth the consolidated statements of income and the related percentages of net sales for the periods indicated:

Years Ended December 31, 2017	2016		2015			
	Amount in \$ Thousands	% of Net Sales	Amount in \$ Thousands	% of Net Sales		
Net sales	\$ 2,469,283	100.0 %	\$ 2,330,934	100.0 %	\$ 2,317,149	100.0 %
Cost of sales (exclusive of depreciation and amortization shown below)	1,604,181	65.0	1,498,070	64.3	1,502,650	64.8
Selling, research & development and administrative	388,281	15.7	367,562	15.8	351,461	15.2
Depreciation and amortization	153,094	6.2	154,802	6.6	138,893	6.0
Restructuring initiatives	2,208	0.1	—	—	—	—
Operating income	321,519	13.0	310,500	13.3	324,145	14.0
Other expense	(26,694)	(1.1)	(30,003)	(1.3)	(29,574)	(1.3)
Income before income taxes	294,825	11.9	280,497	12.0	294,571	12.7
Net Income	220,029	8.9	205,604	8.8	199,295	8.6
Effective tax rate	25.4 %		26.7 %		32.3 %	
Adjusted EBITDA margin (1)	19.2 %		20.4 %		19.6 %	

(1) Adjusted EBITDA margin is calculated as Adjusted EBITDA divided by Reported Net Sales. See the reconciliation of Non-U.S. GAAP measures starting on page 23.

## NET SALES

For the year ended December 31, 2017, reported net sales increased 6% to \$2.47 billion from \$2.33 billion a year ago. The average U.S. dollar exchange rate weakened compared to the Euro while the impact of the other major currencies related to our business was mixed. This resulted in a positive currency translation impact of 1%. The February 29, 2016 acquisition of Mega Airless positively impacted sales by 1%. Therefore, sales excluding acquisitions and changes in foreign currency rates (“core sales”) increased 4% over the prior year.

Year Ended December 31, 2017	Beauty + Home		Pharma		Food + Beverage		Total	
Net Sales Change versus Prior Year								
Core Sales Growth	2	%	8	%	6	%	4	%
Acquisitions	1	%	—	%	—	%	1	%
Currency Effects	1	%	1	%	—	%	1	%
Total Reported Net Sales Growth	4	%	9	%	6	%	6	%

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In 2016, we reported net sales of \$2.33 billion, 1% above 2015 reported net sales of \$2.32 billion. While the average U.S. dollar exchange rate compared to the Euro remained stable, the U.S. dollar strengthened compared to the majority of other currencies impacting our business, resulting in a negative currency translation impact of 2%. The acquisition of Mega Airless positively impacted sales by 3%. Therefore, core sales were even with the prior year.

Year Ended December 31, 2016 Net Sales Change versus Prior Year	Beauty + Home		Pharma		Food + Beverage		Total
Core Sales Growth	(2)	%	5	%	1	%	— %
Acquisitions	4	%	1	%	—	%	3 %
Currency Effects	(3)	%	(2)	%	(2)	%	(2) %
Total Reported Net Sales Growth	(1)	%	4	%	(1)	%	1 %

Foreign currency effects are approximations of the adjustment necessary to state the prior year net sales using current period 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.

16/ATR 2017 Form 10-K

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Table of Contents

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

Years Ended December 31,	2017	% of Total		2016	% of Total		2015	% of Total	
Domestic	\$ 642,164	26	%	\$ 619,814	27	%	\$ 633,522	27	%
Europe	1,426,173	58	%	1,329,398	57	%	1,287,309	56	%
Other Foreign	400,946	16	%	381,722	16	%	396,318	17	%

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

Our cost of sales as a percent of net sales increased to 65.0% in 2017 compared to 64.3% in 2016. Our cost of sales percentage was negatively impacted by approximately \$6.1 million of higher material costs in 2017 compared to 2016. The main driver was higher resin costs. We also experienced continued operational inefficiencies in our custom decorative packaging business in Europe. Tooling sales were also approximately \$10.1 million higher in 2017 compared to the prior year. Sales of custom tooling typically generates lower margins than product sales, so higher tooling sales negatively impacts cost of sales as a percentage of sales.

In 2016, our cost of sales as a percent of net sales decreased to 64.3% compared to 64.8% in 2015. The decrease was due to the mix of sales across our different business segments. Our Pharma segment sales represented a higher percentage of our overall sales in 2016 compared to 2015. This positively impacts our cost of sales percentage as margins on our pharmaceutical products typically are higher than the overall Company average. Also, tooling sales were approximately \$7.3 million lower in 2016 compared to the prior year. As mentioned above, sales of custom tooling typically generate lower margins than product sales, so lower tooling sales positively impacts cost of sales as a percentage of sales. We also realized lower raw material input costs, which helped offset \$2.6 million of incremental costs due to a purchase accounting adjustment related to the write-up to fair value of the Mega Airless inventory in 2016. Results in 2015 were positively impacted by the \$7.4 million change in accounting principle related to inventory valuation methods in the prior year.

**SELLING, RESEARCH & DEVELOPMENT AND ADMINISTRATIVE**

Our Selling, Research & Development and Administrative expenses (“SG&A”) increased approximately 6% or \$20.7 million to \$388.3 million in 2017 compared to \$367.6 million in 2016. Excluding changes in foreign currency rates, SG&A increased by approximately \$16.9 million compared to the same period a year ago. The increase is mainly due to increases in professional fees and salary expenses related to specific projects during the third and fourth quarters of 2017 along with other normal inflationary increases. During 2017, we also recognized \$1.3 million of professional fees related to our acquisition of a minority investment in Kali Care, Inc. and \$1.5 million of incremental operating costs related to the two additional months of Mega Airless activity. We also recognized \$2.5 million of additional long-term incentive compensation costs related to the performance of our common stock, \$1.5 million for the estimated costs to remediate environmental contamination found at the Company’s facility in Brazil and \$1.3 million of higher research & development costs due to lower research tax credits available in certain jurisdictions during 2017. These increases were partially offset by one-time transaction costs of \$5.6 million related to the Mega Airless acquisition in 2016, which did not repeat in 2017. Due to higher sales, SG&A as a percentage of net sales decreased to 15.7% compared to 15.8% in the same period of the prior year.

In 2016, our SG&A increased approximately 5% or \$16.1 million compared to the same period a year ago. Excluding changes in foreign currency rates, SG&A increased by approximately \$22.9 million compared to the same period a

year ago. The increase is mainly due to transaction costs of \$5.6 million related to the Mega Airless acquisition, along with \$8.5 million of Mega Airless operational expenses. We also incurred higher information technology costs associated with our ongoing enterprise resource planning system implementation along with general increases in compensation expense. For 2016, SG&A as a percentage of net sales increased to 15.8% compared to 15.2% in the same period of the prior year.

#### DEPRECIATION AND AMORTIZATION

Reported depreciation and amortization expense decreased approximately 1% or \$1.7 million to \$153.1 million in 2017 compared to \$154.8 million in 2016. Excluding changes in foreign currency rates, depreciation and amortization decreased by approximately \$4.0 million compared to the same period a year ago. The decrease is due to several large investments becoming fully depreciated during 2017 partially offset by incremental depreciation and amortization costs of \$2.6 million related to the two additional months of Mega Airless activity in 2017. As depreciation expenses decreased due to the lapsing of these large investments, depreciation and amortization as a percentage of net sales decreased to 6.2% compared to 6.6% in the same period a year ago.

17/ATR 2017 Form 10-K

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## Table of Contents

In 2016, depreciation and amortization expense increased approximately 11% or \$15.9 million compared to the same period a year ago. Excluding changes in foreign currency rates, depreciation and amortization increased by approximately \$18.0 million compared to the same period a year ago. The increase is mainly due to \$14.0 million of incremental depreciation and amortization related to the Mega Airless acquisition along with incremental costs associated with our continued investments in new products and the roll-out of our global enterprise resource planning system. Due to these higher expenses, depreciation and amortization as a percentage of net sales increased to 6.6% compared to 6.0% for the same period a year ago.

## RESTRUCTURING INITIATIVES

In late 2017, Aptar 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 will be the Beauty + Home segment; however, certain global general and administrative functions will also be addressed. During 2017, we recognized approximately \$2.2 million of restructuring costs related to this plan with approximately \$0.5 million being reported within the Beauty + Home segment and \$1.7 million being reported within the Food + Beverage segment. Using current exchange rates, we estimate total implementation costs of approximately \$90 million over the next three years. We also anticipate making capital investments related to the transformation plan of approximately \$45 million in 2018. We expect this business transformation plan to yield annualized incremental EBITDA of approximately \$80 million by 2020, principally within the Beauty + Home segment.

## OPERATING INCOME

Operating income increased approximately \$11.0 million or 4% to \$321.5 million in 2017 compared to \$310.5 million in 2016. Excluding changes in currency rates, operating income increased by approximately \$7.6 million in 2017 compared to 2016. Higher sales along with lower depreciation and amortization expenses more than offset higher SG&A and restructuring costs. However, reported operating income as a percentage of net sales decreased to 13.0% in 2017 compared to 13.3% for the same period in the prior year as incremental sales volumes were not at the same gross margin percentage mainly due to higher cost of sales as discussed above.

In 2016, operating income decreased approximately \$13.6 million or 4% to \$310.5 million compared to \$324.1 million in 2015. The prior year's operating income includes the positive impact of \$7.4 million from a change in accounting principle related to inventory valuation methods. Excluding changes in currency rates and the effects of this change in accounting principle, operating income decreased approximately \$1.9 million in 2016. Improvements in our gross margin were offset by higher SG&A and depreciation and amortization costs along with \$5.6 million of Mega Airless acquisition costs and a \$2.6 million purchase accounting adjustment related to the write-up to fair value of the Mega Airless inventory which was purchased and subsequently sold during the first quarter of 2016. Reported operating income as a percentage of net sales decreased to 13.3% in 2016 compared to 14.0% for the same period in the prior year due to the same factors mentioned above.

## NET OTHER EXPENSES

Net other expenses in 2017 decreased to \$26.7 million compared to \$30.0 million in 2016. This decrease is mainly driven by a \$10.6 million gain on insurance recovery related to a fire in our Annecy, France facility and an additional \$2.8 million of interest income on U.S. cash balances available after our current year repatriation activities. These decreases in net other expenses were offset by \$4.7 million of incremental interest expense incurred to prepay two of our private placement facilities during the fourth quarter of 2017. Prior year results also included a \$2.0 million gain on the sale of our minority interest in an injectable drug delivery device company in 2016.

In 2016, net other expenses increased to \$30.0 million compared to \$29.6 million in 2015. We recognized lower interest income and higher interest expense as we funded our Mega Airless acquisition with cash on hand and borrowings on our revolving line of credit. We also recognized a \$2.0 million gain on the sale of our minority interest in an injectable drug delivery device company in 2016 while we reported a \$2.9 million gain due to an insurance recovery on the involuntary conversion of fixed assets related to a fire in one of our Brazilian facilities in 2015.

#### EFFECTIVE TAX RATE

The reported effective tax rate on net income for 2017 and 2016 was 25.4% and 26.7%, respectively. The lower tax rate for 2017 reflects a benefit from the new accounting standard for employee share-based payments, which the Company adopted in 2017 (-3.5%). The current year also includes items attributable to the U.S. tax legislation as described below. The tax rate impact from the legislation includes a provisional tax charge related to the tax on unremitted earnings (+10.7%) which is partially offset by a provisional deferred tax benefit related to the enacted lower U.S. corporate tax rate (-2.3%). The current year tax rate also includes a benefit from the resolution of a forward contract transaction (-8.1%). The comparable prior year reflects higher tax benefits from European investment incentives (+1.4%).

18/ATR 2017 Form 10-K

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## Table of Contents

On December 22, 2017, the U.S. government enacted comprehensive tax legislation commonly referred to as the Tax Cuts and Jobs Act (the “TCJA”). The TCJA makes broad and complex changes to the U.S. tax code that impacted 2017 results including, but not limited to:

- (1) reducing the U.S. federal corporate tax rate from 35% to 21%, effective January 1, 2018, which required us to remeasure our deferred tax accounts, and
- (2) requiring a one-time transition tax on certain unremitted foreign earnings.

The TCJA also puts in place new tax laws that will impact our taxable income beginning in 2018, which include, but are not limited to:

- (1) creating a Base Erosion Anti-abuse Tax (“BEAT”), which is a new minimum tax,
- (2) generally eliminating U.S. federal income taxes on dividends from foreign subsidiaries,
- (3) a provision designed to currently tax global intangible low-taxed income (“GILTI”),
- (4) a provision that could limit the amount of deductible interest expense,
- (5) the repeal of the domestic production activity deduction, and
- (6) limitations on the deductibility of certain executive compensation.

Shortly after the TCJA was enacted, the SEC staff issued Staff Accounting Bulletin No. 118, Income Tax Accounting Implications of the Tax Cuts and Jobs Act (“SAB 118”) which provides guidance on accounting for the TCJA’s impact. SAB 118 provides a measurement period, which in no case should extend beyond one year from the TCJA enactment date, during which a company acting in good faith may complete the accounting for the impacts of the TCJA under ASC Topic 740. In accordance with SAB 118, the Company must reflect the income tax effects of the TCJA in the reporting period in which the accounting under ASC Topic 740 is complete.

To the extent that a company’s accounting for certain income tax effects of the TCJA is incomplete, the Company can determine a reasonable estimate for those effects and record a provisional estimate in the financial statements in the first reporting period in which a reasonable estimate can be determined.

The transition tax is a 2017 tax on the previously untaxed accumulated and current earnings and profits (“E&P”) of our foreign subsidiaries. In order to determine the amount of the transition tax, we must determine, in addition to other factors, the amount of post-1986 E&P of the subsidiaries, as well as the amount of non-U.S. income taxes paid on such E&P. We were able to make a reasonable estimate of the transition tax and recorded a provisional transition tax obligation of \$31.6 million which we expect to be fully offset by the utilization of foreign tax credits.

To reflect the reduction of the U.S. corporate tax rate, we have recorded a provisional adjustment to our net deferred tax balances, with a corresponding discrete net tax provisional benefit of \$6.8 million in the current period.

The TCJA includes a provision designed to currently tax GILTI starting in 2018. Due to the complexity of the new GILTI tax rules, we are continuing to evaluate this provision of the TCJA and the application of ASC Topic 740. We are also considering available accounting policy alternatives. For these reasons, we are not yet able to reasonably estimate the effect of this provision of the TCJA. Therefore, we have not made any adjustments relating to potential GILTI tax in our financial statements and have not made a policy decision regarding our accounting for GILTI.

The transition tax noted above results in the previously untaxed foreign earnings being included in the U.S. federal and state 2017 taxable income. Therefore, as of December 31, 2017, the Company does not have a balance of earnings that have not been subject to U.S. taxation. We are currently analyzing our global working capital requirements and the potential tax liabilities that would be incurred if the non-U.S. subsidiaries made a distribution of their cash or distributable reserves. The liabilities would include local country withholding and income tax and potential U.S. state taxation. As of December 31, 2017, the cash or distributable reserve amounts will continue to be reinvested indefinitely and would become subject to these additional taxes if they were remitted as dividends. We estimate the

additional tax that would be payable on these earnings to be in the range of \$25 million to \$35 million.

The reported effective tax rate on net income for 2016 and 2015 was 26.7% and 32.3%, respectively. The lower tax rate for 2016 reflects the reduction in the French corporate tax rate (1.7%) and higher investment incentives in both France and Italy (2.2%). The Company also recorded a benefit from the resolution of uncertain tax positions in France and Italy (0.8%) during 2016.

NET INCOME ATTRIBUTABLE TO APTARGROUP, INC.

We reported net income of \$220.0 million compared to \$205.6 million reported in 2016 and \$199.3 million reported in 2015.

19/ATR 2017 Form 10-K

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Table of Contents

## BEAUTY + HOME SEGMENT

Years Ended December 31,	2017	2016	2015	% Change 2017 vs. 2016	% Change 2016 vs. 2015
Net Sales	\$ 1,313,786	\$ 1,261,086	\$ 1,272,946	4.2	% (0.9)
Segment Income (1)	93,805	100,569	98,707	(6.7)	1.9
Segment Income as a percentage of Net Sales	7.1	% 8.0	% 7.8	%	
Adjusted EBITDA margin (2)	13.2	% 14.8	% 13.7	%	

(1) Segment income is defined as earnings before net interest expense, certain corporate expenses, restructuring initiatives and income taxes. The Company evaluates performance of its business units and allocates resources based upon segment income. For a reconciliation of segment income to income before income taxes, see Note 17 to the Consolidated Financial Statements in Item 8.

(2) Adjusted EBITDA margin is calculated as Adjusted EBITDA divided by Reported Net Sales. See the reconciliation of Non-U.S. GAAP measures starting on page 23.

Reported net sales increased approximately 4% in 2017 to \$1.31 billion compared to \$1.26 billion in 2016. The Mega Airless acquisition positively impacted net sales by 1% in 2017 while changes in currency rates positively impacted net sales by 1%. Therefore, core sales increased 2% in 2017 compared to the same period in the prior year. The majority of this increase is due to higher product sales. Tooling sales and the pass-through of higher resin prices to our customers also positively impacted sales by \$4.0 million and \$0.6 million, respectively. Core sales to the personal care and beauty markets each increased 2% while core sales to the home care market declined slightly during 2017 compared to the same period in the prior year. The beauty market increased as strong sales to the facial skin care application field and higher sampling and promotion sales more than offset lower sales to our prestige fragrance market. The personal care markets also showed improvement over the prior year due to strong body care and hair care application field sales. Sales to the home care market decreased 1% as new product sales to the automotive market were not able to completely offset lower insecticide sales, predominately in North America and Latin America related to the unusually high demand for these products in 2016.

Year Ended December 31, 2017 Net Sales Change over Prior Year	Personal Care	Beauty	Home Care	Total
Core Sales Growth	2	% 2	% (1)	% 2
Acquisitions	1	% 1	% —	% 1
Currency Effects	1	% 2	% 2	% 1
Total Reported Net Sales Growth	4	% 5	% 1	% 4

In 2016, reported net sales decreased approximately 1% to \$1.26 billion compared to \$1.27 billion in 2015. The Mega Airless acquisition positively impacted net sales by 4% in 2016 while changes in currency rates negatively impacted net sales by 3%. Therefore, core sales decreased 2% in 2016 compared to the same period in the prior year. The majority of this decrease is due to lower tooling sales and the pass-through of lower resin prices to our customers, which negatively impacted sales for 2016 by \$15.4 million and \$4.5 million, respectively. Core sales to the beauty market were flat while core sales to both the personal care and home care markets declined 4% during 2016 compared

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to the same period in the prior year. For the beauty market, growth in sales of our products to the color cosmetics and facial skin care application fields were offset by lower tooling sales. Sales of our products to the personal care markets experienced soft customer demand across their main application fields with the exception of body care. Strong insecticide and industrial product sales to the home care market were offset by lower customer demand in laundry care.

Year Ended December 31, 2016 Net Sales Change over Prior Year	Personal Care	Beauty	Home Care	Total
Core Sales Growth	(4)	% —	% (4)	% (2) %
Acquisitions	3	% 6	% —	% 4 %
Currency Effects	(3)	% (2)	% (2)	% (3) %
Total Reported Net Sales Growth	(4)	% 4	% (6)	% (1) %

Segment income for 2017 decreased to \$93.8 million from \$100.6 million reported in 2016. Gains on sales volume increases were offset by higher material costs and operational inefficiencies, mainly in our custom decorative packaging business in Europe. As discussed above, we have initiated a business transformation plan to address these challenges. During 2017, we also recognized a charge of \$1.5 million for the estimated costs to remediate environmental contamination found at the Company's anodizing facility in Brazil.

20/ATR 2017 Form 10-K

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Table of Contents

Segment income for 2016 increased slightly to \$100.6 million from \$98.7 million reported in 2015, in spite of the decrease in net sales. The increase compared to the prior year is partly related to our mix of product sales due to the contribution of airless product sales related to our Mega Airless acquisition. We also continue to focus on operational and material cost savings initiatives. Segment income was negatively impacted by \$2.2 million due to a purchase accounting adjustment related to the write-up to fair value of the Mega Airless inventory we purchased and subsequently sold during the first quarter.

## PHARMA SEGMENT

Years Ended December 31,	2017	2016	2015	% Change 2017 vs. 2016	% Change 2016 vs. 2015
Net Sales	\$ 805,880	\$ 741,473	\$ 712,220	8.7	% 4.1
Segment Income	234,790	219,039	210,509	7.2	4.1
Segment Income as a percentage of Net Sales	29.1	% 29.5	% 29.6	%	%
Adjusted EBITDA margin	34.2	% 35.0	% 34.6	%	%

Reported net sales increased approximately 9% in 2017 to \$805.9 million compared to \$741.5 million in 2016. Changes in currency rates positively impacted net sales by 1%. Therefore, core sales increased 8% in 2017 compared to the same period in the prior year. All three markets reported increases during 2017 with core sales to the prescription drug, consumer health care and injectables markets increasing 7%, 7% and 9%, respectively. Consumer health care realized strong demand for our products used on nasal decongestants and nasal salines. The prescription drug market reported core sales increases across all applications with strong sales of our devices used on asthma, COPD and allergic rhinitis products driving the growth in 2017. Core sales of our products to the injectables markets increased due to improved sales of our components used on antithrombotic and small molecule products. For the segment, customer tooling sales, excluding foreign currency changes, decreased \$3.2 million in 2017 to \$30.1 million compared to \$33.3 million in the prior year.

Year Ended December 31, 2017 Net Sales Change over Prior Year	Prescription Drug	Consumer Health Care	Injectables	Total
Core Sales Growth	7	% 7	% 9	% 8
Currency Effects	1	% 1	% 2	% 1
Total Reported Net Sales Growth	8	% 8	% 11	% 9

In 2016, reported net sales increased approximately 4% to \$741.5 million compared to \$712.2 million in 2015. The Mega Airless acquisition positively impacted net sales by 1% in 2016 while changes in currency rates negatively impacted net sales by 2%. Therefore, core sales increased 5% in 2016 compared to the same period in the prior year. All three markets reported increases during 2016 with core sales to the prescription drug, consumer health care and injectables markets increasing 2%, 11% and 4%, respectively. Prescription growth was led by strong demand for allergic rhinitis and central nervous system product sales. We also experienced strong demand for our products sold to the eye care and dermal drug delivery application fields in the consumer health care market. Injectables sales also grew across the majority of their application fields. Customer tooling sales, excluding foreign currency changes,

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increased \$11.2 million in 2016 to \$31.5 million compared to \$20.3 million in the prior year.

Year Ended December 31, 2016 Net Sales Change over Prior Year	Prescription Drug	Consumer Health Care	Injectables	Total
Core Sales Growth	2	% 11	% 4	% 5
Acquisitions	—	% 5	% —	% 1
Currency Effects	(1)	% (4)	% —	% (2)
Total Reported Net Sales Growth	1	% 12	% 4	% 4

Segment income for 2017 increased approximately 7% to \$234.8 million compared to \$219.0 million in 2016. Strong sales volumes across all three markets were able to offset unfavorable manufacturing variances, \$1.3 million of professional fees related to our acquisition of a minority investment in Kali Care, Inc. and start-up costs related to our new injectable capacity in North America.

21/ATR 2017 Form 10-K

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Table of Contents

In 2016, segment income increased approximately 4% to \$219.0 million compared to \$210.5 million in 2015. This increase is due to the additional product and tooling sales discussed above along with favorable product mix within the segment. Cost savings initiatives partially offset costs related to an enterprise resource system implementation and the impact of a purchase accounting adjustment of \$0.4 million related to the write-up to fair value of the Mega Airless inventory we purchased and subsequently sold during the first quarter of 2016. We also recognized a \$2.0 million gain on the sale of our minority interest in an injectable drug delivery device company in 2016.

## FOOD + BEVERAGE SEGMENT

Years Ended December 31,	2017	2016	2015	% Change 2017 vs. 2016	% Change 2016 vs. 2015	
Net Sales	\$ 349,617	\$ 328,375	\$ 331,983	6.5	% (1.1)	%
Segment Income	38,183	37,697	42,731	1.3	(11.8)	
Segment Income as a percentage of Net Sales	10.9 %	11.5 %	12.9 %			
Adjusted EBITDA margin	18.0 %	18.8 %	19.3 %			

Reported net sales increased by approximately 6% in 2017 to \$349.6 million compared to \$328.4 million in 2016. Changes in foreign currency rates had no impact on the current year results. Therefore, core sales increased 6% in 2017 compared to the prior year. Core sales to the food and beverage markets increased 6% and 7%, respectively in 2017 compared to the same period of the prior year. Sales to the food market increased due to strong sales of our products used on sauces and condiments. We also realized increases in sales of our products used on spreads, jelly and honey, non-beverage dairy and infant nutrition products. For the beverage market, strong sales to our bottled water customers offset a decrease in functional drink application sales. Sales for 2017 were also favorably impacted by higher tooling sales of \$7.0 million.

Year Ended December 31, 2017						
Net Sales Change over Prior Year	Food	Beverage	Total			
Core Sales Growth	6 %	7 %	6 %			
Currency Effects	— %	— %	— %			
Total Reported Net Sales Growth	6 %	7 %	6 %			

In 2016, reported net sales decreased by approximately 1% to \$328.4 million compared to \$332.0 million in 2015. Excluding a 2% negative impact from the changes in foreign currency rates, core sales increased 1%. Higher product sales were offset by the pass-through of lower resin prices to our customers and lower tooling sales of \$4.0 million and \$3.1 million, respectively, in 2016 compared to the prior year. Core sales of our products to the food market increased 9% while core sales of our products to the beverage market decreased approximately 7% in 2016 compared to the prior year. Sales to the food market increased with strong demand for our sauces and condiments products along with increases in the dairy and infant formula application fields. For the beverage market, we experienced a decrease in the demand for our products to the functional drink applications, mainly in China.

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Year Ended December 31, 2016						
Net Sales Change over Prior Year	Food		Beverage		Total	
Core Sales Growth	9	%	(7)	%	1	%
Currency Effects	(2)	%	(3)	%	(2)	%
Total Reported Net Sales Growth	7	%	(10)	%	(1)	%

Segment income increased approximately 1% to \$38.2 million in 2017 compared to \$37.7 million in 2016. Increased product and tooling sales more than offset price concessions to customers to secure long-term agreements. Improvements in productivity were able to offset increased legal fees to defend our intellectual property.

In 2016, segment income decreased approximately 12% to \$37.7 million compared to \$42.7 million in 2015. Profit associated with increased sales to the food market along with cost savings initiatives did not completely offset the decrease in profitability from the shortfall in sales of our products to the beverage market. Lower demand also led to lower operating performance in China along with a negative impact due to the mix of products sold during 2016 compared to the same period in the prior year. Resin costs also negatively impacted segment income by approximately \$0.9 million in 2016.

22/ATR 2017 Form 10-K

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## Table of Contents

### CORPORATE & OTHER

Certain costs that are not allocated to our three operating business segments are classified as “Corporate & Other,” which is presented separately in Note 17 of the Notes to the Consolidated Financial Statements. Corporate & Other primarily includes certain corporate compensation, professional fees, certain information system costs and LIFO inventory adjustments (prior to our accounting change in the second quarter of 2015 discussed in Note 1 of the Notes to Consolidated Financial Statements).

Corporate & Other expense in 2017 decreased to \$34.6 million compared to \$44.2 million in 2016. Excluding the \$10.6 positive impact of a gain on insurance recovery related to a 2016 fire in our Annecy, France facility on our 2017 results and a \$5.6 million negative impact of Mega Airless acquisition transaction costs on our 2016 results, Corporate & Other expense increased \$4.6 million in 2017 compared to the prior year. This increase is mainly due increases in professional fees and salary expenses related to specific internal projects. We also recognized \$1.7 million of additional long-term incentive compensation costs related to the performance of our common stock.

In 2016, Corporate & Other expense increased to \$44.2 million compared to \$28.4 million in 2015. Excluding the impact of a favorable \$7.4 million change in accounting principle related to our inventory valuation method in the prior year, Corporate & Other expense increased \$8.4 million in 2016 compared to the prior year. This increase is mainly due to \$5.6 million of transaction costs related to the Mega Airless acquisition reported in the first quarter of 2016. In addition, the prior year Corporate & Other expense was reduced by \$2.9 million of gain due to an insurance recovery on the involuntary conversion of fixed assets related to a fire in one of our Brazilian facilities.

### 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 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.

In MD&A, we exclude the impact of foreign currency translation when presenting net sales 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 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 and dispositions and other special items when comparing results to prior periods. Changes in operating results excluding the special items are non-U.S. GAAP financial measures. We feel it is useful to investors to exclude the impact of these items on year-over-year results in order to evaluate performance on a more comparable basis.

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”), which excludes the impact of a gain from an

insurance recovery and restructuring initiative charges in 2017. Adjusted EBITDA also excludes transaction costs and purchase accounting adjustments that affected the inventory values related to the Mega Airless acquisition in 2016.

Finally, 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, cash equivalents and short-term investments while Net Capital is calculated as stockholder's 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.

23/ATR 2017 Form 10-K

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Table of Contents

	Year Ended December 31, 2017					
	Consolidated	Beauty + Home	Pharma	Food + Beverage	Corporate & Other	Net Interest
Net Sales	\$ 2,469,283	\$ 1,313,786	\$ 805,880	\$ 349,617	\$ -	\$ -
Reported net income	\$ 220,029					
Reported income taxes	74,796					
Reported income before income taxes	294,825	93,276	234,790	36,504	(34,618)	(35,127)
Adjustments:						
Restructuring initiatives	2,208	529		1,679		
Gain on insurance recovery	(10,648)				(10,648)	
Adjusted earnings before income taxes	286,385	93,805	234,790	38,183	(45,266)	(35,127)
Interest expense	40,597					40,597
Interest income	(5,470)					(5,470)
Adjusted earnings before net interest and taxes (Adjusted EBIT)	321,512	93,805	234,790	38,183	(45,266)	-
Depreciation and amortization	153,094	79,422	41,143	24,720	7,809	-
Adjusted earnings before net interest, taxes, depreciation and amortization (Adjusted EBITDA)	\$ 474,606	\$ 173,227	\$ 275,933	\$ 62,903	\$ (37,457)	\$ -
Segment income margins (Income before income taxes / Reported Net Sales)		7.1%	29.1%	10.4%		
Adjusted EBITDA margins (Adjusted EBITDA / Reported Net Sales)	19.2%	13.2%	34.2%	18.0%		

	Year Ended December 31, 2016					
	Consolidated	Beauty + Home	Pharma	Food + Beverage	Corporate & Other	Net Interest
Net Sales	\$ 2,330,934	\$ 1,261,086	\$ 741,473	\$ 328,375	\$ -	\$ -
Reported net income	\$ 205,604					
Reported income taxes	74,893					
Reported income before income taxes	280,497	100,569	219,039	37,697	(44,214)	(32,594)

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Adjustments:

Transaction costs related to the Mega Airless acquisition	5,640				5,640	
Purchase accounting adjustments related to Mega Airless inventory	2,577	2,151	426			
Adjusted earnings before income taxes	288,714	102,720	219,465	37,697	(38,574)	(32,594)
Interest expense	35,237					35,237
Interest income	(2,643)					(2,643)
Adjusted earnings before net interest and taxes (Adjusted EBIT)	321,308	102,720	219,465	37,697	(38,574)	-
Depreciation and amortization	154,802	84,273	39,776	23,891	6,862	-
Adjusted earnings before net interest, taxes, depreciation and amortization (Adjusted EBITDA)	\$ 476,110	\$ 186,993	\$ 259,241	\$ 61,588	\$ (31,712)	\$ -
Segment income margins (Income before income taxes / Reported Net Sales)		8.0%	29.5%	11.5%		
Adjusted EBITDA margins (Adjusted EBITDA / Reported Net Sales)	20.4%	14.8%	35.0%	18.8%		

24/ATR 2017 Form 10-K

Table of Contents

Net Debt to Net Capital Reconciliation	December 31, 2017	December 31, 2016
Notes payable	\$ 4,336	\$ 169,213
Current maturities of long-term obligations, net of unamortized debt issuance costs	61,833	4,603
Long-Term Obligations, net of unamortized debt issuance costs	1,191,146	772,737
Total Debt	1,257,315	946,553
Less:		
Cash and equivalents	712,640	466,287
Net Debt	\$ 544,675	\$ 480,266
Total Stockholders' Equity	\$ 1,312,048	\$ 1,174,242
Net Debt	544,675	480,266
Net Capital	\$ 1,856,723	\$ 1,654,508
Net Debt to Net Capital	29.3%	29.0%

## LIQUIDITY AND CAPITAL RESOURCES

We believe we are in a strong financial position and have the financial resources to meet our business requirements in the foreseeable future. We have historically used cash flow from operations, our revolving credit facilities and debt, as needed, as our primary sources of liquidity. Our primary uses of liquidity are to invest in equipment and facilities that are necessary to support our growth and to make acquisitions that will contribute to the achievement of our strategic objectives.

Other uses of liquidity include paying dividends to stockholders and repurchasing shares of our common stock. The majority of these cash needs are met using U.S. funds. We voluntarily repatriated approximately €250 million (\$263 million) in the first quarter of 2017 and another €700 million (\$751 million) in the third quarter of 2017 from Europe to the U.S. We believe that these repatriations provide us with significant resources to meet our U.S. funding needs for the next several years. In the event that customer demand would decrease significantly for a prolonged period of time and negatively impact cash flow from operations, we would have the ability to restrict and significantly reduce capital expenditure levels, as well as evaluate our acquisition strategy and dividend and share repurchase programs. 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.

In 2017, our operations provided approximately \$324.7 million in cash flow compared to \$325.3 million in 2016 and \$323.8 million in 2015. Cash flow from operations was primarily derived from earnings before depreciation and amortization. The increase in cash flow from operations in 2017 was primarily attributable to improvements in earnings and working capital partially offset by an additional \$30 million contribution to our domestic pension plan over the amount contributed in 2016. Comparing 2016 to 2015, the increase is mainly due to profit growth offset by an increased use of cash for working capital.

We used \$224.8 million in cash for investing activities during 2017 compared to \$300.5 million during 2016 and \$176.2 million during 2015. During 2017, we spent \$203.0 million less on acquisitions. However, in 2017 we did use \$66.2 million to settle a derivative and increased our investment in capital projects by \$27.6 million compared to

2016. We also invested \$5 million for a 20% minority interest in Kali Care, a technology company that provides digital monitoring systems for medical devices. Comparing 2016 to 2015, the increase in cash used for investing activities is due primarily to the Mega Airless acquisition partially offset by the maturity of \$29.5 million in short-term investments and a decrease in capital expenditures of \$20.3 million. Our 2018 estimated cash outlays for capital expenditures are expected to be approximately \$200 million but could vary due to changes in exchange rates as well as the timing of capital projects.

Financing activities provided \$114.8 million in cash during 2017, compared to net cash used for financing activities of \$29.7 million during 2016 and \$32.3 million in 2015. During 2017, we borrowed approximately \$800 million in Europe (see details below) and used the proceeds along with cash on hand to repatriate \$1.0 billion from Europe to the U.S. These funds were used to repay \$160 million outstanding on the U.S. revolving credit facility, repurchase \$161.5 million of common stock, and prepay \$159 million of private placement debt. For 2016, proceeds from notes payable were used to partially finance the acquisition of Mega Airless and to repurchase and retire common stock. During 2015, we repurchased shares of common stock for retirement at a total cost of \$13.9 million. Proceeds from stock option exercises were offset by the cash paid to stockholders in dividends during 2017, 2016 and 2015.

25/ATR 2017 Form 10-K

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Table of Contents

Cash and equivalents increased to \$712.6 million at the end of 2017 from \$466.3 million at the end of 2016 mainly due to additional borrowings in Europe and current year earnings. During 2017, we repatriated \$1.0 billion from Europe to the U.S. as discussed above. Total short and long-term interest bearing debt increased to \$1.3 billion at the end of 2017 from \$946.6 million at the end of 2016 primarily due to the additional debt taken on in Europe to fund the repatriation. The ratio of our Net Debt (interest bearing debt less cash and cash equivalents less short-term investments) to Net Capital (stockholder's equity plus Net Debt) was 29.3% at December 31, 2017 compared to 29.0% at December 31, 2016. See the reconciliation of Non-U.S. GAAP measures starting on page 23.

On July 20, 2017, the Company replaced its \$300 million revolving credit facility with a new 5-year multi-currency revolving credit facility with two tranches, providing for unsecured financing of up to \$300 million that is available in the U.S. and up to €150 million that is available to our wholly owned UK subsidiary. Each borrowing under the credit facility will bear interest at rates based on LIBOR, prime rates or other similar rates, in each case plus an applicable margin. A facility fee on the total amount of the facility is also payable quarterly, regardless of usage. The applicable margins for borrowings under the credit facility and the facility fee percentage may change from time to time depending on changes in Aptar's consolidated leverage ratio. At December 31, 2017, we had no outstanding balance under the credit facility. At December 31, 2016, we had an outstanding balance of \$166 million under the credit facility. We incurred approximately \$1.5 million and \$2.0 million in interest and fees related to this credit facility during 2017 and 2016, respectively.

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

	Requirement	Level at December 31, 2017
Consolidated Leverage Ratio (a)	Maximum of 3.50 to 1.00	1.21 to 1.00
Consolidated Interest Coverage Ratio (a)	Minimum of 3.00 to 1.00	11.77 to 1.00

(a) Definitions of ratios are included as part of the revolving credit facility agreement.

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 ratio requirement would be exceeded.

Our foreign operations have historically met cash requirements with the use of internally generated cash or uncommitted short-term borrowings. Following the repatriation of cash to the U.S. discussed above, the majority of our \$714 million in cash and equivalents is located within the U.S. and we now have committed financing arrangements in the UK as detailed below. 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.

During the third quarter of 2017, the Company entered into the borrowing arrangements summarized below through our wholly owned UK subsidiary to better balance our capital structure.

Debt Type	Amount	Term/Maturity	Interest Rate
Bank term loan	\$ 280,000	5 year amortizing/July 2022	2.62% floating swapped to 1.36% fixed
Bank revolver	€ 150,000	5 year/July 2022	1.10% floating
Private placement	€ 100,000	6 year/July 2023	0.98% fixed
Private placement	€ 200,000	7 year/July 2024	1.17% fixed

Aptar also entered into a EUR/USD floating-to-fixed cross currency swap on July 20, 2017 to mitigate the currency risk of U.S. dollar debt on a Euro functional currency entity and to also mitigate the risk of variability in interest rates on the \$280 million bank term loan. The Company expects its future European cash flows will be sufficient to service this new debt.

#### OFF BALANCE SHEET ARRANGEMENTS

We lease certain warehouse, plant and office facilities as well as certain equipment under noncancelable operating leases expiring at various dates through the year 2027. Most of the operating leases contain renewal options and certain equipment leases include options to purchase during or at the end of the lease term. Other than operating lease obligations, we do not have any off balance sheet arrangements. See the following section “Overview of Contractual Obligations” for future payments relating to operating leases.

26/ATR 2017 Form 10-K

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Table of Contents

## OVERVIEW OF CONTRACTUAL OBLIGATIONS

Below is a table of our outstanding contractual obligations and future payments as of December 31, 2017:

Payment Due by Period	Total	2018	2019-2020	2021-2022	2023 and After
Long-term debt (1)	\$ 1,255,634	\$ 61,227	\$ 117,604	\$ 190,887	\$ 885,916
Capital lease obligations (1)	741	606	135	—	—
Operating leases	75,591	21,467	26,962	13,949	13,213
Notes payable (2)	4,336	4,336	—	—	—
Purchase obligations (3)	79,165	57,110	21,612	443	—
Interest obligations (4)	202,798	33,274	65,290	60,402	43,832
<b>Total Contractual Obligations</b>	<b>\$ 1,618,265</b>	<b>\$ 178,020</b>	<b>\$ 231,603</b>	<b>\$ 265,681</b>	<b>\$ 942,961</b>

- (1) The future payments listed above for long-term debt repayments and capital lease obligations reflect only principal payments.
- (2) Notes payable mainly includes foreign short-term borrowings. The future payments listed above assume that no additional amounts will be drawn under the credit facility.
- (3) Purchase obligations are agreements to purchase goods or services that are enforceable and legally binding on the Company that specify all significant terms, including: fixed or minimum quantities to be purchased; fixed, minimum, or variable price provisions; and the approximate timing of the transactions.
- (4) Approximately 22.33% of our total interest bearing long term debt has variable interest rates. Using our long term variable rate debt outstanding as of December 31, 2017 of approximately \$280.6 million at an average rate of approximately 2.60%, we included approximately \$7.4 million of variable interest rate obligations in 2017. No variable interest rate obligations were included in subsequent years.

The Company makes contributions to its domestic pension plans but does not currently have a required minimum pension contribution obligation for those plans. The Company also makes contributions to its foreign pension plans but amounts are expected to be discretionary in 2018 and future years. Therefore, amounts related to these plans are not included in the preceding table.

The Company does not record a current portion of the liability for uncertain tax positions. The income tax liability, if any, arising as a result of the TCJA transition tax would be eligible to be paid over a period of 8 years. Based on our provisional estimate we do not expect to have any current liability for the transition tax .

Aside from deferred income taxes, we have approximately \$86.1 million of other deferred long term liabilities on the balance sheet, which consist primarily of retirement plan obligations as described in Note 8 to the Consolidated Financial Statements. The Company is not able to reasonably estimate the timing of the long term payments or the amount by which the liability will increase or decrease over time. Therefore, the long term portion of the liability is excluded from the preceding table.

## RECENTLY ISSUED ACCOUNTING PRONOUNCEMENTS

We have reviewed the recently issued accounting standards updates to FASB's Accounting Standards Codification that have future effective dates. Standards which are effective for 2017 are discussed in Note 1 of the Notes to Consolidated Financial Statements.

In May 2014, the FASB amended the guidance for recognition of revenue from customer contracts. The core principle of the guidance is that an entity should recognize revenue to depict the transfer of promised goods or services to customers in the amount that reflects the consideration to which the entity expects to be entitled in exchange for those goods or services. In August 2015, the FASB decided to defer the effective date by one year to December 15, 2017 for annual reporting periods beginning after that date. The FASB also decided to allow early adoption of the standard, but not before the original effective date of December 15, 2016. Subsequent to the initial standards, the FASB has also issued several ASUs to clarify specific revenue recognition topics. We continue to evaluate the impact the adoption of this standard will have on our Consolidated Financial Statements. The majority of our revenues are derived from product sales and tooling sales. We are also evaluating our service, license, exclusivity and royalty arrangements, which need to be reviewed individually to ensure proper accounting under the new standard. To date, our internal project team has reviewed a substantial portion of contracts. We believe the pronouncement will mainly impact the timing of when we account for both product and tooling sales. We currently recognize revenue for these contracts when the title and risk of loss transfers to the customer. Under the new guidance, we will recognize revenue for certain contracts over the time required to manufacture the product or build the tool. We also continue to progress in updating our internal controls along with reviewing and developing the additional disclosures required by the standard. We will adopt the modified retrospective transition method for implementing this guidance in the first quarter of 2018.

27/ATR 2017 Form 10-K

---

## Table of Contents

In January 2016, the FASB issued new guidance that generally requires companies to measure investments in other entities, except those accounted for under the equity method, at fair value and recognize any changes in fair value in net income. The new standard is effective for fiscal years and interim periods beginning after December 15, 2017. The Company does not believe that this new guidance will have a material impact on its consolidated financial statements.

In February 2016, the FASB issued new guidance to increase transparency and comparability among organizations by recognizing lease assets and lease liabilities on the balance sheet and disclosing key information about leasing arrangements. The new standard is effective for fiscal years and interim periods beginning after December 15, 2018. The Company is currently evaluating the impact of adopting this guidance.

In June 2016, the FASB issued guidance that changes the accounting for measurement of credit losses on financial instruments. The guidance replaces the incurred loss impairment methodology in current U.S. GAAP with a methodology that reflects expected credit losses and requires consideration of a broader range of reasonable and supportable information when recording credit loss estimates. The new standard is effective for fiscal years and interim periods beginning after December 15, 2019. The Company is currently evaluating the impact of adopting this guidance.

In January 2017, the FASB issued guidance to simplify how an entity is required to test goodwill for impairment by eliminating Step 2 from the goodwill impairment test. As a result, impairment charges will be required for the amount by which a reporting unit's carrying amount exceeds its fair value up to the amount of its allocated goodwill. The new standard is effective for the annual or any interim goodwill impairment tests in fiscal years beginning after December 15, 2019. The Company does not believe that this new guidance will have a material impact on its consolidated financial statements.

In March 2017, the FASB issued guidance to disaggregate the current service cost component from the other components of net periodic benefit costs. The service cost component should be presented within compensation costs while the other components should be presented outside of income from operations. The guidance also clarifies that only the service cost component is eligible for capitalization. The new standard is effective for fiscal years and interim periods beginning after December 15, 2017. The Company is currently evaluating the impact of adopting this guidance.

In May 2017, the FASB issued clarification on applying the standards for stock compensation accounting. The new standard provides guidance on which changes to the terms or conditions of a share-based payment award require an entity to apply modification accounting. The new standard is effective for fiscal years and interim periods beginning after December 15, 2017. The Company is currently evaluating the impact of adopting this guidance.

In February 2018, the FASB issued guidance on the reclassification of certain tax effects from accumulated other comprehensive income. This guidance allows for the reclassification from accumulated other comprehensive income to retained earnings for stranded tax effects resulting from the TCJA. The new standard is effective for fiscal years and interim periods beginning after December 15, 2018. The Company is currently evaluating the impact of adopting this guidance.

Other accounting standards that have been issued by the FASB or other standards setting bodies that do not require adoption until a future date are not expected to have a material impact on our consolidated financial statements upon adoption.

## 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 Management's Discussion and Analysis of Consolidated Results of Operations and Financial Condition.

28/ATR 2017 Form 10-K

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## Table of Contents

### 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. Within the Pharma segment, the injectables division qualifies as a separate reporting unit for goodwill impairment testing apart from the remaining Pharma business. As of December 31, 2017, we have \$443.9 million of goodwill, which is allocated as follows: \$97.3 million is allocated to the Pharma reporting unit, \$105.8 million is allocated to the Injectables reporting unit, \$223.9 million is allocated to the Beauty + Home reporting unit and \$16.9 million is allocated to the Food + Beverage reporting unit.

We believe that the accounting estimate 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 Company 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 assumptions about future cash flows for the reporting units require significant judgment and actual cash flows in the future may differ significantly from those forecasted today. The estimate for future cash flows and its impact on the impairment testing of goodwill is 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, goodwill impairment is determined utilizing a two step quantitative process. 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.

We performed our annual goodwill impairment assessment as of December 31, 2017 for each of our reporting units. 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 goodwill attributed to these reporting units was greater than its carrying amount. As such, the annual two step impairment test was deemed not necessary to be performed for our reporting units for the year ended December 31, 2017.

### ALLOWANCE FOR DOUBTFUL ACCOUNTS

We record an allowance for doubtful accounts as an estimate of the inability of our customers to make their required payments. We determine the amount of our allowance for doubtful accounts by looking at a variety of factors. First, we examine an aging report of the accounts receivable in each entity within the Company. The aging report lists past due amounts according to invoice terms. In addition, we consider historical experience with the customers, the current economic environment, the credit rating of the customers and general overall market conditions. In some countries we maintain credit insurance, which can be used in certain cases of non payment.

We believe that the accounting estimate related to the allowance for doubtful accounts is a critical accounting estimate because: (1) it requires management to make assumptions about the ability to collect amounts owed from customers in the future and (2) changes to these assumptions or estimates could have a material impact on our results of operations. The estimate for the allowance for doubtful accounts is a critical accounting estimate for all of our segments.

When we determine that a customer is unlikely to pay, we record a charge to bad debt expense in the income statement and an increase to the allowance for doubtful accounts. When it becomes certain the customer cannot pay (typically driven by the customer filing for bankruptcy) we write off the receivable by removing the accounts receivable amount and reducing the allowance for doubtful accounts accordingly. In 2017, we increased the allowance for doubtful accounts by approximately \$235 thousand and we wrote off doubtful accounts of \$63 thousand. Please refer to Schedule II—Valuation and Qualifying Accounts for activity in the allowance for doubtful accounts over the past three years.

We had approximately \$510.4 million in net accounts receivable at December 31, 2017. At December 31, 2017, we had approximately \$3.2 million recorded in the allowance for doubtful accounts to cover potential future customer non payments net of any credit insurance reimbursement we would potentially recover. We believe our allowance for doubtful accounts is adequate to cover future non payments of our customers. However, if economic conditions deteriorate significantly or one of our large customers was to declare bankruptcy, a larger allowance for doubtful accounts might be necessary. It is extremely difficult to estimate how much of an additional reserve would be necessary, but we expect the largest potential customer balance at any one time would not exceed \$23.6 million. An additional loss of \$23.6 million would reduce our Total Assets as of December 31, 2017 by approximately 0.8% and would have reduced Income before Income Taxes by approximately 8.0%.

29/ATR 2017 Form 10-K

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## Table of Contents

If we had been required to recognize an additional \$23.6 million in bad debt expense, it would likely not have significantly affected our liquidity and capital resources because, in spite of any such additional expense, we would still have been within the terms of our debt covenants.

### 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 (Citigroup Pension Index Curve). At December 31, 2017, the discount rates for our domestic and foreign plans were 3.55% and 1.62%, 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 \$63.4 million increase in the PBO (\$45.2 million for the domestic plans and \$18.2 million for the foreign plans) and a \$6.8 million increase in net periodic benefit cost (\$5.7 million for the domestic plans and \$1.1 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 \$49.4 million decrease in the PBO (\$34.7 million for the domestic plans and \$14.7 million for the foreign plans) and a \$5.5 million decrease in net periodic benefit cost (\$4.5 million for the domestic plans and \$1.0 million for the foreign plans). A decrease of this magnitude in the PBO would eliminate the current year reduction recognized in Other Comprehensive Income and Stockholders' Equity as related to pension assumptions.

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 42% was invested in equities, 25% was invested in fixed income securities, 9% was invested in hedge funds, 6% was invested in infrastructure securities, 5% was invested in real estate securities and 13% was invested in money market funds, at December 31, 2017. Of foreign plan assets, approximately 91% was invested in investment funds, 4% was invested in equity securities, 3% was invested in corporate securities, 1% was invested in fixed income securities and 1% was invested in cash at December 31, 2017.

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 \$2.1 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 rate of expected compensation increase would be a \$7.2 million decrease in the PBO (\$1.8 million for the domestic plans and \$5.4 million for the foreign plans) and a \$1.2 million decrease to the net periodic benefit cost. The estimated effect of a 0.5% increase in each rate of expected compensation increase would be a \$7.8 million increase in the PBO (\$2.0 million for the domestic plans and \$5.8 million for the foreign plans) and a \$1.3 million increase to the net periodic benefit cost.

30/ATR 2017 Form 10-K

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Table of Contents

Our primary pension related assumptions as of December 31, 2017, 2016 and 2015 were as follows:

Actuarial Assumptions as of December 31,	2017	2016	2015
Discount rate:			
Domestic plans	3.55 %	4.05 %	4.24 %
Foreign plans	1.62 %	1.65 %	2.10 %
Expected long term rate of return on plan assets:			
Domestic plans	7.00 %	7.00 %	7.00 %
Foreign plans	3.66 %	3.66 %	3.66 %
Rate of compensation increase:			
Domestic plans	4.00 %	4.00 %	4.00 %
Foreign plans	3.02 %	3.00 %	3.00 %

In order to determine the 2018 net periodic benefit cost, the Company expects to use the discount rates, expected long term rates of return on plan assets and rates of compensation increase assumptions as of December 31, 2017. The estimated impact of the changes to the assumptions as noted in the table above on our 2017 net periodic benefit cost is expected to be an increase of approximately \$1.5 million.

**SHARE BASED COMPENSATION**

The Company uses the Black Scholes option valuation model to value stock options, which requires the input of subjective assumptions. These assumptions include the length of time employees will retain their vested stock options before exercising them (“expected term”), the estimated volatility of the Company’s stock price, risk free interest rate, the expected dividend yield and stock price. The expected term of the options is based on historical experience of similar awards, giving consideration to the contractual terms, vesting schedules and expectations of future employee behavior. The expected term determines the period for which the risk free interest rate and volatility must be applied. The risk free interest rate is based on the expected U.S. Treasury rate over the expected term. Expected stock price volatility is based on historical volatility of the Company’s stock price. Dividend yield is management’s long term estimate of annual dividends to be paid as a percentage of share price.

For 2017, expense related to share based compensation for employee stock option plans was \$15.2 million. Future changes in the subjective assumptions used in the Black Scholes option valuation model or estimates associated with forfeitures could impact our share based compensation expense. For example, a one year reduction in the expected term of the options would decrease the Black Scholes valuation and reduce share based compensation by approximately \$0.4 million. In comparison, a one year increase in the expected term of the option would increase the Black Scholes valuation and increase share based compensation by approximately \$0.7 million. In addition, changes in the share price at the date of the grant would impact our share based compensation expense. For example, a \$5 decrease in the stock price would decrease the Black Scholes valuation and reduce share based compensation by approximately \$0.4 million. In comparison, a \$5 increase in the share price would increase the Black Scholes valuation and increase share based compensation by approximately \$0.7 million.

**OPERATIONS OUTLOOK**

Looking to the first quarter of 2018, we expect some of the momentum from the fourth quarter of 2017 to carry over into the first quarter of 2018. We currently expect each segment to report increased revenues over the prior year. Despite several changes in tax policies, particularly with the recent U.S. tax reform, we expect very little change

in our near-term overall effective tax rate given the nature of our international business and the related consequences of the new tax laws.

Aptar expects earnings per share for the first quarter, excluding any costs related to our business transformation plan, which amounts cannot be reasonably estimated, to be in the range of \$0.90 to \$0.95 compared to \$0.81 per share reported in the prior year. Our guidance is based on an effective tax rate range of 27% to 29%, which includes estimated effects of the recent tax reform legislation. Adjusted for changes in currency translation rates, comparable earnings per share for the prior year were approximately \$0.91 using the prior year effective tax rate of 26%.

31/ATR 2017 Form 10-K

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Table of Contents

## FORWARD LOOKING STATEMENTS

Certain statements in Management’s Discussion and Analysis 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 Restructuring Initiatives, Liquidity and Capital Resources, Off Balance Sheet Arrangements, and Operations Outlook sections of this Form 10 K. Words such as “expects,” “anticipates,” “believes,” “estimates,” “future” 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 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:

- economic conditions worldwide, including potential deflationary conditions in regions we rely on for growth;
- political conditions worldwide;
- significant fluctuations in foreign currency exchange rates or our effective tax rate;
- the impact of tax reform legislation;
- 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;
- 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 and other input costs (particularly resin, metal, anodization costs and transportation and energy costs);
- the impact and extent of contamination found at the Company’s facility in Brazil;
- our ability to successfully implement facility expansions and new facility projects;
- the impact of the UK leaving the European Union (Brexit) on our UK operations;
- our ability to offset inflationary impacts with cost containment, productivity initiatives or price increases;
- changes in capital availability or cost, including interest rate fluctuations;
- volatility of global credit markets;
- the timing and magnitude of capital expenditures;
- our ability to identify potential new acquisitions and to successfully acquire and integrate such operations or products;
- 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, including changes in worldwide tax rates;
- 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;
- the execution of our business transformation plan; 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 Item 1A (“Risk Factors”) of Part I included in this Form 10 K for additional risk factors affecting the Company.

32/ATR 2017 Form 10-K

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Table of Contents

## 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 South American currencies. 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 relative to foreign currencies has a dilutive 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.

We manage our exposures to foreign exchange principally with forward exchange contracts to hedge certain firm purchase and sales commitments and intercompany cash transactions denominated in foreign currencies.

The table below provides information as of December 31, 2017 about our forward currency exchange contracts. The majority of the contracts expire before the end of the first quarter of 2018.

In thousands			
Year Ended December 31, 2017			
Buy/Sell	Contract Amount (in thousands)	Average Contractual Exchange Rate	Min / Max Notional Volumes
Swiss Franc / Euro	\$ 55,680	0.8765	54,826-55,680
Euro / Brazilian Real	14,299	3.8934	14,108-14,558
Euro / U.S. Dollar	13,581	1.1877	13,581-23,466
Euro / Indian Rupee	11,195	77.7776	11,175-11,316
British Pound / Euro	4,207	1.1277	335-4,207
U.S. Dollar / Euro	3,826	0.8458	3,826-4,376
Euro / Indonesian Rupiah	2,292	16,785.0000	2,292-2,292
Czech Koruna / Euro	1,321	0.0393	1,273-3,603
Euro / British Pound	1,305	0.8867	0-1,305
Euro / Chinese Renminbi	1,201	7.8490	1,081-1,802
U.S. Dollar / Chinese Renminbi	1,000	6.6648	1,000-3,000
Euro / Mexican Peso	469	22.7017	258-501
Mexican Peso / U.S. Dollar	358	0.0521	0-358
Total	\$ 110,734		

As of December 31, 2017, the Company has recorded the fair value of foreign currency forward exchange contracts of \$0.7 million in prepayments and other and \$1.6 million in accounts payable and accrued liabilities in the Consolidated Balance Sheets. Aptar also entered into a EUR/USD floating-to-fixed cross currency swap on July 20, 2017 to effectively hedge the foreign exchange and interest rate exposure on the \$280 million bank term loan drawn by its wholly owned UK subsidiary. The fair value of this cash flow hedge is \$16.3 million and is reported in accounts

payable and accrued liabilities in the Consolidated Balance Sheets.

33/ATR 2017 Form 10-K

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Table of Contents

## ITEM 8. FINANCIAL STATEMENTS AND SUPPLEMENTARY DATA

AptarGroup, Inc.

## CONSOLIDATED STATEMENTS OF INCOME

In thousands, except per share amounts

Years Ended December 31,	2017	2016	2015
Net Sales	\$ 2,469,283	\$ 2,330,934	\$ 2,317,149
Operating Expenses:			
Cost of sales (exclusive of depreciation and amortization shown below)	1,604,181	1,498,070	1,502,650
Selling, research & development and administrative	388,281	367,562	351,461
Depreciation and amortization	153,094	154,802	138,893
Restructuring initiatives	2,208	—	—
	2,147,764	2,020,434	1,993,004
Operating Income	321,519	310,500	324,145
Other (Expense) Income:			
Interest expense	(40,597)	(35,237)	(34,615)
Interest income	5,470	2,643	5,596
Equity in results of affiliates	(229)	(191)	(718)
Miscellaneous, net	8,662	2,782	163
	(26,694)	(30,003)	(29,574)
Income before Income Taxes	294,825	280,497	294,571
Provision for Income Taxes	74,796	74,893	95,276
Net Income	\$ 220,029	\$ 205,604	\$ 199,295
Net Loss (Income) Attributable to Noncontrolling Interests	1	(14)	53
Net Income Attributable to AptarGroup, Inc.	\$ 220,030	\$ 205,590	\$ 199,348
Net Income Attributable to AptarGroup, Inc. per Common Share:			
Basic	\$ 3.52	\$ 3.27	\$ 3.19
Diluted	\$ 3.41	\$ 3.17	\$ 3.09

See accompanying notes to consolidated financial statements.

34/ATR 2017 Form 10-K

Table of Contents

AptarGroup, Inc.

## CONSOLIDATED STATEMENTS OF COMPREHENSIVE INCOME

In thousands

Years Ended December 31,	2017	2016	2015
Net Income	\$ 220,029	\$ 205,604	\$ 199,295
Other Comprehensive Income:			
Foreign currency translation adjustments	74,404	(53,183)	(163,887)
Changes in treasury locks, net of tax	28	26	25
Loss on derivatives, net of tax	(3,186)	—	—
Defined benefit pension plan, net of tax			
Actuarial (loss) / gain, net of tax	(7,906)	(7,151)	7,253
Prior service cost, net of tax	(1,038)	(466)	(538)
Amortization of prior service cost included in net income, net of tax	296	248	168
Amortization of net loss included in net income, net of tax	3,828	3,144	4,664
Total defined benefit pension plan, net of tax	(4,820)	(4,225)	11,547
Total other comprehensive income (loss)	66,426	(57,382)	(152,315)
Comprehensive Income	286,455	148,222	46,980
Comprehensive (Income) Loss Attributable to Noncontrolling Interests	(18)	6	66
Comprehensive Income Attributable to AptarGroup, Inc.	\$ 286,437	\$ 148,228	\$ 47,046

See accompanying notes to consolidated financial statements.

35/ATR 2017 Form 10-K



Table of Contents

AptarGroup, Inc.

## CONSOLIDATED BALANCE SHEETS

In thousands

December 31,	2017	2016
Assets		
Current Assets:		
Cash and equivalents	\$ 712,640	\$ 466,287
Accounts and notes receivable, less allowance for doubtful accounts of \$3,161 in 2017 and \$2,989 in 2016	510,426	433,127
Inventories	337,216	296,914
Prepayments and other	109,791	73,842
	1,670,073	1,270,170
Property, Plant and Equipment:		
Buildings and improvements	416,241	368,260
Machinery and equipment	2,237,655	1,938,352
	2,653,896	2,306,612
Less: Accumulated depreciation	(1,811,819)	(1,545,384)
	842,077	761,228
Land	25,829	23,093
	867,906	784,321
Other Assets:		
Investments in affiliates	9,444	4,241
Goodwill	443,887	407,522
Intangible assets	95,460	94,489
Miscellaneous	51,053	46,042
	599,844	552,294
Total Assets	\$ 3,137,823	\$ 2,606,785

See accompanying notes to consolidated financial statements.

36/ATR 2017 Form 10-K

Table of Contents

AptarGroup, Inc.

## CONSOLIDATED BALANCE SHEETS

In thousands, except share and per share amounts

December 31,	2017	2016
Liabilities and Stockholders' Equity		
Current Liabilities:		
Notes payable	\$ 4,336	\$ 169,213
Current maturities of long-term obligations, net of unamortized debt issuance costs	61,833	4,603
Accounts payable and accrued liabilities	461,579	369,139
	527,748	542,955
Long-Term Obligations, net of unamortized debt issuance costs	1,191,146	772,737
Deferred Liabilities and Other:		
Deferred income taxes	20,995	16,803
Retirement and deferred compensation plans	80,278	94,545
Deferred and other non-current liabilities	5,608	5,503
Commitments and contingencies	—	—
	106,881	116,851
Stockholders' Equity:		
AptarGroup, Inc. stockholders' equity		
Common stock, \$.01 par value, 199 million shares authorized, 66.7 and 66.0 million shares issued as of December 31, 2017 and 2016, respectively	667	660
Capital in excess of par value	609,471	546,682
Retained earnings	1,301,147	1,197,234
Accumulated other comprehensive (loss)	(253,302)	(319,709)
Less: Treasury stock at cost, 4.9 and 3.9 million shares as of December 31, 2017 and 2016, respectively	(346,245)	(250,917)
Total AptarGroup, Inc. Stockholders' Equity	1,311,738	1,173,950
Noncontrolling interests in subsidiaries	310	292
Total Stockholders' Equity	1,312,048	1,174,242
Total Liabilities and Stockholders' Equity	\$ 3,137,823	\$ 2,606,785

See accompanying notes to consolidated financial statements.

37/ATR 2017 Form 10-K

Table of Contents

AptarGroup, Inc.

## CONSOLIDATED STATEMENTS OF CASH FLOWS

In thousands, brackets denote cash outflows

Years Ended December 31,	2017	2016	2015
<b>Cash Flows from Operating Activities:</b>			
Net income	\$ 220,029	\$ 205,604	\$ 199,295
Adjustments to reconcile net income to net cash provided by operations:			
Depreciation	142,755	145,485	134,647
Amortization	10,339	9,317	4,246
Stock based compensation	18,924	19,824	20,612
Provision for (recovery of) doubtful accounts	235	561	(813)
Gain on sale of investment in unconsolidated affiliate	—	(2,013)	—
Debt prepayment costs	4,710	—	—
Deferred income taxes	2,238	(11,112)	(7,141)
Defined benefit plan expense	17,200	16,786	20,685
Equity in results of affiliates	229	191	718
Changes in balance sheet items, excluding effects from foreign currency adjustments:			
Accounts and other receivables	(44,658)	(41,721)	(27,759)
Inventories	(12,989)	(834)	(18,925)
Prepaid and other current assets	(33,959)	(5,968)	(6,982)
Accounts payable and accrued liabilities	58,245	(12,474)	39,330
Income taxes payable	(8,753)	15,056	3,397
Retirement and deferred compensation plan liabilities	(41,004)	(9,380)	(30,332)
Other changes, net	(8,812)	(4,023)	(7,219)
Net Cash Provided by Operations	324,729	325,299	323,759
<b>Cash Flows from Investing Activities:</b>			
Capital expenditures	(156,624)	(128,986)	(149,323)
Proceeds from sale of property and equipment	2,036	1,693	827
Insurance proceeds	709	986	3,739
Settlement of derivative	(66,155)	—	—
Purchase of short-term investments	—	—	(32,769)
Maturity of short-term investments	—	29,485	—
Acquisition of business, net of cash acquired	—	(202,985)	—
Acquisition of intangible assets	—	(2,492)	—
Proceeds from sale of investment in unconsolidated affiliate	—	1,204	—
Investment in unconsolidated affiliate	(5,000)	—	—
Notes receivable, net	234	593	1,296
Net Cash Used by Investing Activities	(224,800)	(300,502)	(176,230)
<b>Cash Flows from Financing Activities:</b>			
(Repayments of) proceeds from notes payable	(169,213)	163,148	(227,362)

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Proceeds from long-term obligations	625,628	5,963	225,236
Repayments of long-term obligations	(165,798)	(55,314)	(16,981)
Dividends paid	(79,944)	(76,659)	(71,247)
Credit facility costs	(3,542)	—	(1,216)
Debt prepayment costs	(4,710)	—	—
Proceeds from stock option exercises	73,905	55,347	64,759
Purchase of treasury stock	(120,540)	—	—
Common stock repurchased and retired	(40,994)	(131,371)	(13,887)
Excess tax benefit from exercise of stock options	—	9,171	8,388
Net Cash Provided (Used) by Financing Activities	114,792	(29,715)	(32,310)
Effect of Exchange Rate Changes on Cash	31,632	(18,696)	(25,080)
Net Increase (Decrease) in Cash and Equivalents	246,353	(23,614)	90,139
Cash and Equivalents at Beginning of Period	466,287	489,901	399,762
Cash and Equivalents at End of Period	\$ 712,640	\$ 466,287	\$ 489,901
Supplemental Cash Flow Disclosure:			
Interest paid	\$ 38,838	\$ 36,265	\$ 31,664
Income taxes paid	77,349	82,201	79,502

See accompanying notes to consolidated financial statements.

38/ATR 2017 Form 10-K

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Table of Contents

AptarGroup, Inc.

## CONSOLIDATED STATEMENTS OF CHANGES IN EQUITY

Years Ended December 31, 2017, 2016 and 2015

In thousands

	AptarGroup, Inc. Stockholders' Equity						
	Retained Earnings	Accumulated Other Comprehensive Income (Loss)	Common Stock Par Value	Treasury Stock	Capital in Excess of Par Value	Non-Controlling Interest	Total Equity
Balance - December 31, 2014	\$ 1,740,005	\$ (110,045)	\$ 862	\$ (1,026,117)	\$ 498,702	\$ 509	\$ 1,103,916
Net income	199,348	—	—	—	—	(53)	199,295
Foreign currency translation adjustments	—	(163,874)	—	—	—	(13)	(163,887)
Changes in unrecognized pension gains/losses and related amortization, net of tax	—	11,547	—	—	—	—	11,547
Changes in treasury locks, net of tax	—	25	—	—	—	—	25
Stock awards and option exercises	—	—	14	5,447	79,107	—	84,568
Cash dividends declared on common stock	(71,247)	—	—	—	—	—	(71,247)
Treasury stock purchased	—	—	—	(50,000)	50,000	—	—
Treasury stock retired	(669,801)	—	(207)	800,618	(130,610)	—	—

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Common stock repurchased and retired	(12,624)	—	(2)	—	(1,261)	—	(13,887)
Non controlling interest repurchased	—	—	—	—	(476)	(148)	(624)
Balance - December 31, 2015	\$ 1,185,681	\$ (262,347)	\$ 667	\$ (270,052)	\$ 495,462	\$ 295	\$ 1,149,706
Net income	205,590	—	—	—	—	14	205,604
Foreign currency translation adjustments	—	(53,163)	—	—	—	(20)	(53,183)
Changes in unrecognized pension gains/losses and related amortization, net of tax	—	(4,225)	—	—	—	—	(4,225)
Changes in treasury locks, net of tax	—	26	—	—	—	—	26
Stock awards and option exercises	—	—	10	19,135	65,198	—	84,343
Cash dividends declared on common stock	(76,659)	—	—	—	—	—	(76,659)
Common stock repurchased and retired	(117,378)	—	(17)	—	(13,976)	—	(131,371)
Non controlling interest addition	—	—	—	—	(2)	3	1
Balance - December 31, 2016	\$ 1,197,234	\$ (319,709)	\$ 660	\$ (250,917)	\$ 546,682	\$ 292	\$ 1,174,242
Net income	220,030	—	—	—	—	(1)	220,029
Foreign currency translation adjustments	—	74,385	—	—	—	19	74,404

Changes in unrecognized pension gains/losses and related amortization, net of tax	—	(4,820)	—	—	—	—	(4,820)
Changes in treasury locks, net of tax	—	28	—	—	—	—	28
Changes in derivative gains/losses, net of tax	—	(3,186)	—	—	—	—	(3,186)
Stock awards and option exercises	—	—	12	25,212	67,605	—	92,829
Cash dividends declared on common stock	(79,944)	—	—	—	—	—	(79,944)
Treasury stock purchased	—	—	—	(120,540)	—	—	(120,540)
Common stock repurchased and retired	(36,173)	—	(5)	—	(4,816)	—	(40,994)
Balance - December 31, 2017	\$ 1,301,147	\$ (253,302)	\$ 667	\$ (346,245)	\$ 609,471	\$ 310	\$ 1,312,048

See accompanying notes to consolidated financial statements.

39/ATR 2017 Form 10-K

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Table of Contents

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” or “Company” 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 lines of business which are Beauty + Home, Pharma and Food + Beverage. This is a strategic structure which allows us to be more closely aligned with our customers and the markets in which they operate.

In late 2017, Aptar began a business transformation plan to drive profitable sales growth, increase operational excellence, enhance our approach to innovation and improve organizational effectiveness (see Note 20 Restructuring Initiatives for further details). The primary focus of the plan will be the Beauty + Home segment; however, certain global general and administrative functions will also be addressed. During 2017, we recognized approximately \$2.2 million of restructuring costs related to this plan with approximately \$0.5 million being reported within the Beauty + Home segment and \$1.7 million being reported within the Food + Beverage segment.

CHANGE IN ACCOUNTING PRINCIPLE

During the second quarter of 2015, the Company changed its inventory valuation method for certain operating entities in its North American business to the first-in first-out (“FIFO”) method from the last-in first-out (“LIFO”) method. Prior to the change, the Company utilized two methods of inventory costing: LIFO for inventories in these operating entities and FIFO for inventories in other operating entities. The Company believes that the FIFO method is preferable as it better reflects the current value of inventory on the Company's Consolidated Balance Sheet, provides better matching of revenues and expenses, results in uniformity across the Company's global operations with respect to the method of inventory accounting and improves comparability with the Company's peers. The cumulative pre-tax effect of this change is a gain of approximately \$7.4 million and was recognized as a decrease to Cost of sales (exclusive of depreciation and amortization). The effect of the change on Net Income Attributable to AptarGroup was approximately \$4.8 million, representing approximately \$0.08 per diluted share. We have determined that this change is not material to the Company's previously issued financial statements and that the cumulative effect of the change is not material to current operations or to the trend of reported results of operations. Therefore, we conclude it was appropriate to recognize the cumulative effect of the change as an operating item in the current period's Consolidated Statement of Income and not to adopt the change by retrospective application.

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 MANAGEMENT

The Company considers 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.

#### INVENTORIES

Inventories are stated at lower of cost or net realizable value. Costs included in inventories are raw materials, direct labor and manufacturing overhead. As discussed above, the Company changed its inventory valuation method for certain operating entities in its North American business to the FIFO method from the LIFO method during the second quarter of 2015 resulting in all entities utilizing the FIFO method at the end of 2015.

40/ATR 2017 Form 10-K

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## Table of Contents

### INVESTMENTS IN AFFILIATED COMPANIES

The Company accounts for its investments in 20% to 50% owned affiliated companies using the equity method. There were no dividends received from affiliated companies in 2017, 2016 and 2015. During the fourth quarter of 2016, we sold our investment in an injectable drug delivery device company for a \$2.0 million gain. During the first quarter of 2017, we acquired a 20% minority interest in Kali Care, Inc. ("Kali Care") for \$5.0 million. Kali Care is a Silicon Valley-based technology company, which provides digital monitoring systems for ophthalmic medication (see Note 19 Acquisitions for further details). The Company accounts for its investments less than 20% on the cost method.

### 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 and license agreements acquired in purchase transactions, are capitalized and amortized over their useful lives which range from 3 to 20 years.

### GOODWILL

Management believes the excess purchase price over the fair value of the net assets acquired ("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 December 31, 2017 for all four 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 goodwill attributed to all four of our reporting units was greater than its carrying amount. Therefore no impairment of goodwill has been recorded.

### 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.

### DERIVATIVES 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 accumulated other comprehensive income, depending on whether a derivative is designated and effective as part of a hedge transaction.

### RETIREMENT OF COMMON STOCK

During 2017, the Company repurchased 1.9 million shares of common stock, of which 512 thousand shares were immediately retired. During 2016, the Company repurchased and immediately retired 1.7 million shares of common stock. Common stock was reduced by the number of shares retired at \$0.01 par value per share. The Company allocates 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 \$68.2 million, \$66.2 million and \$67.1 million in 2017, 2016 and 2015, respectively.

#### INCOME TAXES

The Company computes 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 pretax income for 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 financial statements, an appropriate provision for deferred income taxes is made.

41/ATR 2017 Form 10-K

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## Table of Contents

The Company has recorded a net provisional charge in the current period related to the impact of the U.S. legislation enacted on December 22, 2017, commonly referred to as the Tax Cuts and Jobs Act (the “TCJA”). These provisional amounts are recorded in accordance with SAB 118, which was issued by the SEC shortly after enactment of the TCJA. The Company will reflect, within the one year measurement period provided, the income tax effects of the TCJA in the reporting period in which the accounting under ASC Topic 740 is complete.

The Company considers numerous factors to determine which foreign earnings are permanently reinvested in foreign operations. These include the financial requirements of the U.S. parent company and those of our foreign subsidiaries, the U.S. funding needs for dividend payments and stock repurchases, and the tax consequences of remitting earnings to the U.S. The TCJA imposed a one-time transition tax on all unremitted foreign earnings. The Company recognized a provisional charge of \$31.6 million during 2017, representing the estimate of the Company’s obligation for this new tax. Therefore, as of December 31, 2017, the Company does not have a balance of earnings that have not been subject to U.S. federal taxation. For investment holdings outside the U.S., the Company maintains its assertion that the cash and distributable reserves at its non-U.S. affiliates are indefinitely reinvested. As such, the Company does not provide for the withholding and local income taxes that would become due if the amounts were distributed.

The Company provides a liability for the amount of unrecognized tax benefits from uncertain tax positions. This liability is provided whenever the Company determines that a tax benefit will not meet a more-likely-than-not threshold for recognition. See Note 5 for more information.

## TRANSLATION OF FOREIGN CURRENCIES

The functional currencies of the majority of the Company's foreign operations are the local currencies. Assets and liabilities of the Company’s 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 \$5.0 million, \$326 thousand and \$3.9 million in 2017, 2016 and 2015, 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. See Note 15 for more information.

## REVENUE RECOGNITION

**Product and Tooling Sales.** The Company’s policy is to recognize revenue from product sales when the price is fixed and determinable, when the title and risk of loss has transferred to the customer, when the Company has no remaining obligations regarding the transaction and when collection is reasonably assured. The majority of the Company’s products shipped from the U.S. transfers title and risk of loss when the goods leave the Company’s shipping location. The majority of the Company’s products shipped from non U.S. operations transfer title and risk of loss when the goods reach their destination. Tooling revenue is also recognized when the title and risk of loss transfers to the customer.

**Services and Other.** The Company invoices customers for certain services. The Company also receives revenue from other sources such as license, exclusivity or royalty agreements. Revenue is recognized when services are rendered or

rights to use assets can be reliably measured and when collection is reasonably assured. License, exclusivity and royalty revenues are typically recognized when the contractual terms of each agreement are met. Service and other revenue is not material to the Company's results of operations for any of the years presented.

#### ADOPTION OF RECENT ACCOUNTING PRONOUNCEMENTS

Changes to U.S. GAAP are established by the FASB in the form of accounting standards updates to the FASB's Accounting Standards Codification.

In August 2017, the FASB issued new guidance to improve the accounting for hedging activities. The guidance changes the financial reporting of hedging relationships to better portray the economic results of an entity's risk management activities in its financial statements. In addition, the guidance makes certain targeted improvements to simplify the application of the hedge accounting guidance in current GAAP. The new standard is effective for fiscal years beginning after December 15, 2018 and interim periods within those fiscal years. However, early application is permitted in any interim period after the issuance of this guidance. The Company adopted this standard in the third quarter of 2017. See details in Note 10 – Derivative Instruments and Hedging Activities.

42/ATR 2017 Form 10-K

---

## Table of Contents

In August 2016, the FASB issued guidance on the classification of certain cash receipts and cash payments within the statement of cash flows. This guidance provides clarification for the following types of transactions: debt prepayment or extinguishment costs, settlement of zero-coupon debt instruments or other debt instruments with coupon rates that are insignificant in relation to the effective interest rate of the borrowing, contingent consideration payments made after a business combination, proceeds from the settlement of insurance claims, proceeds from the settlement of corporate-owned life insurance, distributions received from equity method investees and beneficial interest in securitization transactions. The guidance also clarifies how the predominance principle should be applied when cash receipts and cash payments have aspects of more than one class of cash flows. The guidance is effective for fiscal years beginning after December 15, 2017, including interim periods within those fiscal years. However, early adoption is permitted and an entity that elects early adoption must adopt all of the amendments on a retrospective basis in the period of adoption. The Company adopted this standard in the fourth quarter of 2017.

In March 2016, the FASB issued guidance that changes the accounting for certain aspects of share-based payments to employees. The guidance requires the recognition of the income tax effects of awards in the income statement when the awards vest or are settled, thus eliminating additional paid in capital pools. The guidance also allows for the employer to repurchase more of an employee's shares for tax withholding purposes without triggering liability accounting. In addition, the guidance allows for a policy election to account for forfeitures as they occur rather than on an estimated basis. The new standard is effective for fiscal years and interim periods beginning after December 15, 2016. The Company has prospectively adopted the standard resulting in \$10.4 million of additional tax deductions that would have been previously recorded in stockholders' equity now being reported as a reduction in tax expense for the year ended December 31, 2017. The amount of excess tax benefits and deficiencies recognized in the provision for income taxes will fluctuate from period to period based on the price of the Company's stock, the volume of share-based instruments settled or vested, and the value assigned to share-based instruments under U.S. GAAP. We have also prospectively adopted the standard for the presentation of the consolidated statements of cash flows. The impact of excess tax benefits from exercise of stock options is now shown within cash flows from operating activities instead of cash flows from financing activities. In addition, the Company has elected to continue its current practice of estimating expected forfeitures.

In March 2016, the FASB issued guidance that eliminates the requirement that an investor retrospectively apply equity method accounting when an investment that it had accounted for by another method initially qualifies for the equity method. The guidance requires that an equity method investor add the cost of acquiring the additional interest in the investee to the current basis of the investor's previously held interest and adopt the equity method of accounting as of the date the investment becomes qualified for equity method accounting. The new standard is effective for fiscal years and interim periods beginning after December 15, 2016. The adoption of the new rules did not have an impact on our financial statements.

In July 2015, the FASB issued new guidance for simplifying the measurement of inventory. The core principle of the guidance is that an entity should measure inventory at the lower of cost or net realizable value. This standard is effective for annual reporting periods beginning after December 15, 2016. The Company adopted the requirements of the standard and the impact was not material to our current year financial statements.

In May 2014, the FASB amended the guidance for recognition of revenue from customer contracts. The core principle of the guidance is that an entity should recognize revenue to depict the transfer of promised goods or services to customers in the amount that reflects the consideration to which the entity expects to be entitled in exchange for those goods or services. In August 2015, the FASB decided to defer the effective date by one year to December 15, 2017 for annual reporting periods beginning after that date. The FASB also decided to allow early adoption of the standard, but not before the original effective date of December 15, 2016. Subsequent to the initial standards, the FASB has also issued several ASUs to clarify specific revenue recognition topics. We continue to evaluate the impact the adoption of this standard will have on our Consolidated Financial Statements. The majority of

our revenues are derived from product sales and tooling sales. We are also evaluating our service, license, exclusivity and royalty arrangements, which need to be reviewed individually to ensure proper accounting under the new standard. To date, our internal project team has reviewed a substantial portion of contracts. We believe the pronouncement will mainly impact the timing of when we account for both product and tooling sales. We currently recognize revenue for these contracts when the title and risk of loss transfers to the customer. Under the new guidance, we will recognize revenue for certain contracts over the time required to manufacture the product or build the tool. We also continue to progress in updating our internal controls along with reviewing and developing the additional disclosures required by the standard. We will adopt the modified retrospective transition method for implementing this guidance in the first quarter of 2018.

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.

43/ATR 2017 Form 10-K

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Table of Contents

## REVISION OF PRIOR PERIOD FINANCIAL STATEMENTS

During the second quarter of 2017, the Company determined that the impact of restricted stock unit (RSU) vesting was incorrectly presented in the Condensed Consolidated Statement of Cash Flows. The effect of correcting this error resulted in a reduction to Net Cash Provided by Operations with a corresponding increase to Net Cash (Used) Provided by Financing Activities. As this correction represented a reclassification between two accounts within the Condensed Consolidated Statement of Cash Flows, the Condensed Consolidated Statements of Income, the Condensed Consolidated Balance Sheet and the Condensed Consolidated Statements of Changes in Equity were not impacted by this change. The Company determined the correction was not material to previously issued financial statements but was significant enough to revise.

Following is a summary of the previously reported financial statement line items impacted by this revision of all periods and statements included in this report:

	As Previously Reported	Adjustment	As Revised
Revised Consolidated Statements of Cash Flows			
Year Ended December 31, 2016			
Retirement and deferred compensation plan liabilities	\$ (7,486)	\$ (1,894)	\$ (9,380)
Net Cash Provided by Operations	327,193	(1,894)	325,299
Proceeds from stock option exercises	53,453	1,894	55,347
Net Cash Provided (Used) by Financing Activities	(31,609)	1,894	(29,715)
Year Ended December 31, 2015			
Retirement and deferred compensation plan liabilities	\$ (29,576)	\$ (756)	\$ (30,332)
Net Cash Provided by Operations	324,515	(756)	323,759
Proceeds from stock option exercises	64,003	756	64,759
Net Cash Provided (Used) by Financing Activities	(33,066)	756	(32,310)

## NOTE 2 INVENTORIES

Inventories, by component, consisted of:

	2017	2016
Raw materials	\$ 99,196	\$ 98,014
Work in process	107,307	91,646
Finished goods	130,713	107,254



Total	\$ 337,216	\$ 296,914
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## NOTE 3 GOODWILL AND OTHER INTANGIBLE ASSETS

The changes in the carrying amount of goodwill for the year ended December 31, 2017 are as follows by reporting segment:

	Beauty + Home	Pharma	Food + Beverage	Corporate & Other	Total
Balance as of December 31, 2015					
Goodwill	\$ 164,590	\$ 129,360	\$ 16,290	\$ 1,615	\$ 311,855
Accumulated impairment losses	—	—	—	(1,615)	(1,615)
	\$ 164,590	\$ 129,360	\$ 16,290	\$ —	\$ 310,240
Acquisition	49,735	55,827	—	—	105,562
Foreign currency exchange effects	(2,954)	(5,137)	(189)	—	(8,280)
Balance as of December 31, 2016					
Goodwill	\$ 211,371	\$ 180,050	\$ 16,101	\$ 1,615	\$ 409,137
Accumulated impairment losses	—	—	—	(1,615)	(1,615)
	\$ 211,371	\$ 180,050	\$ 16,101	\$ —	\$ 407,522
Foreign currency exchange effects	12,576	23,019	770	—	36,365
Balance as of December 31, 2017					
Goodwill	\$ 223,947	\$ 203,069	\$ 16,871	\$ 1,615	\$ 445,502
Accumulated impairment losses	—	—	—	(1,615)	(1,615)
	\$ 223,947	\$ 203,069	\$ 16,871	\$ —	\$ 443,887

Table of Contents

The Company has completed the annual impairment analysis of its reporting units as of December 31, 2017 using a qualitative analysis of goodwill commonly referred to as the “step zero” approach. 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 goodwill was greater than its carrying amount for all four reporting units. Therefore, no impairment of goodwill has been recorded.

The table below shows a summary of intangible assets for the years ended December 31, 2017 and 2016.

Weighted Average Amortization Period (Years)	2017 Gross Carrying Amount	Accumulated Amortization	Net Value	2016 Gross Carrying Amount	Accumulated Amortization	Net Value	
Amortized intangible assets:							
Patents	0.2	\$ 7,819	\$ (7,806)	\$ 13	\$ 6,859	\$ (6,839)	\$ 20
Acquired technology	15.0	47,571	(14,624)	32,947	41,731	(10,040)	31,691
Customer relationships	12.2	68,886	(13,401)	55,485	63,006	(6,696)	56,310
License agreements and other	7.6	21,827	(14,812)	7,015	18,516	(12,048)	6,468
Total intangible assets	11.8	\$ 146,103	\$ (50,643)	\$ 95,460	\$ 130,112	\$ (35,623)	\$ 94,489

Aggregate amortization expense for the intangible assets above for the years ended December 31, 2017, 2016 and 2015 was \$10,339, \$9,317 and \$4,246, respectively.

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

2018	\$ 11,024
2019	10,838
2020	9,621
2021	9,430
2022 and thereafter	54,547

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, 2017.

## NOTE 4 ACCOUNTS PAYABLE AND ACCRUED LIABILITIES

At December 31, 2017 and 2016, accounts payable and accrued liabilities consisted of the following:

	2017	2016
Accounts payable, principally trade	\$ 153,862	\$ 115,514
Accrued employee compensation costs	144,175	119,767
Customer deposits and other unearned income	45,196	44,068
Other accrued liabilities	118,346	89,790
Total	\$ 461,579	\$ 369,139

## NOTE 5 INCOME TAXES

On December 22, 2017, the Tax Cuts and Jobs Act (“TCJA”) was enacted by the U.S. federal government. The legislation lowered the federal corporate tax rate from 35.0% to 21.0%, effective January 1, 2018 and imposed a one-time transition tax on previously unremitted earnings of non-U.S. subsidiaries as of December 31, 2017. In addition, there are many new provisions effective in 2018, including changes to bonus depreciation, the deduction for executive compensation and interest expense, a tax on global intangible low-taxed income provisions (“GILTI”), the base erosion anti-abuse tax (“BEAT”), and a deduction for foreign-derived intangible income (“FDII”).

45/ATR 2017 Form 10-K

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Table of Contents

The SEC issued Staff Accounting Bulletin No. 118 (“SAB 118”), which provides us with up to one year to finalize accounting for the impacts of U.S. tax reform. We have made reasonable estimates of the provisional tax impacts related to the transition tax and the revaluation of deferred tax assets and liabilities. As a result, we recognized a net tax charge of approximately \$24.7 million, including a provisional charge of \$31.6 million for the transition tax and a provisional benefit of \$6.8 million related to the corporate rate change. We have not finalized our election to account for the tax on GILTI as a period cost or as a component of deferred taxes at this time. Accordingly, we have not adjusted any of the deferred tax assets and liabilities of our foreign subsidiaries for U.S. tax reform. The ultimate impact may differ from these provisional amounts as we continue to evaluate the law and its impacts on our business and as additional regulatory guidance is issued.

Income before income taxes consists of:

Years Ended December 31,	2017	2016	2015
United States	\$ 36,139	\$ 55,278	\$ 73,492
International	258,686	225,219	221,079
Total	\$ 294,825	\$ 280,497	\$ 294,571

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

Years Ended December 31,	2017	2016	2015
Current:			
U.S. Federal	\$ (342)	\$ 24,045	\$ 19,749
State/Local	230	449	82
International	72,670	61,511	82,586
	\$ 72,558	\$ 86,005	\$ 102,417
Deferred:			
U.S. Federal/State	\$ 2,570	\$ (4,002)	\$ 1,605
International	(332)	(7,110)	(8,746)
	\$ 2,238	\$ (11,112)	\$ (7,141)
Total	\$ 74,796	\$ 74,893	\$ 95,276

The difference between the actual income tax provision and the tax provision computed by applying the statutory federal income tax rate of 35.0% in 2017, 2016 and 2015 to income before income taxes is as follows:

Years Ended December 31,	2017	2016	2015
Income tax at statutory rate	\$ 103,189	\$ 98,174	\$ 103,100
State income (benefits) taxes, net of federal (tax) benefit	(594)	(980)	(1,254)
Investment incentives	(1,900)	(6,413)	(3,082)

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Tax resolutions	(5,188)	(7,205)	2,375
Excess tax benefits from equity compensation	(10,383)	—	—
Deferred benefits from tax rate changes	(5,055)	—	—
U.S. tax reform - transition tax	31,575	—	—
Results of forward contract	(23,883)	—	—
Provision for distribution of current foreign earnings	2,843	3,494	2,031
Rate differential on earnings of foreign operations	(17,318)	(12,037)	(5,688)
Other items, net	1,510	(140)	(2,206)
Actual income tax provision	\$ 74,796	\$ 74,893	\$ 95,276
Effective income tax rate	25.4	% 26.7	% 32.3

The 2017 tax provision was favorably impacted by the mix of pretax income in various non-U.S. tax jurisdictions. The tax provision for 2017 reflects \$10.4 million related to the excess tax benefits on deductible stock compensation, which is new for 2017. The deferred tax benefit of \$5.1 million is net of a provisional benefit of \$6.8 million recorded for the change in the U.S. tax rate and a charge of \$1.7 million for tax rate changes in France and Argentina. The \$5.2 million related to tax resolutions includes an amount of \$3.2 million related to uncertain tax positions in Europe. The remaining \$2.0 million is a refund from a distribution tax paid in France. Furthermore, the tax provision for 2017 reflects a provisional charge of \$31.6 million from the transition tax enacted as part of the U.S. tax reform. This was partially offset by a benefit of \$23.9 million from the forward contracts discussed in Note 10 – Derivative Instruments and Hedging Activities.

46/ATR 2017 Form 10-K

---

Table of Contents

The state income tax provision for 2016 reflects a benefit of \$1.6 million related to the reduction of valuation allowances mostly associated with U.S. state tax credits. The tax provision for 2016 also reflects benefits of \$6.4 million associated with the exceptional depreciation allowances enacted in France and Italy. The \$7.2 million related to tax resolutions includes an amount of \$5.0 million related to dividends previously taxed in France. The remaining \$2.2 million is a net amount related to uncertain tax positions in France, Italy and Germany. The \$3.5 million charge pertaining to the distribution of earnings reflects \$2.1 million of tax incurred in 2016 for income recognized under the U.S. deemed dividend provisions and \$1.4 million for cash movements in Europe during 2016. The rate differential on earnings of foreign operations reflects a \$4.7 million benefit due to the reduction in the corporate income tax rate in France from 38.00% to 34.43%. In addition, the rate differential on earnings of foreign operations reflects benefits of \$2.0 million, \$2.2 million, and \$2.2 million due to reductions in the corporate income tax rates in Germany, Switzerland, and China, respectively.

The tax provision for 2015 reflects a benefit of \$1.1 million related to the reduction of valuation allowances mostly associated with U.S. state tax credits. Additional benefits of \$3.1 million associated with the exceptional depreciation allowances enacted in France during 2015 were partially offset by a \$2.4 million charge for expected income tax assessments in France for a transfer pricing issue. While the Company expects to seek compensating offsets for this amount, no receivable has been recorded at this time. The \$2.0 million charge pertaining to the distribution of earnings reflects \$1.6 million of tax incurred in 2015 for income recognized under the U.S. deemed dividend provisions and \$0.4 million for planned cash movements in Europe during 2016.

Significant deferred tax assets and liabilities as of December 31, 2017 and 2016 are composed of the following temporary differences:

	2017	2016
Deferred Tax Assets:		
Pension liabilities	\$ 19,393	\$ 27,087
Stock compensation	9,101	18,943
Foreign tax credit carryforward	8,320	10,813
Net operating loss carryforwards	10,803	5,150
U.S. state tax credits	9,384	8,103
Vacation	4,748	4,783
Workers compensation	4,534	3,575
Other	4,660	12,651
Total gross deferred tax assets	70,943	91,105
Less valuation allowance	(5,414)	(4,070)
Net deferred tax assets	65,529	87,035
Deferred Tax Liabilities:		
Depreciation, amortization and leases	25,062	39,189
Acquisition related intangibles	27,866	30,417
Total gross deferred tax liabilities	52,928	69,606
Net deferred tax assets	\$ 12,601	\$ 17,429

The foreign tax credit carryforward will expire in the years 2024 and 2026. There is no expiration date on \$6.9 million of the tax effected net operating loss carry forwards and \$3.9 million (tax effected) will expire in the years 2018 to 2037. The U.S. state tax credit carryforwards of \$9.4 million (tax effected) will expire in the years 2018 to 2032. It is

currently expected that U.S. state tax credit carryforwards of \$0.1 million will expire unused in 2018.

The Company evaluates the deferred tax assets and records a valuation allowance when it is believed it is more likely than not that the benefit will not be realized. The Company has established a valuation allowance of \$2.7 million of the \$10.8 million of tax effected net operating loss carry forwards. These losses are generally in start up jurisdictions or locations that have not produced an operating profit to date. A valuation allowance of \$2.7 million has also been established against the \$9.4 million of U.S. state tax credit carry forwards.

As a result of U.S. tax reform, all previously unremitted earnings as of December 31, 2017 will be included in the U.S. federal and state taxable income. The Company maintains its assertion that the cash and distributable reserves at its non-U.S. affiliates are indefinitely reinvested. We estimate the amount of additional local and withholding tax that would be payable on these amounts to be in the range of \$25 million to \$35 million.

The Company has not provided for taxes on certain tax deferred income of a foreign operation. The income arose predominately from government grants. Taxes of approximately \$1.7 million would become payable in the event the terms of the grant are not fulfilled.

47/ATR 2017 Form 10-K

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Table of Contents

## INCOME TAX UNCERTAINTIES

The Company provides 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:

	2017	2016	2015
Balance at January 1	\$ 6,356	\$ 7,934	\$ 6,408
Increases based on tax positions for the current year	370	270	255
Increases based on tax positions of prior years	1,562	1,283	2,684
Decreases based on tax positions of prior years	—	(1,472)	(518)
Settlements	(4,874)	(1,444)	(207)
Lapse of statute of limitations	(334)	(215)	(688)
Balance at December 31	\$ 3,080	\$ 6,356	\$ 7,934

The amount of income tax uncertainties that, if recognized, would impact the effective tax rate is approximately \$3.1 million. The Company estimates that it is reasonably possible that the liability for uncertain tax positions will decrease no more than \$1.4 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.

The Company recognizes interest and penalties accrued related to unrecognized tax benefits as a component of income taxes. As of December 31, 2017, 2016 and 2015, the Company had approximately \$1.6 million, \$1.5 million and \$1.1 million, respectively, accrued for the payment of interest and penalties, of which approximately \$0.1 million, \$0.4 million and \$0.4 million was recognized in income tax expense in the years ended December 31, 2017, 2016 and 2015, respectively.

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

Major Tax Jurisdiction	Tax Years Subject to Examination
United States — Federal	2014-2017
United States — State	2009-2017
France	2015-2017
Germany	2015-2017
Italy	2013-2017
China	2008-2017



#### NOTE 6 DEBT

The Company maintains certain short-term notes payable, including a revolving credit facility. These short-term notes payable are reported as notes payable in the current liabilities section of the Consolidated Balance Sheets. Average borrowings under these short-term notes payable were \$64.5 million and \$90.9 million for 2017 and 2016, respectively. The average annual interest rate on short term notes payable was approximately 1.9% for 2017 and 2.2% for 2016. The lower average annual interest rate in 2017 is due to the extinguishment of higher interest rate debt. Our credit facility has a lower interest rate than our short-term borrowings in other countries. There are no compensating balance requirements associated with short term borrowings. Each borrowing under the credit facility will bear interest at rates based on LIBOR, prime rates or other similar rates, in each case plus an applicable margin. A facility fee on the total amount of the facility is also payable quarterly, regardless of usage. The applicable margins for borrowings under the credit facility and the facility fee percentage may change from time to time depending on changes in AptarGroup's consolidated leverage ratio. The outstanding balance under the credit facility was \$0 and \$166.0 million at December 31, 2017 and 2016, respectively. We incurred approximately \$1.5 million and \$2.0 million in interest and fees related to this credit facility during 2017 and 2016, respectively.

The Company also maintains long-term notes obligations, including private placement facilities. During the third quarter of 2017, the Company entered into the borrowing arrangements summarized below through our wholly owned UK subsidiary to better balance our capital structure.

Table of Contents

Debt Type	Amount	Term/Maturity	Interest Rate
Bank term loan	\$ 280,000	5 year amortizing/July 2022	2.62% floating swapped to 1.36% fixed
Bank revolver	€ 150,000	5 year/July 2022	1.10% floating
Private placement	€ 100,000	6 year/July 2023	0.98% fixed
Private placement	€ 200,000	7 year/July 2024	1.17% fixed

Our repatriation of foreign earnings to the U.S. in the third quarter of 2017 also enabled us to prepay two of our higher interest private placement facilities during the fourth quarter of 2017: the \$75 million senior unsecured note due in 2018 and the \$84 million senior unsecured note due in 2020.

At December 31, 2017, the Company's long term obligations consisted of the following:

	Principal	Unamortized Debt Issuance Costs	Net
Notes payable 0.61% – 18.00%, due in monthly and annual installments through 2025	\$ 15,349	\$ —	\$ 15,349
Senior unsecured notes 3.2%, due in 2022	75,000	113	74,887
Senior unsecured debts 2.6% floating, equal annual installments through 2022	280,000	692	279,308
Senior unsecured notes 3.5%, due in 2023	125,000	217	124,783
Senior unsecured notes 1.0%, due in 2023	120,095	526	119,569
Senior unsecured notes 3.4%, due in 2024	50,000	89	49,911
Senior unsecured notes 3.5%, due in 2024	100,000	217	99,783
Senior unsecured notes 1.2%, due in 2024	240,190	1,066	239,124
Senior unsecured notes 3.6%, due in 2025	125,000	238	124,762
Senior unsecured notes 3.6%, due in 2026	125,000	238	124,762
Capital lease obligations	741	—	741
	\$ 1,256,375	\$ 3,396	\$ 1,252,979
Current maturities of long-term obligations	(61,833)		(61,833)
Total long-term obligations	\$ 1,194,542	\$ 3,396	\$ 1,191,146

At December 31, 2016, the Company's long-term obligations consisted of the following:

	Principal	Unamortized Debt Issuance Costs	Net
	\$ 18,246	\$ —	\$ 18,246

Notes payable 0.61% – 16.00%, due in monthly and annual installments through 2025

Senior unsecured notes 6.0%, due in 2018	75,000	37	74,963
Senior unsecured notes 3.8%, due in 2020	84,000	119	83,881
Senior unsecured notes 3.2%, due in 2022	75,000	138	74,862
Senior unsecured notes 3.5%, due in 2023	125,000	256	124,744
Senior unsecured notes 3.4%, due in 2024	50,000	104	49,896
Senior unsecured notes 3.5%, due in 2024	100,000	256	99,744
Senior unsecured notes 3.6%, due in 2025	125,000	269	124,731
Senior unsecured notes 3.6%, due in 2026	125,000	269	124,731
Capital lease obligations	1,542	—	1,542
	\$ 778,788	\$ 1,448	\$ 777,340
Current maturities of long-term obligations	(4,603)	—	(4,603)
Total long-term obligations	\$ 774,185	\$ 1,448	\$ 772,737

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

	Requirement	Level at December 31, 2017
Consolidated Leverage Ratio (a)	Maximum of 3.50 to 1.00	1.21 to 1.00
Consolidated Interest Coverage Ratio (a)	Minimum of 3.00 to 1.00	11.77 to 1.00

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

Table of Contents

The aggregate long term maturities, excluding capital lease obligations, which is discussed in Note 7, due annually for the five years are \$61,227, \$59,663, \$57,941, \$57,943, \$132,944 and \$885,916 thereafter.

## NOTE 7 LEASE COMMITMENTS

The Company leases certain warehouse, plant, and office facilities as well as certain equipment under noncancelable operating and capital leases expiring at various dates through the year 2027. Most of the operating leases contain renewal options and certain leases include options to purchase during or at the end of the lease term.

Amortization expense related to capital 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”). Rent expense under operating leases (including taxes, insurance and maintenance when included in the rent) amounted to \$30,274, \$27,360 and \$26,583 in 2017, 2016 and 2015, respectively.

Assets recorded under capital leases consist of:

	2017	2016
Buildings	\$ 2,415	\$ 2,119
Machinery and equipment	2,265	2,527
	\$ 4,680	\$ 4,646
Accumulated depreciation	(2,357)	(2,102)
	\$ 2,323	\$ 2,544

Future minimum payments, by year and in the aggregate, under the capital leases and noncancelable operating leases with initial or remaining terms of one year or more consisted of the following at December 31, 2017:

	Capital Leases	Operating Leases
2018	\$ 678	\$ 21,467
2019	138	16,751
2020	30	10,211
2021	—	7,479
2022	—	6,470
Subsequent to 2022	—	13,213
Total minimum lease payments	846	\$ 75,591
Amounts representing interest	(105)	
Present value of future minimum lease payments	741	
Lease amount due in one year	(606)	
Total	\$ 135	

NOTE 8 RETIREMENT AND DEFERRED COMPENSATION PLANS

The Company has various noncontributory retirement plans covering certain of its domestic and foreign employees. Benefits under the Company's 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 the Company's 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 its foreign plans are also funded according to local requirements or at the Company's discretion.

50/ATR 2017 Form 10-K

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Table of Contents

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

	Domestic Plans		Foreign Plans	
	2017	2016	2017	2016
Change in benefit obligation:				
Benefit obligation at beginning of year	\$ 175,879	\$ 160,995	\$ 93,178	\$ 84,807
Service cost	9,706	9,041	5,526	4,556
Interest cost	7,010	6,776	1,747	1,892
Prior service cost	—	—	1,419	655
Actuarial loss (gain)	21,085	4,278	(2,653)	6,663
Benefits paid	(15,230)	(5,211)	(3,489)	(2,244)
Foreign currency translation adjustment	—	—	13,302	(3,151)
Benefit obligation at end of year	\$ 198,450	\$ 175,879	\$ 109,030	\$ 93,178

	Domestic Plans		Foreign Plans	
	2017	2016	2017	2016
Change in plan assets:				
Fair value of plan assets at beginning of year	\$ 126,246	\$ 112,934	\$ 61,912	\$ 58,517
Actual return on plan assets	18,372	8,414	2,472	2,168
Employer contribution	40,212	10,109	3,824	5,209
Benefits paid	(15,230)	(5,211)	(3,489)	(2,244)
Foreign currency translation adjustment	—	—	8,665	(1,738)
Fair value of plan assets at end of year	\$ 169,600	\$ 126,246	\$ 73,384	\$ 61,912
Funded status at end of year	\$ (28,850)	\$ (49,633)	\$ (35,646)	\$ (31,266)

The following table presents the funded status amounts recognized in the Company's Consolidated Balance Sheets as of December 31, 2017 and 2016.

	Domestic Plans		Foreign Plans	
	2017	2016	2017	2016
Non-current assets	\$ —	\$ —	\$ 297	\$ 170
Current liabilities	(423)	(302)	(9)	—
Non-current liabilities	(28,427)	(49,331)	(35,934)	(31,436)
	\$ (28,850)	\$ (49,633)	\$ (35,646)	\$ (31,266)

The following table presents the amounts not recognized as components of periodic benefit cost that are recognized in accumulated other comprehensive loss as of December 31, 2017 and 2016.

Domestic Plans	Foreign Plans
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	2017	2016	2017	2016
Net actuarial loss	\$ 58,260	\$ 48,872	\$ 33,703	\$ 38,550
Net prior service cost	—	—	5,341	4,342
Tax effects	(20,057)	(18,327)	(12,651)	(13,661)
	\$ 38,203	\$ 30,545	\$ 26,393	\$ 29,231

51/ATR 2017 Form 10-K

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Table of Contents

Changes in benefit obligations and plan assets recognized in other comprehensive income in 2017, 2016 and 2015 are as follows:

	Domestic Plans		
	2017	2016	2015
Current year actuarial (loss) gain	\$ (12,593)	\$ (4,335)	\$ 11,048
Amortization of net loss	3,205	3,283	5,404
	\$ (9,388)	\$ (1,052)	\$ 16,452

	Foreign Plans		
	2017	2016	2015
Current year actuarial (loss) gain	\$ 2,952	\$ (6,251)	\$ 568
Current year prior service cost	(1,399)	(656)	(821)
Amortization of net loss	1,895	1,540	1,812
Amortization of prior service cost	400	350	256
	\$ 3,848	\$ (5,017)	\$ 1,815

The following table presents the amounts in accumulated other comprehensive loss as of December 31, 2017 expected to be recognized as components of periodic benefit cost in 2018.

	Domestic Plans	Foreign Plans
Amortization of net loss	\$ 4,657	\$ 1,744
Amortization of prior service cost	—	504
	\$ 4,657	\$ 2,248

Components of net periodic benefit cost:

	Domestic Plans		
	2017	2016	2015
Service cost	\$ 9,706	\$ 9,041	\$ 10,016
Interest cost	7,010	6,776	6,355
Expected return on plan assets	(9,880)	(8,471)	(7,590)
Amortization of net loss	3,205	3,283	5,404
Net periodic benefit cost	\$ 10,041	\$ 10,629	\$ 14,185

	Foreign Plans		
	2017	2016	2015
Service cost	\$ 5,526	\$ 4,556	\$ 4,570



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Interest cost	1,747	1,892	1,654
Expected return on plan assets	(2,409)	(2,181)	(1,792)
Amortization of net loss	1,895	1,540	1,676
Amortization of prior service cost	400	350	256
Net periodic benefit cost	\$ 7,159	\$ 6,157	\$ 6,364
Settlement	—	—	136
Total Net periodic benefit cost	\$ 7,159	\$ 6,157	\$ 6,500

The accumulated benefit obligation (“ABO”) for the Company’s domestic defined benefit pension plans was \$178.9 million and \$159.4 million at December 31, 2017 and 2016, respectively. The ABO for the Company’s foreign defined benefit pension plans was \$84.7 million and \$71.6 million at December 31, 2017 and 2016, 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, 2017 and 2016.

	Domestic Plans		Foreign Plans	
	2017	2016	2017	2016
Projected benefit obligation	\$ 11,478	\$ 175,879	\$ 89,618	\$ 84,517
Accumulated benefit obligation	9,291	159,398	65,524	62,913
Fair value of plan assets	—	126,246	54,052	53,082

52/ATR 2017 Form 10-K

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Table of Contents

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, 2017 and 2016.

	Domestic Plans		Foreign Plans	
	2017	2016	2017	2016
Projected benefit obligation	\$ 198,450	\$ 175,879	\$ 84,799	\$ 84,517
Accumulated benefit obligation	178,878	159,398	59,383	62,913
Fair value of plan assets	169,600	126,246	49,233	53,082

## Assumptions:

	Domestic Plans			Foreign Plans		
	2017	2016	2015	2017	2016	2015
Weighted-average assumptions used to determine benefit obligations at December 31:						
Discount rate	3.55 %	4.05 %	4.24 %	1.62 %	1.65 %	2.10 %
Rate of compensation increase	4.00 %	4.00 %	4.00 %	3.02 %	3.00 %	3.00 %
Weighted-average assumptions used to determine net periodic benefit cost for years ended December 31:						
Discount rate	4.05 %	4.24 %	3.83 %	1.65 %	2.10 %	1.90 %
Expected long-term return on plan assets	7.00 %					