

AMPHENOL CORP /DE/
Form 10-K
February 13, 2019
Table of Contents

UNITED STATES

SECURITIES AND EXCHANGE COMMISSION

Washington, D.C. 20549

FORM 10-K

(Mark One)

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

For the Fiscal Year Ended December 31, 2018

or

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

For the transition period from to

Commission file number: 1-10879

AMPHENOL CORPORATION

(Exact Name of Registrant as Specified in its Charter)

Delaware 22-2785165
(State of Incorporation) (I.R.S. Employer Identification No.)

358 Hall Avenue, Wallingford, Connecticut 06492

203-265-8900

Securities registered pursuant to Section 12(b) of the Act:

Class A Common Stock, \$0.001 par value (Title of each class)	New York Stock Exchange (Name of each exchange on which registered)
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Securities registered pursuant to Section 12(g) of the Act: None

Indicate by check mark if the registrant is a well-known seasoned issuer, as defined in Rule 405 of the Securities Act. Yes No

Indicate by check mark if the registrant is not required to file reports pursuant to Section 13 or Section 15(d) of the Act. Yes No

Indicate by check mark whether the registrant (1) has filed all reports required to be filed by Section 13 or 15(d) of the Securities Exchange Act of 1934 during the preceding 12 months (or for such shorter period that the registrant was required to file such reports), and (2) has been subject to such filing requirements for the past 90 days. Yes No

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Indicate by check mark whether the registrant has submitted electronically every Interactive Data File required to be submitted pursuant to Rule 405 of Regulation S-T (§232.405 of this chapter) during the preceding 12 months (or for such shorter period that the registrant was required to submit such files). Yes No

Indicate by check mark if disclosure of delinquent filers pursuant to Item 405 of Regulation S-K (§229.405) 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 the definitions of "large accelerated filer", "accelerated filer", "smaller reporting company," and "emerging growth company" in Rule 12b-2 of the Exchange Act.

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

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

Indicate by check mark whether the registrant is a shell company (as defined in Rule 12b-2 of the Act). Yes No

The aggregate market value of Amphenol Corporation Class A Common Stock, \$0.001 par value, held by non-affiliates was approximately \$19,931 million based on the reported last sale price of such stock on the New York Stock Exchange on June 30, 2018.

As of January 31, 2019, the total number of shares outstanding of Registrant's Class A Common Stock was 298,087,210.

DOCUMENTS INCORPORATED BY REFERENCE

Portions of the Registrant's definitive proxy statement, which is expected to be filed within 120 days following the end of the fiscal year covered by this report, are incorporated by reference into Part III hereof.

INDEX	Page
<u>PART I</u>	
<u>Item 1. Business</u>	2
<u>General</u>	2
<u>Our Strategy</u>	4
<u>Markets</u>	5
<u>Customers and Geographies</u>	7
<u>Manufacturing</u>	8
<u>Research and Development</u>	8
<u>Intellectual Property</u>	8
<u>Raw Materials</u>	9
<u>Competition</u>	9
<u>Backlog</u>	9
<u>Employees</u>	9
<u>Environmental Matters</u>	10
<u>Available Information</u>	10
<u>Item 1A. Risk Factors</u>	10
<u>Item 1B. Unresolved Staff Comments</u>	17
<u>Item 2. Properties</u>	17
<u>Item 3. Legal Proceedings</u>	18
<u>Item 4. Mine Safety Disclosures</u>	18
<u>PART II</u>	
<u>Item 5. Market for Registrant’s Common Equity, Related Stockholder Matters and Issuer Purchases of Equity Securities</u>	19
<u>Item 6. Selected Financial Data</u>	22
<u>Item 7. Management’s Discussion and Analysis of Financial Condition and Results of Operations</u>	23
<u>Item 7A. Quantitative and Qualitative Disclosures About Market Risk</u>	40
<u>Item 8. Financial Statements and Supplementary Data</u>	41
<u>Report of Independent Registered Public Accounting Firm</u>	41
<u>Consolidated Statements of Income</u>	43
<u>Consolidated Statements of Comprehensive Income</u>	44
<u>Consolidated Balance Sheets</u>	45
<u>Consolidated Statements of Changes in Equity</u>	46
<u>Consolidated Statements of Cash Flow</u>	47
<u>Notes to Consolidated Financial Statements</u>	48
<u>Item 9. Changes in and Disagreements with Accountants on Accounting and Financial Disclosure</u>	78
<u>Item 9A. Controls and Procedures</u>	78

<u>Item 9B.</u>	<u>Other Information</u>	78
 <u>PART III</u>		
<u>Item 10.</u>	<u>Directors, Executive Officers and Corporate Governance</u>	79
<u>Item 11.</u>	<u>Executive Compensation</u>	79
<u>Item 12.</u>	<u>Security Ownership of Certain Beneficial Owners and Management and Related Stockholder Matters</u>	79
<u>Item 13.</u>	<u>Certain Relationships and Related Transactions, and Director Independence</u>	79
<u>Item 14.</u>	<u>Principal Accounting Fees and Services</u>	79
 <u>PART IV</u>		
<u>Item 15.</u>	<u>Exhibits, Financial Statement Schedules</u>	80
<u>Item 16.</u>	<u>Form 10-K Summary</u>	82
 <u>Signature of the Registrant</u>		
<u>Signatures of the Directors</u>		84

Table of Contents

Cautionary Note Regarding Forward-Looking Statements

This Annual Report on Form 10-K includes forward-looking statements within the meaning of the Private Securities Litigation Reform Act of 1995, which relate to future events and are subject to risks and uncertainties. The forward-looking statements, which address the Company's expected business and financial performance and financial condition, among other matters, may contain words such as: "anticipate," "could," "continue," "expect," "estimate," "forecast," "ongoing," "project," "seek," "predict," "target," "will," "intend," "plan," "optimistic," "potential," "guidance," "may," "should" and other words and terms of similar meaning.

Forward-looking statements by their nature address matters that are, to different degrees, uncertain, such as statements about expected earnings, revenues, growth, liquidity or other financial matters. Although the Company believes the expectations reflected in such forward-looking statements, including those with regards to results of operations, liquidity or the Company's effective tax rate, are based upon reasonable assumptions, the expectations may not be attained or there may be material deviation. Readers are cautioned not to place undue reliance on these forward-looking statements, which speak only as of the date on which they are made. There are risks and uncertainties that could cause actual results to differ materially from these forward-looking statements. A description of some of these uncertainties and other risks is set forth under the caption "Risk Factors" in Part I, Item 1A and elsewhere in this Annual Report on Form 10-K, as well as other reports filed with the Securities and Exchange Commission, including but not limited to Quarterly Reports on Form 10-Q and Current Reports on Form 8-K. Such forward-looking statements may also be impacted by, among other things, additional guidance under the U.S. Tax Cuts and Jobs Act ("Tax Act"). More specifically, on December 22, 2017, the Tax Act was enacted and it significantly revised U.S. corporate income tax law by, among other things, reducing the U.S. corporate income tax rate to 21% and implementing a modified territorial tax system that included a one-time transition tax on deemed repatriated earnings of foreign subsidiaries. The provisional income tax charge we recorded in the fourth quarter of 2017 incorporated assumptions made based on information then available. The Company obtained, prepared and analyzed all of the information it believes necessary in order to complete its accounting of the Tax Act in the fourth quarter of 2018. Any future guidance on the Tax Act could impact our forward-looking statements.

These or other uncertainties may cause the Company's actual future results to be materially different from those expressed in any forward-looking statements. The Company undertakes no obligation to update or revise any forward-looking statements except as required by law.

PART I

Item 1. Business

General

Amphenol Corporation (together with its subsidiaries, “Amphenol”, the “Company”, “we”, “our”, or “us”) is one of the world’s largest designers, manufacturers and marketers of electrical, electronic and fiber optic connectors, interconnect systems, antennas, sensors and sensor-based products and coaxial and high-speed specialty cable. The Company estimates, based on reports of industry analysts, that worldwide sales of interconnect and sensor-related products were approximately \$170 billion in 2018.

Certain predecessor businesses of the Company were founded in 1932 and the Company was incorporated under the laws of the State of Delaware in 1986. The Company’s Class A Common Stock began trading on the New York Stock Exchange in 1991.

The Company’s strategy is to provide our customers with comprehensive design capabilities, a broad selection of products and a high level of service on a worldwide basis while maintaining continuing programs of productivity improvement and cost control. The Company operates through two reporting segments: (i) Interconnect Products and Assemblies and (ii) Cable Products and Solutions. The Interconnect Products and Assemblies segment primarily designs, manufactures and markets a broad range of connector and connector systems, value-add products and other products, including antennas and sensors, used in a broad range of applications in a diverse set of end markets. Interconnect products include connectors, which when attached to an electrical, electronic or fiber optic cable, a printed circuit board or other device, facilitate transmission of power or signals. Value-add systems generally consist of a

Table of Contents

system of cable, flexible circuits or printed circuit boards and connectors for linking electronic equipment. The Cable Products and Solutions segment primarily designs, manufactures and markets cable, value-add products and components for use primarily in the broadband communications and information technology markets as well as certain applications in other markets.

The table below provides a summary of our reporting segments, the 2018 net sales contribution of each segment, the primary industry and end markets that we service and our key products:

Reporting Segment	Interconnect Products and Assemblies	Cable Products and Solutions
% of 2018 Net Sales:	95%	5%
Primary End Markets	Automotive Broadband Communications Commercial Aerospace Industrial Information Technology and Data Communications Military Mobile Devices Mobile Networks	Automotive Broadband Communications Industrial Information Technology and Data Communications Mobile Networks
Key Products	Connector and Connector Systems: fiber optic interconnect products harsh environment interconnect products high-speed interconnect products power interconnect products, busbars and distribution systems radio frequency interconnect products and antennas other connectors	Cable: coaxial cable power cable specialty cable Value-Add Products: cable assemblies

Components:

Value-Add Products:

backplane interconnect systems
cable assemblies and harnesses
cable management products

combiner/splitter products
connector and connector systems
fiber optic components

Other:

antennas
flexible and rigid printed circuit boards
hinges
molded parts
production-related products
sensors and sensor-based products
switches

Information regarding the Company's operations and assets by reporting segment, as well as the Company's net sales and long-lived assets by geographic area, appears in Note 11 of the Notes to the Consolidated Financial Statements.

Table of Contents

Our Strategy

The Company's overall strategy is to provide its customers with comprehensive design capabilities, a broad selection of products and a high level of service on a worldwide basis while maintaining continuing programs of productivity improvement and cost control. Specifically, our business strategy is as follows:

- Pursue broad diversification - The Company constantly drives to increase the diversity of its markets, customers, applications and products. Due to the tremendous variety of opportunities in the electronics industry, management believes that it is important to ensure participation wherever significant growth opportunities are available. This diversification positions us to proliferate our technologies across the broadest array of opportunities and reduces our exposure to any particular market, thereby reducing the variability of our financial performance. An overview of the Company's market and product participation is described under "Markets".
- Develop performance-enhancing interconnect solutions - The Company seeks to expand the scope and number of its preferred supplier relationships. The Company works closely with its customers at the design stage to create and manufacture innovative solutions. These products generally have higher value-added content than other interconnect products and have been developed across the Company's markets. The Company is focused on technology leadership in the interconnect areas of radio frequency, power, harsh environment, high-speed and fiber optics, as well as sensors, as it views these technology areas to be of particular importance to our global customer base.
- Expand global presence - The Company intends to further expand its global manufacturing, engineering, sales and service operations to better serve its existing customer base, penetrate developing markets and establish new customer relationships. As the Company's global customers expand their international operations to access developing world markets and lower manufacturing costs in certain regions, the Company is continuing to expand its international footprint in order to provide real-time capabilities to these customers. The majority of the Company's international operations have broad capabilities including new product development. The Company is also able to take advantage of the lower manufacturing costs in some regions, and has established low-cost manufacturing and assembly facilities in the Americas, Europe/Africa and Asia.
- Control costs - The Company recognizes the importance in today's global marketplace of maintaining a competitive cost structure. Innovation, product quality and comprehensive customer service are not mutually exclusive with controlling costs. Controlling costs is part of a mindset. It is having the discipline to invest in programs that have a good return, maintaining a cost structure as flexible as possible to respond to changes in the marketplace, dealing with suppliers and vendors in a fair but prudent way to ensure a reasonable cost for materials and services and creating a mindset where managers manage the Company's assets as if they were their own.
- Pursue strategic acquisitions and investments - The Company believes that the industry in which it operates is highly fragmented and continues to provide significant opportunities for strategic acquisitions. Accordingly, we continue to pursue acquisitions of high-growth potential companies with strong management teams that complement our existing business while further expanding our product lines, technological capabilities and geographic presence. Furthermore, we seek to enhance the performance of acquired companies by leveraging Amphenol's

business strategy and access to low-cost manufacturing around the world. In 2018, the Company invested approximately \$159 million to fund three acquisitions, while in 2017, the Company invested approximately \$266 million to fund five acquisitions comprising seven businesses. Our acquisitions in 2018 and 2017 have strengthened our customer base and product offerings in many of our end markets. In addition, in January 2019, the Company acquired SSI Controls Technologies (“SSI”), the sensor manufacturing division of SSI Technologies, Inc., for approximately \$400 million, net of cash acquired (subject to customary post-closing adjustments) plus a performance-related contingent payment. The acquisition of SSI is expected to strengthen our customer base and product offerings in our automotive and industrial end markets.

- Foster collaborative, entrepreneurial management - Amphenol’s management system is designed to provide clear income statement and balance sheet responsibility in a flat organizational structure. Each general manager is incented to grow and develop his or her business and to think entrepreneurially in providing innovative, timely and cost-effective solutions to customer needs. In addition, Amphenol’s general managers have access to the resources of the larger organization and are encouraged to work collaboratively with other general managers to meet the needs of the expanding marketplace and to achieve common goals.

Table of Contents

Markets

The Company sells products to customers in a diversified set of end markets. For a discussion of certain risks related to the Company's markets, refer to the risk factor titled "Non-U.S. markets form a substantial portion of the Company's business and as a result, the Company is more exposed to political, economic, military and other risks in countries outside the United States" in Part I, Item 1A herein.

Automotive - Amphenol is a leading supplier of advanced interconnect systems, sensors and antennas for a growing array of automotive applications. In addition, Amphenol has developed advanced technology solutions for hybrid-electric vehicles and is working with leading global customers to proliferate these advanced interconnect products into next-generation automobiles. Sales into the automotive market represented approximately 18% of the Company's net sales in 2018 with sales into the following primary end applications:

- antennas
- engine management and control
- exhaust monitoring and cleaning
- hybrid-electric vehicles
- infotainment and communications
- lighting
- power management
- safety and security systems
- sensing systems
- telematics systems

Broadband Communications - Amphenol is a world leader in broadband communication products for cable, satellite and telco video and data networks, with industry-leading engineering, design and manufacturing expertise. The Company offers a wide range of products to service the broadband market, from customer premises cable and interconnect devices to distribution cable and fiber optic components, as well as interconnect products integrated into headend equipment. Sales into the broadband communications market represented approximately 5% of the Company's net sales in 2018 with sales into the following primary end applications:

- cable modems
- cable, satellite and telco networks
- high-speed internet hardware
- network switching equipment
- satellite interface devices
- set top boxes

Commercial Aerospace - Amphenol is a leading provider of high-performance interconnect systems and components to the commercial aerospace market. In addition to connector and interconnect assembly products, the Company also provides rigid and flexible printed circuits as well as high-technology cable management products. All of Amphenol's products are specifically designed to operate in the harsh environments of commercial aerospace while also providing substantial weight reduction, simplified installation and minimal maintenance. Sales into the commercial aerospace market represented approximately 4% of the Company's net sales in 2018 with sales into the following primary end applications:

- aircraft and airframe power distribution
- avionics
- controls and instrumentation
- engines
- in-flight entertainment
- lighting and control systems
- wire bundling and cable management

Industrial - Amphenol is a technology leader in the design, manufacture and supply of high-performance interconnect systems, sensors and antennas for a broad range of industrial applications. Amphenol's core competencies include application-specific industrial interconnect solutions utilizing integrated assemblies, including with both cable

Table of Contents

and flexible printed circuits, as well as high-power interconnects requiring advanced engineering and system integration. In particular, our innovative solutions facilitate the increasing demands of embedded computing and power distribution. Sales into the industrial market represented approximately 19% of the Company's net sales in 2018 with sales into the following primary end applications:

- alternative and traditional energy generation
- batteries and hybrid drive systems
- factory and machine tool automation
- heavy equipment
- instrumentation
- internet of things
- LED lighting
- marine
- medical equipment
- oil and gas
- power distribution
- rail mass transit
- transportation

Information Technology and Data Communications - Amphenol is a global provider of interconnect solutions to designers, manufacturers and operators of internet-enabling systems. With our industry-leading high-speed, power and fiber optic technologies, together with superior simulation and testing capability and cost effectiveness, Amphenol is a market leader in interconnect development for the information technology ("IT") and datacom market. Whether industry standard or application-specific designs are required, Amphenol provides customers with products that enable performance at the leading edge of next-generation, high-speed, power and fiber optic technologies. Sales into the IT and datacom market represented approximately 19% of the Company's net sales in 2018 with sales into the following primary end applications:

- cloud computing and data centers
- consumer electronics
- internet appliances
 - optical and copper networking equipment
- servers
- storage systems
- transmission

Military - Amphenol is a world leader in the design, manufacture and supply of high-performance interconnect systems for harsh environment military applications. Such products require superior performance and reliability under conditions of stress and in hostile environments such as vibration, pressure, humidity, nuclear radiation and rapid and severe temperature changes. Amphenol provides an unparalleled product breadth, from military specification connectors to customized high-speed board level interconnects; from flexible to rigid printed circuit boards; and from backplane systems to completely integrated assemblies. Amphenol is a technology leader, participating in major

programs from the earliest inception across each phase of the production cycle. Sales into the military market represented approximately 10% of the Company's net sales in 2018 with sales into the following primary end applications:

- avionics
- communications
- engines
- ground vehicles and tanks
- homeland security
- naval
- ordnance and missile systems
- radar systems
- rotorcraft
- satellite and space programs
- unmanned aerial vehicles

Table of Contents

Mobile Devices - Amphenol designs and manufactures an extensive range of interconnect products, antennas and electromechanical components found in a wide array of mobile computing devices. Amphenol's capability for high-volume production of these technically demanding, miniaturized products, combined with our speed of new product introduction, are critical drivers of the Company's long-term success in this market. Sales into the mobile devices market represented approximately 17% of the Company's net sales in 2018 with sales into the following primary end applications:

- mobile and smart phones, including accessories
- mobile computing devices, including laptops, tablets, ultrabooks and e-readers
- production-related products
- wearable and hearable devices

Mobile Networks - Amphenol is a leading global interconnect solutions provider to the mobile networks market and offers a wide product portfolio. The Company's products are used in most current and next generation wireless communications standards. In addition, the Company works with service providers around the world to offer an array of antennas and installation-related site solution interconnect products. Sales into the mobile networks market represented approximately 8% of the Company's net sales in 2018 with sales into the following primary end applications:

- cell site antenna systems
- cellular base stations
- combiners, filters and amplifiers
- core network controllers
- distributed antenna systems (DAS)
- mobile switches
 - radio links
- small cells
- wireless routers

Customers and Geographies

The Company manufactures and sells a broad portfolio of products on a global basis to customers in various industries. Our customers include many of the leaders in their respective industries, and our relationships with them typically date back many years. We believe that our diversified customer base provides us an opportunity to leverage our skills and experience across markets and reduces our exposure to particular end markets. Additionally, we believe that the diversity of our customer base is an important strength of the Company.

There has been a trend on the part of customers to consolidate their lists of qualified suppliers to companies that have the ability to meet certain technical, quality, delivery and other standards while maintaining competitive prices. The Company has positioned its global resources to compete effectively in this environment. As an industry leader, the Company has established close working relationships with many of its customers on a global basis. These relationships allow the Company to better anticipate and respond to these customer needs when designing new products and new technical solutions. By working with customers in developing new products and technologies, the Company is able to identify and act on trends and leverage knowledge about next-generation technology across our portfolio of products. In addition, the Company has concentrated its efforts on service, procurement and manufacturing improvements designed to increase product quality and lower product lead-time and cost. For a discussion of certain risks related to the Company's sales, refer to the risk factor titled "The Company is dependent on the communications industry, including information technology and data communications, wireless communications and broadband communications" in Part I, Item 1A herein.

The Company's products are sold to thousands of original equipment manufacturers ("OEMs") in numerous countries throughout the world. The Company's products are also sold to electronic manufacturing services ("EMS") companies, to original design manufacturers ("ODMs") and to service providers. During the year ended December 31, 2018, aggregate sales to Apple Inc., including sales of products to EMS companies that the Company believes are manufacturing products on Apple's behalf, accounted for approximately 12% of our net sales. No single customer accounted for 10% or more of the Company's net sales for the years ended December 31, 2017 and 2016.

Table of Contents

The Company sells its products through its own global sales force, independent representatives and a global network of electronics distributors. The Company's sales to distributors represented approximately 15% of the Company's net sales in 2018. In addition to product design teams and collaborative initiatives with customers, the Company uses key account managers to manage customer relationships on a global basis such that it can bring to bear its total resources to meet the worldwide needs of its multinational customers.

Manufacturing

The Company is a global manufacturer employing advanced manufacturing processes including molding, stamping, plating, turning, CNC machining, extruding, die casting and assembly operations and proprietary process technology for specialty and coaxial cable production and sensor fabrication. Outsourcing of certain manufacturing processes is used when cost-effective. Substantially all of the Company's manufacturing facilities are certified to the ISO9000 series of quality standards, and many of the Company's manufacturing facilities are certified to other quality standards, including QS9000, ISO14000, TS16949 and TS16469.

The Company's manufacturing facilities are generally vertically integrated operations from the initial design stage through final design and manufacturing. The Company has an established manufacturing presence in more than 30 countries. Our global coverage positions us near many of our customers' locations and allows us to assist them in consolidating their supply base and lowering their production and logistics costs. In addition, the Company generally relies on local general management in every region, which we believe creates a strong degree of organizational stability and deeper understanding of local markets. We believe our balanced geographic distribution lowers our exposure to any particular geography. The Company designs, manufactures and assembles its products at facilities in the Americas, Europe, Asia, Australia and Africa. The Company believes that its global presence is an important competitive advantage, as it allows the Company to provide quality products on a timely and worldwide basis to its multinational customers.

The Company employs a global manufacturing strategy to lower its production and logistics costs and to improve service to customers. The Company's strategy is to maintain strong cost controls in its manufacturing and assembly operations. The Company is continually evaluating and adjusting its expense levels and workforce to reflect current business conditions and maximize the return on capital investments. The Company sources its products on a worldwide basis. To better serve certain high-volume customers, the Company has established certain facilities near these major customers. The Company seeks to position its manufacturing and assembly facilities in order to serve local markets while coordinating as appropriate product design and manufacturing responsibility with the Company's other operations around the world. For a discussion of certain risks attendant to the Company's foreign operations, refer to the risk factor titled "Non-U.S. markets form a substantial portion of the Company's business and as a result, the Company is more exposed to political, economic, military and other risks in countries outside the United States" in Part I, Item 1A herein.

Research and Development

The Company generally implements its product development strategy through product design teams and collaborative initiatives with customers, which often results in the Company obtaining approved vendor status for its customers' new products and programs. The Company focuses its research and development efforts primarily on those product areas that it believes have the potential for broad market applications and significant sales within a one- to three-year period. The Company seeks to have its products become widely accepted within the industry for similar applications and products manufactured by other potential customers, which the Company believes will provide additional sources of future revenue. By developing application specific products, the Company is able to decrease its exposure to standard products, which are more likely to experience greater pricing pressure. At the end of 2018, our research, development, and engineering efforts, which relate to the creation of new and improved products and processes, were supported by approximately 2,900 employees and were performed primarily by individual operating units focused on specific markets and product technologies.

Intellectual Property

Patents and other proprietary rights are important to our business. We own a large portfolio of patents that principally relate to electrical, optical, electronic, antenna and sensor products. We also own a portfolio of trademarks and are a licensee of various patents and trademarks. Patents for individual products extend for varying periods according to the date of patent filing or grant and the legal term of patents in the various countries where patent

Table of Contents

protection is obtained. Trademark rights may potentially extend for longer periods of time and are dependent upon the laws of various jurisdictions and the use of the trademarks.

We also rely upon trade secrets, manufacturing know-how, continuing technological innovations and licensing opportunities to maintain and improve our competitive position. We review third-party proprietary rights, including patents and patent applications, as available, in an effort to develop an effective intellectual property strategy, avoid infringement of third-party proprietary rights, identify licensing opportunities and monitor the intellectual property claims of others.

From time to time, the Company is involved in disputes with third parties regarding the Company's or such third party's intellectual property assets, particularly patents. While we consider our patents and trademarks to be valuable assets, we do not believe that our competitive position or our operations are dependent upon or would be materially impacted by the loss of any single patent or group of related patents, or by a third party's successful enforcement of its patents against us or any of our products. For a discussion of certain risks related to the Company's intellectual property, refer to the risk factor titled "The Company relies on patent and trade secret laws, copyright, trademark, confidentiality procedures, controls and contractual commitments to protect our intellectual property rights" in Part I, Item 1A herein.

Raw Materials

The Company purchases a wide variety of raw materials for the manufacture of its products, including (i) precious metals such as gold and silver, (ii) aluminum, steel, copper, titanium and metal alloy products, (iii) certain rare earth metals and (iv) plastic materials. The Company also purchases a wide variety of mechanical and electronic components for the manufacturing of its products. Such raw materials and components are generally available throughout the world and are purchased locally from a variety of suppliers. The Company is generally not dependent upon any one source for raw materials or components or, if one source is used, the Company attempts to protect itself through long-term supply agreements. The Company does not anticipate any difficulties in obtaining raw materials or components necessary for production. Information regarding our purchasing obligations related to commitments to purchase certain goods and services is disclosed in Note 12 of the Notes to the Consolidated Financial Statements. For a discussion of certain risks related to raw materials and components, refer to the risk factor titled "The Company may experience difficulties in obtaining a consistent supply of materials at stable pricing levels" in Part I, Item 1A herein.

Competition

The Company encounters competition in substantially all areas of its business. The Company competes primarily on the basis of technology innovation, product quality, price, customer service and delivery time. Primary competitors within the Interconnect Products and Assemblies segment include Carlisle, Commscope, Delphi, Esterline, Foxconn,

Hirose, Huber & Suhner, ICT Luxshare, JAE, Jonhon, JST, Molex, Radiall, Rosenberger, Sensata, TE Connectivity, Yazaki and 3M, among others. Primary competitors within the Cable Products and Solutions segment include Belden and Commscope, among others. In addition, the Company competes with a large number of smaller companies who compete in specific geographies, markets or products. For a discussion of certain risks related to competition, refer to the risk factor titled “The Company encounters competition in substantially all areas of its business” in Part I, Item 1A herein.

Backlog

The Company estimates that its backlog of unfilled firm orders as of December 31, 2018 was approximately \$1.720 billion compared with backlog of approximately \$1.610 billion as of December 31, 2017. Orders typically fluctuate from quarter to quarter based on customer demand and general business conditions. Unfilled orders may generally be cancelled prior to shipment of goods. It is expected that all or a substantial portion of the backlog will be filled within the next 12 months. Significant elements of the Company’s business, such as sales to the communications-related markets (including wireless communications, information technology and data communications and broadband communications) and sales to distributors, generally have short lead times. Therefore, backlog may not be indicative of future demand.

Employees

As of December 31, 2018, the Company had approximately 73,600 employees worldwide. The Company believes that it has a good relationship with its unionized and non-unionized employees.

Table of Contents

Environmental Matters

Certain operations of the Company are subject to environmental laws and regulations which govern the discharge of pollutants into the air and water, as well as the handling and disposal of solid and hazardous wastes. The Company believes that its operations are currently in substantial compliance with applicable environmental laws and regulations and that the costs of continuing compliance will not have a material adverse effect on the Company's financial condition, results of operations or cash flows. For a discussion of certain risks attendant to environmental matters, refer to the risk factor titled "The Company may be subject to environmental laws and regulations that could adversely affect its business" in Part I, Item 1A herein.

Available Information

The Company's annual report on Form 10-K and all of the Company's other filings with the Securities and Exchange Commission ("SEC"), such as quarterly reports on Form 10-Q, current reports on Form 8-K and any amendments to those reports, are available to view, free of charge, on the Company's website, www.amphenol.com, as soon as reasonably practicable after they are filed electronically with, or furnished to, the SEC. Copies are also available without charge, from Amphenol Corporation, Investor Relations, 358 Hall Avenue, Wallingford, CT 06492.

Item 1A. Risk Factors

Investors should carefully consider the risks described below and all other information in this annual report on Form 10-K. The risks and uncertainties described below are not the only ones facing the Company. Additional risks and uncertainties not presently known to the Company or that it currently deems immaterial may also impair the Company's business, operations, liquidity and financial condition.

If actions taken by management to limit, monitor or control financial enterprise risk exposures are not successful, the Company's business and consolidated financial statements could be materially adversely affected. In such case, the trading price of the Company's common stock could decline and investors may lose all or part of their investment.

Risks related to our global operations

Non-U.S. markets form a substantial portion of the Company's business and as a result, the Company is more exposed to political, economic, military and other risks in countries outside the United States.

During 2018, non-U.S. markets constituted approximately 73% of the Company's net sales, with China constituting approximately 32% of the Company's net sales. The Company employs approximately 90% of its workforce outside the United States. The Company's customers are located throughout the world and the Company has many manufacturing, administrative and sales facilities outside the United States. As a result, our financial results and our operations, including our ability to manufacture, assemble and test, design, develop or sell products, and the demand for our products, may be adversely affected by a number of global and regional factors outside of our control. Because the Company has extensive non-U.S. operations as well as significant cash and cash investments held at institutions located outside of the United States, it is exposed to additional risks that could have a material adverse effect on the Company's business, financial condition, results of operations or cash flows, including:

- instability in political or economic conditions, including but not limited to inflation, recession or slowing growth, changes in tariff and trade barriers and import and export licensing requirements, our ability to hire and maintain qualified staff in these regions, foreign currency exchange restrictions and devaluations, restrictive governmental controls on the movement and repatriation of earnings and capital, and actual or anticipated military or political conflicts, particularly in emerging markets;
- intergovernmental conflicts or actions, including but not limited to armed conflict, trade wars and acts of terrorism or war; and
- interruptions to the Company's business with its largest customers, distributors and suppliers resulting from but not limited to, strikes, financial instabilities, computer malfunctions or cybersecurity incidents, inventory excesses, natural disasters or other disasters such as fires, floods, earthquakes, hurricanes or explosions.

Table of Contents

International trade disputes may result in increased tariffs, trade barriers and other protectionist measures that could increase our manufacturing costs, make our products less competitive, reduce consumer demand or impede or slow the movement of our goods across borders. Increasing protectionism and economic nationalism may lead to further changes in trade policy, domestic sourcing initiatives, or other formal and informal measures that could make it more difficult to sell our products in some markets.

Changes in general economic conditions, geopolitical conditions, U.S. trade policies and other factors beyond the Company's control may adversely impact our business and operating results.

The Company's operations and performance depend significantly on global, regional and U.S. economic and geopolitical conditions. In recent years, there has been discussion and dialogue regarding potential significant changes to U.S. trade policies, legislation, treaties and tariffs, as well as trade policies and tariffs affecting China. In the case of the North American Free Trade Agreement ("NAFTA"), on December 1, 2018, the United States, Mexico and Canada signed a new trade agreement called the United States-Mexico-Canada Agreement ("USMCA"), which would replace NAFTA but which, as of the date of this filing, must still be ratified by each country's legislature. If the legislature in any one or more of the signatory countries fails to ratify the USMCA, then the future status of NAFTA is uncertain. Changes to current policies by the U.S. government could affect our business, including potentially through increased import tariffs and other influences on U.S. trade relations with China and other countries. The imposition of tariffs or other trade barriers could increase our costs in certain markets, and may cause our customers to find alternative sourcing. In addition, other countries may change their own policies on business and foreign investment in companies in their respective countries. Additionally, it is possible that U.S. policy changes and uncertainty about such changes could increase market volatility and currency exchange rate fluctuations. Market volatility and currency exchange rate fluctuations could have a material adverse effect on our business, financial condition, results of operations or cash flows.

In addition to changes in U.S. trade policy, a number of other economic and geopolitical factors both in the United States and abroad could have a material adverse effect on the Company's business, financial condition, results of operations or cash flows, such as:

- a global or regional economic slowdown in any of the Company's market segments;
- postponement of spending, in response to tighter credit, financial market volatility and other factors;
- effects of significant changes in economic, monetary and fiscal policies in the United States and abroad including significant income tax changes, currency fluctuations and inflationary pressures;
 - rapid material escalation of the cost of regulatory compliance and litigation;
- changes in government policies and regulations affecting the Company or its significant customers or suppliers;
- employment regulations and local labor conditions, including increases in employment costs, particularly in low-cost regions in which the Company currently operates;
- industrial policies in various countries that favor domestic industries over multinationals or that restrict foreign companies altogether;
- difficulties protecting intellectual property;

- longer payment cycles;
- credit risks and other challenges in collecting accounts receivable;
- changes in assumptions, such as discount rates, along with lower than expected investment returns and performance related to the Company's benefit plans;
- the impact of each of the foregoing on outsourcing and procurement arrangements; and
- continuing uncertainty regarding social, political, immigration and tax and trade policies in the United States and abroad, including as a result of the United Kingdom's vote to withdraw from the European Union.

Our international operations require us to comply with anti-corruption laws and regulations of the U.S. government and various foreign jurisdictions and our business reputation and financial results may be impaired by improper conduct by any of our employees, customers, suppliers, distributors or any other business partners.

Doing business on a worldwide basis requires us and our subsidiaries to comply with the laws and regulations of the U.S. government and various foreign jurisdictions, and our failure to comply with these rules and regulations may expose us to significant liabilities. These laws and regulations may apply to companies, individual directors, officers, employees, subcontractors and agents, and may restrict our operations, trade practices, investment decisions and partnering activities. In particular, our international operations are subject to U.S. and foreign anti-corruption laws and regulations, such as the Foreign Corrupt Practices Act of 1977, as amended ("FCPA"). The FCPA prohibits U.S.

Table of Contents

companies and their officers, directors, employees and agents acting on their behalf from corruptly offering, promising, authorizing or providing anything of value to foreign officials for the purposes of influencing official decisions or obtaining or retaining business or otherwise obtaining favorable treatment. The FCPA also requires companies to make and keep books, records and accounts that accurately and fairly reflect transactions and dispositions of assets and to maintain a system of adequate internal accounting controls. As part of our business, we deal with state-owned business enterprises, the employees and representatives of which may be considered foreign officials for purposes of the FCPA. In addition, some of the foreign locations in which we operate lack a developed legal system and have elevated levels of corruption. As a result of the above activities, we are exposed to the risk of violating anti-corruption laws.

We have established policies and procedures designed to assist us and our personnel in complying with applicable U.S. and international laws and regulations. However, there can be no assurance that these policies will be effective in preventing our directors, officers, employees, subcontractors and agents from taking actions that violate these legal requirements. Violations of these legal requirements could subject us to criminal fines and imprisonment, civil penalties, disgorgement of profits, injunctions, debarment from government contracts as well as other remedial measures. In addition any actual or alleged violations could disrupt our operations, cause reputational harm, involve significant management distraction and result in a material adverse effect on our competitive position, results of operations, cash flows or financial condition.

The Company's results may be negatively affected by foreign currency exchange rates.

The Company conducts business in many foreign currencies through its worldwide operations, and as a result is subject to foreign exchange exposure due to changes in exchange rates of the various currencies including possible currency devaluations. Changes in exchange rates can positively or negatively affect the Company's sales, operating margins and equity. The Company manages currency exposure risk in a number of ways, including producing its products in the same country or region in which the products are sold (thereby generating revenues and incurring expenses in the same currency), cost reduction and pricing actions, and working capital management. However, there can be no assurance that these actions will be fully effective in managing currency risk, including in the event of a significant and sudden decline in the value of any of the foreign currencies of the Company's worldwide operations, which could have an adverse effect on the Company's business, financial condition and results of operations.

The Company may experience difficulties in obtaining a consistent supply of materials at stable pricing levels.

The Company uses basic materials like aluminum, steel, copper, titanium, metal alloys, gold, silver, certain rare earth metals and plastic resins in its manufacturing processes as well as a variety of components and relies on third party suppliers to secure these materials. Volatility in the prices of such materials and availability of supply may have a substantial impact on the price the Company pays for such materials. In addition, the Company may not be able to pass along increased raw material or component prices to its customers. Consequently, our results of operations and financial condition may be adversely affected.

In limited instances we depend on a single source of supply or participate in commodity markets that may be served by a limited number of suppliers. Delays in obtaining supplies may result from a number of factors affecting our suppliers, and any delay could impair our ability to deliver products to our customers and, accordingly, could have an adverse effect on our business, results of operations and financial position.

Risks related to our end markets

The Company is dependent on the communications industry, including information technology and data communications, wireless communications and broadband communications.

Approximately 49% of the Company's 2018 net sales came from sales to the communications industry, including information technology and data communication, wireless communications and broadband communications, with 17% of the Company's 2018 net sales coming from sales to the mobile devices market. Demand for these products is subject to rapid technological change (see below—"The Company is dependent on the acceptance of new product introductions for continued revenue growth"). These markets are dominated by several large manufacturers and operators who regularly exert significant pressure on their suppliers, including the Company. Furthermore, there has been a trend on the part of customers to consolidate their lists of qualified suppliers to companies that have the ability to meet certain technical, quality, delivery and other standards while maintaining competitive prices. There can be no assurance that the Company will be able to meet these standards or maintain competitive pricing and therefore continue to compete

Table of Contents

successfully in the communications industry. The Company's failure to do so could have a material adverse effect on the Company's business, financial condition and results of operations.

Approximately 5% and 8% of the Company's 2018 net sales came from sales to the broadband communications and mobile networks markets, respectively. Demand for the Company's products in these markets depends primarily on capital spending by operators for constructing, rebuilding or upgrading their systems. The amount of this capital spending and, therefore, the Company's sales and profitability will be affected by a variety of factors, including general economic conditions, consolidation within the communications industry, the financial condition of operators and their access to financing, competition, technological developments, new legislation and regulation of operators. There can be no assurance that existing levels of capital spending will continue or that spending will not decrease.

Changes in defense expenditures may reduce the Company's sales.

Approximately 10% of the Company's 2018 net sales came from sales to the military market. The Company participates in a broad spectrum of defense programs. The Company's military sales are generally to contractors and subcontractors of the U.S. or foreign governments or to distributors that in turn sell to the contractors and subcontractors. Accordingly, the Company's sales are affected by changes in the defense budgets of the U.S. and foreign governments. A significant decline in U.S. or foreign government defense expenditures could have an adverse effect on the Company's business, financial condition and results of operations. U.S. government expenditures are also subject to political and budgetary fluctuations and constraints, which may result in significant unexpected changes in levels of demand for our products.

The Company is dependent on the acceptance of new product introductions for continued revenue growth.

The Company estimates that products introduced in the last two years accounted for approximately 25% of 2018 net sales. The Company's long-term results of operations depend substantially upon its ability to continue to conceive, design, source and market new products and upon continuing market acceptance of its existing and future product lines. In the ordinary course of business, the Company continually develops or creates new product line concepts. If the Company fails, or is significantly delayed, in introducing new product line concepts or if the Company's new products are not met with market acceptance, its business, financial condition and results of operations may be adversely affected.

The Company encounters competition in substantially all areas of its business.

The Company competes primarily on the basis of technology innovation, product quality and performance, price, customer service and delivery time. Competitors include large, diversified companies, some of which have greater assets and financial resources than the Company, as well as medium to small companies. In addition, rapid technological changes occurring in the communications industry could also lead to the entry of new competitors of all sizes against whom we may not be able to successfully compete. There can be no assurance that the Company will be able to compete successfully against existing or new competition, and the inability to do so may result in price reductions, reduced margins, or loss of market share, any of which could have an adverse effect on the Company's business, financial condition and results of operations.

Risks related to acquisitions

The Company may experience difficulties and unanticipated expenses in connection with purchasing and integrating newly acquired businesses.

The Company has completed a number of acquisitions in recent years, including the recent acquisition of SSI Controls Technologies ("SSI"), the sensor manufacturing division of SSI Technologies, Inc., in January 2019. The Company anticipates that it will continue to pursue acquisition opportunities as part of its growth strategy. The Company may experience difficulty and unanticipated expenses associated with purchasing and integrating such acquisitions, and the acquisitions may not perform as expected. The Company may also experience challenges following the acquisition of a new company or business, including, but not limited to: managing the operations, manufacturing facilities and technology; maintaining and increasing the customer base; or retaining key employees, suppliers and distributors. Although we expect to realize strategic, operational and financial benefits as a result of past or future acquisitions and investments, we cannot predict or guarantee whether and to what extent anticipated cost savings, benefits and growth prospects will be achieved.

Table of Contents

The Company may in the future incur goodwill and other intangible asset impairment charges.

At December 31, 2018, the total assets of the Company were \$10,044.9 million, which included \$4,103.2 million of goodwill (the excess of fair value of consideration paid over the fair value of net identifiable assets of businesses acquired). The Company performs annual evaluations (or more frequently, if necessary) for the potential impairment of the carrying value of goodwill. Such evaluations to date have not resulted in the need to recognize an impairment. However, if the financial performance of the Company's businesses were to decline significantly, the Company could incur a material non-cash charge to its income statement for the impairment of goodwill. Furthermore, we cannot provide assurance that impairment charges in the future will not be required if the expected cash flow estimates as projected by management do not occur, especially if an economic recession occurs and continues for a lengthy period or becomes severe, or if acquisitions and investments made by the Company fail to achieve expected returns.

Risks related to our liquidity and capital resources

The Company's credit agreements contain certain covenants, which if breached, could have a material adverse effect on the Company.

The Credit Agreement, dated as of March 1, 2016 (and as amended effective January 15, 2019), among the Company, certain subsidiaries of the Company and a syndicate of financial institutions (the "Revolving Credit Facility"), which also backstops the Company's U.S. commercial paper program and Euro commercial paper program, contains financial and other covenants, such as a limit on the ratio of debt to earnings before interest, taxes, depreciation and amortization, a limit on priority indebtedness and limits on incurrence of liens. Although the Company believes none of these covenants is presently restrictive to the Company's operations, the ability to meet the financial covenants can be affected by events beyond the Company's control, and the Company cannot provide assurance that it will meet those tests. A breach of any of these covenants could result in a default under the Revolving Credit Facility. Upon the occurrence of an event of default under any of the Company's credit facilities, the lenders could terminate all commitments to extend further credit and elect to declare amounts outstanding thereunder to be immediately due and payable which could result in the Company not having sufficient assets to repay the Revolving Credit Facility and other indebtedness. As of December 31, 2018, the Company had outstanding borrowings under the Revolving Credit Facility as well as its U.S. commercial paper program and Euro commercial paper program of nil, \$554.5 million and \$68.8 million, respectively.

The Company relies on the capital markets, and its inability to access those markets on favorable terms could adversely affect the Company's results.

The Company has used the capital markets to invest in its business and make strategic acquisitions. If general economic and capital market conditions deteriorate significantly, it could impact the Company's ability to access the

capital markets. While the Company has not recently encountered any financing difficulties, the capital and credit markets have experienced significant volatility in the past. Market conditions could make it more difficult to access capital to finance capital investments, acquisitions and other initiatives including dividends and share repurchases. As such, this could have a material adverse effect on the Company's business, financial condition, results of operations or cash flows. In addition, while the Company has not encountered any such issues to date, if the credit rating agencies that rate the Company's debt were to downgrade the Company's credit rating in conjunction with a deterioration of the Company's performance, it would likely increase the Company's cost of capital and make it more difficult for the Company to obtain new financing and access capital markets, which could also have a material adverse effect on the Company's business, financial condition, results of operations or cash flows.

The Company's results may be negatively affected by changing interest rates.

The Company is subject to interest rate volatility with regard to existing and future issuances of debt. The Company monitors its mix of fixed-rate and variable-rate debt, as well as its mix of short-term and long-term debt. As of December 31, 2018, approximately \$639.9 million, or 18%, of the Company's outstanding borrowings were subject to floating interest rates and were primarily comprised of commercial paper borrowings. A 10% change in LIBOR or floating interest rates at December 31, 2018 would not have a material effect on the Company's interest expense. The Company does not expect changes in interest rates to have a material effect on income or cash flows in 2019, although there can be no assurance that interest rates will not change significantly.

Table of Contents

As of December 31, 2018, approximately 82% of the Company's outstanding borrowings were based on fixed rates and primarily related to the following unsecured Senior Notes:

Principal Amount (in millions)	Fixed Interest Rate	Maturity
\$ 750.0	2.55 %	January 2019
400.0	2.20 %	April 2020
375.0	3.125 %	September 2021
500.0	4.00 %	February 2022
350.0	3.20 %	April 2024
€ 500.0	2.00 %	October 2028 (Euro Notes)

In January 2019, the Company issued \$500.0 million principal amount of 4.350% Senior Notes due June 1, 2029, the net proceeds of which were used, along with borrowings under the U.S. commercial paper program, to repay the \$750.0 million of 2.55% Senior Notes due in January 2019.

Legal and regulatory risks

Our business and financial results may be adversely affected by government contracting risks.

We are subject to various laws and regulations applicable to parties doing business with the U.S. government, including laws and regulations governing performance of U.S. government contracts, the use and treatment of U.S. government furnished property and the nature of materials used in our products. We may be unilaterally suspended or barred from conducting business with the U.S. government, or become subject to fines or other sanctions if we are found to have violated such laws or regulations. As a result of the need to comply with these laws and regulations, we are subject to increased risks of governmental investigations, civil fraud actions, criminal prosecutions, whistleblower lawsuits and other enforcement actions. The laws and regulations to which we are subject include, but are not limited to, Export Administration Regulations, the Federal Acquisition Regulation, the False Claims Act, International Traffic in Arms Regulations and regulations from the Bureau of Alcohol, Tobacco and Firearms and the FCPA. Failure to comply with applicable requirements also could harm our reputation and our ability to compete for future government contracts or sell commercial equivalent products. Any of these outcomes could have a material adverse effect on our business, results of operations and financial condition.

In addition, U.S. government contracts are subject to modification, curtailment or termination by the U.S. government without prior written notice, either for convenience or for default as a result of our failure to perform under the applicable contract. If terminated by the U.S. government as a result of our default, we could be liable for additional

costs the U.S. government incurs in acquiring undelivered goods or services from another source and any other damages it suffers. We are also prohibited from assigning prime U.S. government contracts without the prior consent of the U.S. government contracting officer. Furthermore, the U.S. government periodically audits our governmental contract costs, which could result in fines, penalties or adjustment of costs and prices under the contracts. Any such fines, penalties or payment adjustments resulting from such audits could adversely affect our reputation, business, financial condition, results of operations or cash flows.

The Company is subject to governmental export and import controls.

Certain of our products, including purchased components of such products, are subject to export controls and may be exported only with the required export license or through an export license exception. In addition, we are required to comply with certain U.S. and foreign sanctions and embargos. If we were to fail to comply with applicable export licensing, customs regulations, economic sanctions and other laws, we could be subject to substantial civil and criminal penalties, including fines for us, the incarceration of responsible employees and managers, and the possible loss of export or import privileges. In addition, if our distributors fail to obtain appropriate import, export or re-export licenses or permits, we may also be adversely affected through reputational harm and penalties. Obtaining the necessary export license for a particular sale may be time-consuming and may result in the delay or loss of sales opportunities.

Table of Contents

Cybersecurity incidents on our information technology systems could disrupt business operations, resulting in adverse impacts to our reputation and operating results and potentially leading to litigation and/or governmental investigations.

Cybersecurity threats continue to expand and evolve globally, making it difficult to detect and prevent such threats from impacting the Company. Cybersecurity threats to the Company could lead to unauthorized access to the Company's information technology systems, products, customers, suppliers and third party service providers.

Cybersecurity incidents could potentially result in the disruption of our business operations and the misappropriation, destruction or corruption of critical data and confidential or proprietary technological information. Cybersecurity incidents could also result from unauthorized parties gaining access to our systems or information through fraud or other means of deceiving our employees, suppliers or third party service providers. Despite the Company's implementation of preventative security measures to prevent, detect, address and mitigate these threats, our infrastructure may still be susceptible to disruptions from cybersecurity incidents, ransomware attacks, security breaches, computer viruses, outages, systems failures or other catastrophic events, any of which could include reputational damage, loss of our intellectual property, litigation with third parties and/or governmental investigations, among other things, which could have a material adverse effect on our business, financial condition and results of operations.

The regulatory environment surrounding information security and privacy is increasingly demanding, with frequent imposition of new and changing requirements. For example, the European Union's General Data Protection Regulation ("GDPR"), which became effective in May 2018, imposes significant new requirements on how we collect, process and transfer personal data, as well as significant fines for non-compliance. The potential for fines and other related costs in the event of a breach of the GDPR or other information security or privacy requirements may have an adverse effect on our financial results.

Changes in fiscal and tax policies, audits and examinations by taxing authorities could impact the Company's results.

The Company is subject to taxes in the U.S. and numerous foreign jurisdictions. Changes in tax laws, regulations and other tax guidance, including related interpretations, could materially impact the Company's current, non-current and deferred tax assets and liabilities. The Company is subject to tax examinations by various tax authorities and in addition, new examinations could be initiated by tax authorities. As the Company has operations in jurisdictions throughout the world, the risk of tax examinations will continue to occur. The Company's financial condition, results of operations or cash flows may be materially impacted by the results of these tax examinations.

On December 22, 2017, the U.S. government enacted comprehensive tax legislation commonly referred to as the Tax Cuts and Jobs Act ("Tax Act"). The changes included in the Tax Act are broad and complex. Although the Company finalized its accounting for the Tax Act in 2018, the final impacts of the Tax Act recorded in 2018 differed from the estimates provided in the Company's 2017 Annual Report, due to, among other things, changes in interpretations of certain provisions of the Tax Act, additional guidance released in 2018 by the U.S. Treasury Department, and updates and changes to estimates the Company had originally utilized to calculate the transition impacts in 2017. The

Company's financial condition, results of operations or cash flows could be materially impacted by any future changes in tax law or changes in accounting standards for income taxes.

The Company relies on patent and trade secret laws, copyright, trademark, confidentiality procedures, controls and contractual commitments to protect our intellectual property rights.

We rely on patent and trade secret laws, copyright, trademark, confidentiality procedures, controls and contractual commitments to protect our intellectual property rights. Despite our efforts, these protections may be limited and we may encounter difficulties in protecting our intellectual property rights, particularly in certain countries outside the U.S. We cannot provide assurance that the patents that we hold or may obtain will provide meaningful protection against our competitors. Changes in national or international laws concerning intellectual property may affect our ability to prevent or address the misappropriation of, or the unauthorized use of, our intellectual property, potentially resulting in loss of market share. Litigation may be necessary to enforce our intellectual property rights. Litigation is inherently uncertain and outcomes are often unpredictable. If we cannot protect our intellectual property rights against unauthorized copying or use, or other misappropriation, we may not remain competitive.

Table of Contents

The Company may be subject to customer claims, litigation and other regulatory or legal proceedings.

The Company is currently engaged in, or subject to, various customer claims, litigation and other regulatory and legal matters and may be subject to additional claims, litigation and other regulatory or legal proceedings in the future. Such matters may expose the Company to material risks including but not limited to, risks related to employment disputes, tax controversies, government investigations, intellectual property infringement, compliance with environmental laws, unfair sales practices, product safety and liability, and product warranty and other contract-related claims. These matters may subject the Company to criminal liability, including claims for compensatory, punitive or consequential damages, and could result in disruptions to our business and significant legal expenses. These matters could also damage our reputation, harm our relationships with customers or negatively affect product demand. While the Company does maintain certain insurance coverages that may mitigate losses associated with some of these types of claims and proceedings, the policies may not respond in all cases and the amount of insurance coverage may not be adequate to cover the total claims and liabilities. Any current or future substantial liabilities or regulatory actions could have a material adverse effect on our business, financial condition, cash flows and reputation.

The Company may be subject to environmental laws and regulations that could adversely affect its business.

The Company operates in both the United States and various foreign jurisdictions, and we must comply with locally enacted laws and regulations addressing health, safety and environmental matters in such jurisdictions in which we manufacture and/or sell our products. Certain operations of the Company are subject to locally enacted environmental laws and regulations which govern the discharge of pollutants into the air and water, as well as the handling and disposal of solid and hazardous wastes. While the Company believes that its operations are currently in substantial compliance with applicable environmental laws and regulations, the Company and its operations may be subject to liabilities, regardless of fault, for investigative and/or remediation efforts on such matters that may arise at any of the Company's former or current properties, either owned or leased. Such liabilities could result from the use of hazardous materials in production, the disposal of products, damages associated with the use of any of our products or other related matters. We cannot be certain as to the potential impact of any changes to environmental conditions or environmental policies that may arise at any of our jurisdictions. Our failure to comply with these local environmental laws and regulations could result in fines or other punitive damages and/or modifications to our production processes as well as subject us to reputational harm, any of which could adversely impact our financial position, results of operations, or cash flows.

Item 1B. Unresolved Staff Comments

None.

Item 2. Properties

The Company's fixed assets include plants and warehouses and a substantial quantity of machinery and equipment, most of which is general purpose machinery and equipment using tools and fixtures and in many instances having automatic control features and special adaptations. The Company's plants, warehouses and machinery and equipment are generally in good operating condition, are reasonably maintained and substantially all of its facilities are in regular use. The Company considers the present level of fixed assets along with planned capital expenditures as suitable and adequate for operations in the current business environment. At December 31, 2018, the Company operated a total of approximately 430 plants, warehouses and offices of which (a) the locations in the U.S. had approximately 3.5 million square feet, of which approximately 1.7 million square feet were leased; (b) the locations outside the U.S. had approximately 16.7 million square feet, of which approximately 11.1 million square feet were leased; and (c) the square footage by segment was approximately 19.0 million square feet and approximately 1.2 million square feet for the Interconnect Products and Assemblies segment and the Cable Products and Solutions segment, respectively.

The Company believes that its facilities are suitable and adequate for the business conducted therein and are being appropriately utilized for their intended purposes. Utilization of the facilities varies based on demand for the products. The Company continuously reviews its anticipated requirements for facilities and, based on that review, may from time to time acquire or lease additional facilities and/or dispose of existing facilities.

Table of Contents

Item 3. Legal Proceedings

The Company has been named as a defendant in several legal actions arising from normal business activities. Although the potential liability with respect to certain of such legal actions cannot be reasonably estimated, none of such matters is expected to have a material adverse effect on the Company's financial condition, results of operations or cash flows. Refer to "Risk Factors" in Part I, Item 1A herein for additional information regarding legal risks and uncertainties.

The Company has also received a subpoena from the U.S. Department of Defense, Office of the Inspector General, requesting documents pertaining to certain products manufactured by the Company's Military and Aerospace Group that are purchased or used by the U.S. government. The Company is cooperating with the request. The inquiry is in the early stages and the Company is unable to estimate the timing or outcome of the matter.

Item 4. Mine Safety Disclosures

Not applicable.

PART II

Item 5. Market for Registrant’s Common Equity, Related Stockholder Matters and Issuer Purchases of Equity Securities

Market Information

The Company effected the initial public offering of its Class A Common Stock (“Common Stock”) in November 1991. The Company’s Common Stock has been listed on the New York Stock Exchange since that time under the ticker symbol “APH”. As of January 31, 2019, there were 35 holders of record of the Company’s Common Stock. A significant number of outstanding shares of Common Stock are registered in the name of only one holder, which is a nominee of The Depository Trust Company, a securities depository for banks and brokerage firms. The Company believes that there are a significant number of beneficial owners of its Common Stock.

Dividends

Contingent upon declaration by the Board of Directors, the Company generally pays a quarterly dividend on shares of its Common Stock. The following table sets forth the dividends declared per common share for each quarter of 2018 and 2017:

	2018	2017
First Quarter	\$ 0.19	\$ 0.16
Second Quarter	0.23	0.16
Third Quarter	0.23	0.19
Fourth Quarter	0.23	0.19
Total	\$ 0.88	\$ 0.70

Dividends declared and paid for the years ended December 31, 2018 and 2017 (in millions) were as follows:

	2018	2017
Dividends declared	\$ 264.3	\$ 213.7
Dividends paid	253.7	205.0

(including
those
declared in
the prior
year)

The Company's Revolving Credit Facility contains financial covenants and restrictions, some of which may limit the Company's ability to pay dividends, and any future indebtedness that the Company may incur could limit its ability to pay dividends.

19

Table of Contents

Stock Performance Graph

The following graph compares the cumulative total shareholder return of Amphenol over a period of five years ending December 31, 2018 with the performance of the Standard & Poor's 500 ("S&P 500") Stock Index and the Dow Jones U.S. Electrical Components & Equipment Index. This graph assumes that \$100 was invested in the Common Stock of Amphenol and each index on December 31, 2013, reflects reinvested dividends and is weighted on a market capitalization basis at the time of each reported data point. Each reported data point below represents the last trading day of each calendar year. The comparisons in the graph below are based upon historical data and are not indicative of, nor intended to forecast, future performance.

Equity Compensation Plan Information

The following table summarizes the Company's equity compensation plan information as of December 31, 2018:

Plan category	Equity Compensation Plan Information		
	Number of securities to be issued upon exercise of outstanding options, warrants and rights	Weighted average exercise price of outstanding options, warrants and rights	Number of securities remaining available for future issuance
Equity compensation plans approved by security holders	35,565,541	\$ 59.78	29,664,820
Equity compensation plans not approved by security holders	—	—	—
Total	35,565,541	\$ 59.78	29,664,820

Table of Contents

Repurchase of Equity Securities

On April 24, 2018, the Company's Board of Directors authorized a new stock repurchase program under which the Company may purchase up to \$2.0 billion of the Company's Common Stock during the three-year period ending April 24, 2021 in accordance with the requirements of Rule 10b-18 of the Exchange Act (the "2018 Stock Repurchase Program"). During the year ended December 31, 2018, the Company repurchased 6.4 million shares of its Common Stock for \$553.2 million under the 2018 Stock Repurchase Program. Approximately 5.7 million shares, or \$498.2 million, have been retired by the Company; the remaining 0.7 million shares, or \$55.0 million, have been retained in Treasury stock. From January 1, 2019 through January 31, 2019, the Company repurchased approximately 0.6 million additional shares of Common Stock for \$50.6 million, leaving approximately \$1,396.2 million available to purchase under the 2018 Stock Repurchase Program. The price and timing of any future purchases under the 2018 Stock Repurchase Program will depend on factors such as levels of cash generation from operations, the volume of stock option exercises by employees, cash requirements for acquisitions, dividends, economic and market conditions and stock price.

On January 24, 2017, the Company's Board of Directors authorized a stock repurchase program under which the Company could purchase up to \$1.0 billion of the Company's Common Stock during the two-year period ending January 24, 2019 in accordance with the requirements of Rule 10b-18 of the Exchange Act (the "2017 Stock Repurchase Program"). During the three months ended March 31, 2018, the Company repurchased 4.2 million shares of its Common Stock for \$382.0 million under the 2017 Stock Repurchase Program, bringing total repurchases under this program to approximately 12.6 million shares or \$1.0 billion, thus completing the 2017 Stock Repurchase Program.

The table below reflects the Company's stock repurchases for the year ended December 31, 2018:

(dollars in millions, except price per share)			Total Number of	Maximum Dollar
	Total Number of Shares	Average Price Paid per Share	Shares Purchased as Part of Publicly Announced Plans or Programs	Value of Shares that May Yet be Purchased Under the Plans or Programs
Period	Purchased	per Share	Programs	
First Quarter - 2018	4,244,114	\$ 90.00	4,244,114	\$ —
Second Quarter - 2018	3,073,645	85.70	3,073,645	1,736.6
Third Quarter - 2018	402,205	86.53	402,205	1,701.8
Fourth Quarter - 2018:				
October 1 to October 31, 2018	807,800	85.80	807,800	1,632.5
November 1 to November 30, 2018	1,464,576	89.23	1,464,576	1,501.8

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December 1 to December 31, 2018	654,677	84.00	654,677	1,446.8
	2,927,053	87.12	2,927,053	1,446.8
Total - 2018	10,647,017	\$ 87.84	10,647,017	\$ 1,446.8

21

Table of Contents

Item 6. Selected Financial Data

The following table presents selected consolidated financial data that is derived from the Company's audited Consolidated Financial Statements and that should be read in conjunction with our "Management's Discussion and Analysis of Financial Condition and Results of Operations" and Consolidated Financial Statements and accompanying notes included herein. The Company's acquisitions during the five-year period below may affect the comparability of results. Our consolidated financial information may not be indicative of our future performance.

(dollars and shares in millions, except per share data)	2018	2017	2016	2015	2014
Operations					
Net sales	\$ 8,202.0	\$ 7,011.3	\$ 6,286.4	\$ 5,568.7	\$ 5,345.5
Net income attributable to Amphenol Corporation	(1) 1,205.0	(2) 650.5	(3) 822.9	(4) 763.5	(5) 709.1
Net income per common share—Diluted	(1) 3.85	(2) 2.06	(3) 2.61	(4) 2.41	(5) 2.21
Financial Condition					
Cash, cash equivalents and short-term investments	\$ 1,291.7	\$ 1,753.7	\$ 1,173.2	\$ 1,760.4	\$ 1,329.6
Working capital	2,120.3	3,076.6	1,956.0	2,841.6	2,406.6
Total assets	10,044.9	10,003.9	8,498.7	7,458.4	6,985.9
Long-term debt, including current portion	3,570.7	3,542.6	3,010.7	2,813.5	2,656.2
Shareholders' equity attributable to Amphenol Corporation	4,017.0	3,989.8	3,674.9	3,238.5	2,907.4
Weighted average shares outstanding—Diluted	312.6	316.5	315.2	316.5	320.4
Cash dividends declared per share	\$ 0.88	\$ 0.70	\$ 0.58	\$ 0.53	\$ 0.45

(1) Includes (a) an income tax benefit of \$14.5 recorded in 2018 related to the completion of the accounting associated with the provisional income tax charge recorded in 2017 related to the enactment of the Tax Cuts and Jobs Act and (b) excess tax benefits related to stock-based compensation of \$19.8 resulting from stock option exercises, partially offset by (c) acquisition-related expenses of \$8.5 (\$7.2 after-tax) primarily relating to external transaction costs. These items had the aggregate effect of increasing Net income attributable to Amphenol Corporation and Net income per common share-Diluted by \$27.1 and \$0.08 per share, respectively. Excluding the effect of these items, Adjusted Net Income attributable to Amphenol Corporation and Adjusted Diluted EPS, both non-GAAP financial measures defined in Part II, Item 7 herein, were \$1,177.9 and \$3.77 per share, respectively, for the year ended December 31, 2018.

- (2) Includes (a) an income tax charge of \$398.5 related to the enactment of the Tax Cuts and Jobs Act, which represented our estimate of taxes arising from the implementation of a modified territorial tax regime and the deemed and intended repatriation of prior unremitted earnings of foreign subsidiaries, partially offset by the tax benefit associated with the remeasurement of the Company's U.S. net deferred tax liabilities due to the U.S. federal corporate tax rate reduction and (b) acquisition-related expenses of \$4.0 (\$3.7 after-tax) primarily relating to external transaction costs associated with 2017 acquisitions, partially offset by (c) excess tax benefits related to stock-based compensation of \$66.6 resulting from stock option exercises. These items had the aggregate effect of decreasing Net income attributable to Amphenol Corporation and Net income per common share-Diluted by \$335.6 and \$1.06 per share, respectively. Excluding the effect of these items, Adjusted Net Income attributable to Amphenol Corporation and Adjusted Diluted EPS were \$986.1 and \$3.12 per share, respectively, for the year ended December 31, 2017.
- (3) Includes acquisition-related expenses of \$36.6 (\$33.1 after-tax) primarily relating to the FCI Asia Pte. Ltd. ("FCI") and other 2016 acquisitions, including external transaction costs, amortization related to the value associated with acquired backlog and restructuring charges. These items had the aggregate effect of decreasing Net income attributable to Amphenol Corporation and Net income per common share-Diluted by \$33.1 and \$0.11 per share, respectively. Excluding the effect of these items, Adjusted Net Income attributable to Amphenol Corporation and Adjusted Diluted EPS were \$856.0 and \$2.72 per share, respectively, for the year ended December 31, 2016.
- (4) Includes acquisition-related expenses of \$5.7 (\$5.7 after-tax) relating to acquisitions closed and announced in 2015. These acquisition-related expenses had the effect of decreasing Net income attributable to Amphenol Corporation and Net income per common share-Diluted by \$5.7 and \$0.02 per share, respectively. Excluding the effect of this item, Adjusted Net Income attributable to Amphenol Corporation and Adjusted Diluted EPS were \$769.2 and \$2.43 per share, respectively, for the year ended December 31, 2015.
- (5) Includes acquisition-related expenses of (a) \$4.3 (\$4.1 after-tax) relating to 2014 acquisitions and (b) \$9.8 (\$6.2 after-tax) relating to amortization of the acquired backlogs of completed acquisitions. These items had the aggregate effect of decreasing Net income attributable to Amphenol Corporation and Net income per common share-Diluted by \$10.3 and \$0.04 per share, respectively. Excluding the effect of these items, Adjusted Net Income attributable to Amphenol Corporation and Adjusted Diluted EPS were \$719.4 and \$2.25 per share, respectively, for the year ended December 31, 2014.

Table of Contents

Item 7. Management’s Discussion and Analysis of Financial Condition and Results of Operations

(amounts in millions, except share and per share data, unless otherwise noted)

The following discussion and analysis of the results of operations for the three years ended December 31, 2018, 2017 and 2016 has been derived from and should be read in conjunction with the Consolidated Financial Statements included in Part II, Item 8, herein. The Consolidated Financial Statements have been prepared in U.S. dollars, in accordance with accounting principles generally accepted in the United States (“U.S. GAAP”). The following discussion and analysis also includes references to certain non-GAAP financial measures, which are defined in the “Non-GAAP Financial Measures” section below, including “Constant Currency Net Sales Growth” and “Organic Net Sales Growth”. For purposes of the following discussion, the terms “constant currencies” and “organically” have the same meanings as these aforementioned non-GAAP financial measures. Refer to “Non-GAAP Financial Measures” within this Item 7 for more information, including our reasons for including non-GAAP financial measures and material limitations with respect to the usefulness of the measures.

In addition to historical information, the following discussion and analysis also contains certain forward-looking statements that are subject to risks and uncertainties, including but not limited to the risk factors described in Item 1A herein, as well as the risks and uncertainties that exist with the use of forward-looking statements as described in the “Cautionary Note Regarding Forward-Looking Statements” section included herein at the beginning of this Annual Report on Form 10-K.

Overview

General

The Company is one of the world’s largest designers, manufacturers and marketers of electrical, electronic and fiber optic connectors, interconnect systems, antennas, sensors and sensor-based products and coaxial and high-speed specialty cable. The Company operates through two reporting segments: (i) Interconnect Products and Assemblies and (ii) Cable Products and Solutions. In 2018, approximately 73% of the Company’s sales were outside the United States. The primary end markets for our products are:

- information technology and communication devices and systems for the converging technologies of voice, video and data communications;
- a broad range of industrial applications and traditional and hybrid-electric automotive applications; and

- commercial aerospace and military applications.

The Company's products are used in a wide variety of applications by numerous customers. The Company competes primarily on the basis of technology innovation, product quality, price, customer service and delivery time. There has been a trend on the part of customers to consolidate their lists of qualified suppliers to companies that have the ability to meet certain technical, quality, delivery and other standards while maintaining competitive prices. The Company has focused its global resources to position itself to compete effectively in this environment. The Company believes that its global presence is an important competitive advantage as it allows the Company to provide quality products on a timely and worldwide basis to its multinational customers.

Strategy

The Company's strategy is to provide its customers with comprehensive design capabilities, a broad selection of products and a high level of service on a worldwide basis while maintaining continuing programs of productivity improvement and cost control. The Company focuses its research and development efforts through close collaboration with its customers to develop highly-engineered products that meet customer needs and have the potential for broad market applications and significant sales within a one- to three-year period. The Company is also focused on controlling costs. The Company does this by investing in modern manufacturing technologies, controlling purchasing processes and expanding into lower cost areas.

Table of Contents

The Company's strategic objective is to further enhance its position in its served markets by pursuing the following success factors:

- Pursue broad diversification;
- Develop performance-enhancing interconnect solutions;
- Expand global presence;
- Control costs;
- Pursue strategic acquisitions and investments; and
- Foster collaborative, entrepreneurial management.

In 2018, the Company reported net sales, operating income and net income attributable to Amphenol Corporation of \$8,202.0, \$1,686.9 and \$1,205.0, respectively, up 17%, 18% and 85%, respectively, from 2017. In 2018, the Company's net income attributable to Amphenol Corporation was impacted by the recognition of an income tax benefit of \$14.5 related to the completion of the accounting for the Tax Act Charge (defined below) in the fourth quarter of 2018 and the recognition of excess tax benefits of \$19.8 from stock option exercises, partially offset by acquisition-related expenses incurred during the year. In 2017, the Company's net income attributable to Amphenol Corporation was impacted by the enactment of the Tax Cuts and Jobs Act in 2017 which resulted in a provisional income tax charge of \$398.5 as discussed in more detail below and in the Notes to the Consolidated Financial Statements within this Annual Report on Form 10-K, in addition to the impact of the acquisition-related expenses incurred during the year, partially offset by the excess tax benefits of \$66.6 recognized from stock option exercises. Excluding the effects of these items, Adjusted Operating Income and Adjusted Net Income attributable to Amphenol Corporation, as defined in the "Non-GAAP Financial Measures" section below and as reconciled in Part II, Item 6 and Item 7 herein, increased by 18% and 19%, respectively, in 2018. Sales and profitability trends are discussed in detail in "Results of Operations" below. In addition, a strength of the Company has been its ability to consistently generate cash from operations. The Company uses cash generated from operations to fund capital expenditures and acquisitions, repurchase shares of its common stock, pay dividends and reduce indebtedness. In 2018, the Company generated operating cash flow of \$1,112.7.

Tax Cuts and Jobs Act of 2017

On December 22, 2017, the United States federal government enacted the Tax Cuts and Jobs Act ("Tax Act"), marking a change from a worldwide tax system to a modified territorial tax system in the United States. As part of this change, the Tax Act, among other changes, provides for a transition tax on the accumulated unremitted foreign earnings and profits of the Company's foreign subsidiaries ("Transition Tax") and a reduction of the U.S. federal corporate income tax rate from 35% to 21%. As a result, in the fourth quarter of 2017, the Company recorded an income tax charge of \$398.5 ("Tax Act Charge") that was comprised of (i) the Transition Tax of \$259.4, (ii) a charge of \$176.6 related to changes in the Company's permanent reinvestment assertion with regards to prior accumulated unremitted earnings from certain foreign subsidiaries, partially offset by (iii) a tax benefit of \$37.5 associated with the remeasurement of the Company's U.S. net deferred tax liabilities due to the U.S. federal corporate tax rate reduction. As discussed under Critical Accounting Policies and Estimates within this Item 7, the three components of the Tax Act Charge were provisional amounts recorded in accordance with SEC Staff Accounting Bulletin No. 118 ("SAB 118"). SAB 118, which is now codified under ASU 2018-05, Income Taxes (Topic 740): Amendments to SEC Paragraphs Pursuant to

SEC Staff Accounting Bulletin No. 118, addresses the application of U.S. GAAP in situations where a registrant does not have the necessary information available, prepared, or analyzed in reasonable detail to complete the accounting for certain income tax effects of the Tax Act. Due to the timing of the Tax Act's enactment and the complexity of its provisions, the Company had not completed its accounting for the impact of the Tax Act as of December 31, 2017. The Company analyzed guidance and technical interpretations issued in 2018 related to the provisions of the Tax Act, and refined, analyzed and updated the underlying data, computations and assumptions used to prepare the Tax Act Charge. As a result, the Company recorded an income tax benefit of \$14.5 in 2018 related to the completion of the accounting for the Tax Act Charge.

Table of Contents

Results of Operations

The following table sets forth the components of net income attributable to Amphenol Corporation as a percentage of net sales for the years indicated.

	Year Ended December 31,		
	2018	2017	2016
Net sales	100.0 %	100.0 %	100.0 %
Cost of sales	67.6	67.1	67.5
Acquisition-related expenses	0.1	—	0.6
Selling, general and administrative expenses	11.7	12.5	12.7
Operating income	20.6	20.4	19.2
Interest expense	(1.2)	(1.3)	(1.1)
Other income, net	—	0.2	0.1
Income before income taxes	19.4	19.3	18.2
Provision for income taxes	(4.5)	(9.9)	(4.9)
Net income	14.9	9.4	13.3
Net income attributable to noncontrolling interests	(0.2)	(0.1)	(0.2)
Net income attributable to Amphenol Corporation	14.7 %	9.3 %	13.1 %

2018 Compared to 2017

Net sales were \$8,202.0 for the year ended December 31, 2018 compared to \$7,011.3 for the year ended December 31, 2017, an increase of 17% in both U.S. dollars and constant currencies and 14% organically (excluding both currency and acquisition impacts) over the prior year. Net sales in the Interconnect Products and Assemblies segment (approximately 95% of net sales) increased 18% in U.S. dollars, 17% in constant currencies and 14% organically in 2018, compared to 2017. The sales growth was driven by growth in the mobile devices, industrial, automotive, information technology and data communications, military, mobile networks and commercial aerospace markets, partially offset by a slight decline in sales into the broadband communications market, with growth resulting primarily from organic strength, in addition to contributions from the Company's acquisitions. Net sales to the mobile devices market increased (approximately \$403.6) primarily due to growth in sales of products incorporated into smartphones and related accessories, partially offset by declining sales of products incorporated into tablets. Net sales to the industrial market increased (approximately \$214.9), reflecting sales strength in medical, heavy equipment, electric vehicle, railway and mass transit, and oil and gas, as well as contributions from acquisitions. Net sales to the automotive market increased (approximately \$184.9), driven by growth and expansion in most regions of the global automotive market, as well as contributions from acquisitions. Net sales to the information technology and data communications market increased (approximately \$166.1), reflecting organic growth in products for data centers, including server and networking-related applications, storage, and consumer electronics. Net sales to the military market increased (approximately \$133.2), driven by broad strength across the market including increased sales into

avionics, military communications and military airframe applications, as well as missile applications. Net sales to the mobile networks market increased (approximately \$56.3), due to increased sales to both mobile networks equipment manufacturers and mobile operators. Net sales to the commercial aerospace market increased (approximately \$39.6) primarily due to strength in large passenger planes. Net sales in the Cable Products and Solutions segment (approximately 5% of net sales), which primarily serves the broadband communications market, increased 4% in U.S. dollars, 6% in constant currencies and 6% organically in 2018, compared to 2017. The increase in the Cable Products and Solutions segment was primarily due to an increase in cable products sold into the mobile networks market, which was partially offset by the slight decrease in sales into the broadband communications market.

Table of Contents

The table below reconciles Constant Currency Net Sales Growth and Organic Net Sales Growth to the most directly comparable U.S. GAAP financial measures, by segment and consolidated, for the year ended December 31, 2018 compared to the year ended December 31, 2017:

			Percentage Growth (relative to prior year)					
	2018	2017	Net sales growth in U.S. Dollars (GAAP)	Foreign currency impact (2)	Constant Currency Net Sales Growth (non-GAAP)	Acquisition Impact (4)	Organic Net Sales Growth (3)	
Net sales:								
Interconnect Products and Assemblies	\$ 7,781.9	\$ 6,606.9	18 %	1 %	17 %	3 %	14 %	
Cable Products and Solutions	420.1	404.4	4 %	(2) %	6 %	— %	6 %	
Consolidated	\$ 8,202.0	\$ 7,011.3	17 %	— %	17 %	3 %	14 %	

-
- (1) Net sales growth in U.S. dollars is calculated based on Net sales as reported in the Consolidated Statements of Income and Note 11 of the accompanying financial statements.
 - (2) Foreign currency translation impact, a non-GAAP measure, represents the impact on net sales resulting from foreign currency exchange rate changes in the current year compared to the prior year. Such amount is calculated by subtracting current year net sales translated at average foreign currency exchange rates for the respective prior year from current year reported net sales, taken as a percentage of the respective prior year's net sales.
 - (3) Constant Currency Net Sales Growth and Organic Net Sales Growth are non-GAAP financial measures as defined in the "Non-GAAP Financial Measures" section.
 - (4) Acquisition impact, a non-GAAP measure, represents the impact on net sales resulting from acquisitions closed since the beginning of the prior calendar year, which were not included in the Company's results as of the comparable prior year and which do not reflect the underlying growth of the Company on a comparative basis.

Geographically, net sales in the United States in 2018 increased approximately 13% in U.S. dollars (\$2,241.4 in 2018 versus \$1,978.4 in 2017) and 9% organically, compared to 2017. Foreign sales in 2018 increased approximately 18% in U.S. dollars (\$5,960.6 in 2018 versus \$5,032.9 in 2017), 17% in constant currencies and 15% organically, compared to 2017 with strength in both Asia and Europe. The comparatively slightly weaker U.S. dollar in 2018 had an insignificant effect on net sales compared to 2017.

Selling, general and administrative expenses were \$959.5 or 11.7% of net sales for 2018, compared to \$878.3 or 12.5% of net sales for 2017. Administrative expenses increased approximately \$46.4 in 2018 primarily related to increases in employee-related benefits and stock-based compensation expense, and represented approximately 4.7% of net sales in 2018 and 4.8% of net sales in 2017. Research and development expenses increased approximately \$27.2

in 2018 primarily related to increases in expenses for new product development and represented approximately 2.7% of net sales in 2018 and 2.8% of net sales in 2017. Selling and marketing expenses increased approximately \$7.6 in 2018 primarily related to the increase in sales volume and represented approximately 4.3% of net sales in 2018 and 4.9% of net sales in 2017.

Operating income was \$1,686.9 or 20.6% of net sales in 2018, compared to \$1,427.6 or 20.4% of net sales in 2017. Operating income for 2018 and 2017 includes acquisition-related expenses of \$8.5 and \$4.0, respectively, related to external transaction costs. These acquisition-related expenses are separately presented in the Consolidated Statements of Income. Excluding the effect of these acquisition-related expenses, Adjusted Operating Income and Adjusted Operating Margin, as defined in the “Non-GAAP Financial Measures” section below, were \$1,695.4 or 20.7% of net sales in 2018 and \$1,431.6 or 20.4% in 2017. The increase in Adjusted Operating Margin for 2018 compared to 2017 was driven primarily by an increase in operating margin for the Interconnect Products and Assemblies segment. Operating income for the Interconnect Products and Assemblies segment in 2018 was \$1,752.5 or 22.5% of net sales, compared to \$1,475.2 or 22.3% of net sales in 2017. The increase in operating income margin was driven primarily by strong operating leverage on higher sales volumes. In addition, the operating income for the Cable Products and Solutions segment in 2018 was \$52.6 or 12.5% of net sales, compared to \$54.2 or 13.4% of net sales in 2017. The decrease in operating income margin for the Cable Products and Solutions segment in 2018 compared to 2017 was primarily driven by increases in certain commodity costs.

Interest expense was \$101.7 in 2018 compared to \$92.3 in 2017. The increase is primarily due to higher average interest rates on the Company’s U.S. Commercial Paper Program (as defined below in this Item 7) and the senior note issuances in April 2017.

Provision for income taxes was at an effective rate of 23.4% in 2018 and 51.1% in 2017. The lower effective tax rate in 2018 compared to 2017 resulted primarily from the Tax Act Charge of \$398.5 recorded in 2017, which was partially offset by the excess tax benefits of \$66.6 from stock option exercises. The effects of these items were significantly lower in 2018, as the Company recorded an income tax benefit of \$14.5 in 2018 related to the completion

Table of Contents

of the accounting for the Tax Act Charge, along with the excess tax benefits of \$19.8 from stock option exercises. Excluding the effect of these items along with the effect of acquisition-related expenses in each respective year, the Adjusted Effective Tax Rate, a non-GAAP financial measure defined in the “Non-GAAP Financial Measures” section below, was 25.5% and 26.5% for 2018 and 2017, respectively, as reconciled in the table below to the comparable effective tax rate based on GAAP results. For additional details related to the reconciliation between the U.S. statutory federal tax rate and the Company’s effective tax rate for these years, refer to Note 4 of the Notes to the Consolidated Financial Statements.

Net income attributable to Amphenol Corporation and Net income per common share-Diluted (“Diluted EPS”) was \$1,205.0 and \$3.85, respectively, for 2018, compared to \$650.5 and \$2.06, respectively, for 2017. Excluding the effect of the aforementioned (a) Tax Act Charge in 2017 and the subsequent adjustment recorded in the fourth quarter of 2018, (b) excess tax benefits related to stock-based compensation in 2018 and 2017 and (c) the acquisition-related expenses incurred in both years, Adjusted Net Income attributable to Amphenol Corporation and Adjusted Diluted EPS, as defined in the “Non-GAAP Financial Measures” section below within this Item 7, were \$1,177.9 and \$3.77, respectively, for 2018, compared to \$986.1 and \$3.12, respectively, for 2017.

The following table reconciles Adjusted Operating Income, Adjusted Operating Margin, Adjusted Net Income attributable to Amphenol Corporation, Adjusted Effective Tax Rate and Adjusted Diluted EPS (all defined in the “Non-GAAP Financial Measures” section below) to the most directly comparable U.S. GAAP financial measures for the years ended December 31, 2018 and 2017:

	2018			2017			2016		
	Operating Income	Operating Margin (1)	Effective Tax Rate (1)	Operating Income	Operating Margin (1)	Effective Tax Rate (1)	Operating Income	Operating Margin (1)	Effective Tax Rate (1)
Reported (GAAP)	\$ 1,686.9	20.6 %	23.4 %	\$ 1,427.6	20.4 %	23.4 %	\$ 1,205.0	20.6 %	23.4 %
Acquisition-related expenses	8.5	0.1	-	4.0	-	-	7.2	-	-
Excess tax benefits related to stock-based compensation	-	-	1.2	-	-	1.2	(19.8)	-	1.2
Tax Act Charge (benefit)	-	-	0.9	-	-	0.9	(14.5)	-	0.9
Adjusted (non-GAAP)	\$ 1,695.4	20.7 %	25.5 %	\$ 1,431.6	20.4 %	25.5 %	\$ 1,177.9	20.7 %	25.5 %

(1) While the terms “operating margin” and “effective tax rate” are not considered U.S. GAAP financial measures, for purposes of this table, we derive the reported (GAAP) measures based on GAAP results, which serve as the basis

for the reconciliation to their comparable non-GAAP financial measure.

2017 Compared to 2016

Net sales were \$7,011.3 for the year ended December 31, 2017 compared to \$6,286.4 for the year ended December 31, 2016, an increase of 12% in both U.S. dollars and constant currencies and 8% organically (excluding both currency and acquisition impacts) over the prior year. Net sales in the Interconnect Products and Assemblies segment (approximately 94% of net sales) increased 12% in both U.S. dollars and constant currencies and 9% organically in 2017, compared to 2016. The sales growth was driven primarily by growth in the industrial, automotive, information technology and data communications, mobile devices, military and commercial aerospace markets, with contributions from both organic strength as well as from the Company's acquisitions, partially offset by a slight decline in sales in the mobile networks market. Net sales to the industrial market increased (approximately \$244.4), reflecting sales strength in heavy equipment, industrial instrumentation, oil and gas, and factory automation as well as contributions from acquisitions. Net sales to the automotive market increased (approximately \$177.0), driven by growth and expansion in all regions of the global automotive market, as well as contributions from acquisitions. Net sales to the information technology and data communications market increased (approximately \$115.0), reflecting organic growth in products for data centers, including server and networking-related applications. Net sales to the mobile devices market increased (approximately \$101.1) primarily due to growth in sales of products incorporated into smartphones and related accessories, partially offset by declining sales of products incorporated into tablets. Net sales to the military market increased (approximately \$77.8), driven by broad strength across substantially all segments of the market including increased sales into military communications and military airframe applications, as well as missile applications. Net sales to the commercial aerospace market slightly increased (approximately \$9.9) primarily due to the contributions from acquisitions as well as strength in large passenger planes, partially offset by continued weakness in demand for business

Table of Contents

jets and helicopters. Net sales to the mobile networks market decreased (approximately \$20.3), primarily due to reduced overall capital spending by mobile operators. Net sales in the Cable Products and Solutions segment (approximately 6% of net sales), which is primarily in the broadband communications market, increased 11% in U.S. dollars and 10% in constant currencies in 2017, compared to 2016, primarily due to contributions from an acquisition made during the second half of 2016.

The table below reconciles Constant Currency Net Sales Growth and Organic Net Sales Growth to the most directly comparable U.S. GAAP financial measures, by segment and consolidated, for the year ended December 31, 2017 compared to the year ended December 31, 2016:

	Percentage Growth (relative to prior year)							
	2017	2016	Net sales growth in U.S. Dollars (GAAP)	Foreign currency impact (2) (non-GAAP)	Constant Currency Net Sales Growth (non-GAAP)	Acquisition Impact (4) (non-GAAP)	Organic Net Sales Growth (3) (non-GAAP)	
Net sales:								
Interconnect Products and Assemblies	\$ 6,606.9	\$ 5,922.3	12 %	— %	12 %	3 %	9 %	
Cable Products and Solutions	404.4	364.1	11 %	1 %	10 %	9 %	1 %	
Consolidated	\$ 7,011.3	\$ 6,286.4	12 %	— %	12 %	4 %	8 %	

- (1) Net sales growth in U.S. dollars is calculated based on Net sales as reported in the Consolidated Statements of Income and Note 11 of the accompanying financial statements.
- (2) Foreign currency translation impact, a non-GAAP measure, represents the impact on net sales resulting from foreign currency exchange rate changes in the current year compared to the prior year. Such amount is calculated by subtracting current year net sales translated at average foreign currency exchange rates for the respective prior year from current year reported net sales, taken as a percentage of the respective prior year's net sales.
- (3) Constant Currency Net Sales Growth and Organic Net Sales Growth are non-GAAP financial measures as defined in the "Non-GAAP Financial Measures" section.
- (4) Acquisition impact, a non-GAAP measure, represents the impact on net sales resulting from acquisitions closed since the beginning of the prior calendar year, which were not included in the Company's results as of the comparable prior year and which do not reflect the underlying growth of the Company on a comparative basis.

Geographically, net sales in the United States in 2017 increased approximately 14% in U.S. dollars (\$1,978.4 in 2017 versus \$1,740.7 in 2016) and 8% organically, compared to 2016. Foreign sales in 2017 increased approximately 11% in U.S. dollars (\$5,032.9 in 2017 versus \$4,545.7 in 2016), 10% in constant currencies and 8% organically, compared to 2016 with strength in both Asia and Europe. The comparatively weaker U.S. dollar in 2017 did not significantly

impact net sales compared to 2016.

Selling, general and administrative expenses were \$878.3 or 12.5% of net sales for 2017, compared to \$798.2 or 12.7% of net sales for 2016. Administrative expenses increased approximately \$28.9 in 2017 primarily related to increases in stock-based compensation expense, employee-related benefits and amortization of acquisition-related identified intangible assets, and represented approximately 4.8% of net sales in 2017 and 4.9% of net sales in 2016. Research and development expenses increased approximately \$27.6 in 2017 primarily related to increases in expenses for new product development and represented approximately 2.8% of net sales in 2017 and 2.6% of net sales in 2016. Selling and marketing expenses increased approximately \$23.6 in 2017 primarily related to the increase in sales volume and represented approximately 4.9% of net sales in 2017 and 5.1% of net sales in 2016.

Operating income was \$1,427.6 or 20.4% of net sales in 2017, compared to \$1,205.2 or 19.2% of net sales in 2016. Operating income for 2017 includes \$4.0 of acquisition-related expenses, related to external transaction costs incurred in the second quarter of 2017. Operating income for 2016 includes \$36.6 of acquisition-related expenses, which includes external transaction costs, amortization related to the value associated with acquired backlog and post-closing restructuring charges related to the acquisition of FCI Asia Pte. Ltd. ("FCI"), as well as transaction costs associated with other acquisitions. These acquisition-related expenses are separately presented in the Consolidated Statements of Income. Excluding the effect of these acquisition-related expenses, Adjusted Operating Income and Adjusted Operating Margin, as defined in the "Non-GAAP Financial Measures" section below, were \$1,431.6 or 20.4% of net sales in 2017 and \$1,241.8 or 19.8% in 2016. The increase in Adjusted Operating Margin for 2017 compared to 2016, was driven primarily by an increase in operating margin for the Interconnect Products and Assemblies segment. Operating income for the Interconnect Products and Assemblies segment in 2017 was \$1,475.2 or 22.3% of net sales, compared to \$1,280.3 or 21.6% of net sales in 2016. The increase in operating income margin was driven primarily by strong operating leverage on higher sales volumes. In addition, the operating income for the Cable Products and Solutions segment in 2017 was \$54.2 or 13.4% of net sales, compared to \$52.8 or 14.5% of net sales in 2016. The decrease in operating income margin for the Cable Products and Solutions segment in 2017 compared to 2016 was primarily driven by increases in certain commodity costs.

Table of Contents

Interest expense was \$92.3 in 2017 compared to \$72.6 in 2016. The increase is primarily due to higher average debt levels, which resulted from the Company's dividend and stock buyback programs, as well as higher average interest rates partially driven by the senior note issuances in April 2017.

Provision for income taxes was at an effective rate of 51.1% in 2017 and 27.0% in 2016. The increase in the effective tax rate in 2017 resulted primarily from the Tax Act Charge of \$398.5, partially offset by the excess tax benefits of \$66.6 related to stock-based compensation. Excluding the effect of these items, the Adjusted Effective Tax Rate, a non-GAAP financial measure defined in the "Non-GAAP Financial Measures" section below, was 26.5% for both 2017 and 2016, as reconciled in the table below to the comparable effective tax rate based on GAAP results. For additional details related to the reconciliation between the U.S. statutory federal tax rate and the Company's effective tax rate for these years, refer to Note 4 of the Notes to the Consolidated Financial Statements.

Net income attributable to Amphenol Corporation and Net income per common share-Diluted ("Diluted EPS") was \$650.5 and \$2.06, respectively, for 2017, compared to \$822.9 and \$2.61, respectively, for 2016. Excluding the effect of the aforementioned (a) Tax Act Charge, (b) excess tax benefits related to stock-based compensation and (c) the acquisition-related expenses incurred in 2017 and 2016, Adjusted Net Income attributable to Amphenol Corporation and Adjusted Diluted EPS, as defined in the "Non-GAAP Financial Measures" section below within this Item 7, were \$986.1 and \$3.12, respectively, for 2017, compared to \$856.0 and \$2.72, respectively, for 2016.

The following table reconciles Adjusted Operating Income, Adjusted Operating Margin, Adjusted Net Income attributable to Amphenol Corporation, Adjusted Effective Tax Rate and Adjusted Diluted EPS (all defined in the "Non-GAAP Financial Measures" section below) to the most directly comparable U.S. GAAP financial measures for the years ended December 31, 2017 and 2016:

	2017			2016				
	Operating Income	Operating Margin (1)	Net Income attributable to Amphenol Corporation	Effective Tax Rate (1)	Diluted EPS	Operating Income	Operating Margin (1)	Net Income attributable to Amphenol Corporation
Reported (GAAP)	\$ 1,427.6	20.4 %	\$ 650.5	51.1 %	\$ 2.06	\$ 1,205.2	19.2 %	\$ 822.9
Acquisition-related expenses	4.0	-	3.7	-	0.01	36.6	0.6	33.1
Excess tax benefits related to stock-based compensation	-	-	(66.6)	4.9	(0.21)	-	-	-

Tax Act Charge Adjusted (non-GAAP)	-	-	398.5	(29.5)	1.26	-	-	-
	\$ 1,431.6	20.4	% \$ 986.1	26.5	% \$ 3.12	\$ 1,241.8	19.8	% \$ 856.0

(1) While the terms “operating margin” and “effective tax rate” are not considered U.S. GAAP financial measures, for purposes of this table, we derive the reported (GAAP) measures based on GAAP results, which serve as the basis for the reconciliation to their comparable non-GAAP financial measure.

Liquidity and Capital Resources

Liquidity and Cash Requirements

At December 31, 2018 and 2017, the Company had cash, cash equivalents and short-term investments of \$1,291.7 and \$1,753.7, respectively. The majority of the Company’s cash, cash equivalents and short-term investments on hand as of December 31, 2018 is located outside of the United States. The Company used approximately \$400, net of cash acquired, of its cash, cash equivalents and short-term investments as of December 31, 2018 to fund the acquisition of SSI Controls Technologies (“SSI”) in January 2019, as described below. In addition, in January 2019, the Company issued \$500.0 principal amount of 4.350% Senior Notes due June 1, 2029, the net proceeds of which were used, along with borrowings under the U.S. Commercial Paper Program, to repay the Company’s \$750.0 outstanding principal amount of 2.55% Senior Notes due in January 2019.

Prior to the Tax Act, the Company asserted its intention to indefinitely reinvest outside of the United States all of its foreign earnings not otherwise distributed currently. For earnings occurring on or after January 1, 2018, the Tax Act’s change to a modified territorial tax system in the United States has significantly reduced the U.S. tax expense associated with the remittance of foreign earnings, among other changes. The Tax Act also imposed a one-time transition tax on all of the Company’s pre-2018 accumulated unremitted foreign earnings. As a result, on December 31, 2017, the Company

Table of Contents

recorded a provisional U.S. tax expense for the Transition Tax, which was adjusted in 2018. This Transition Tax on the deemed repatriation of the accumulated unremitted earnings and profits of foreign subsidiaries, will be paid, net of applicable tax credits and deductions, in annual installments until 2025, as permitted under the Tax Act. In the second quarter of 2018, the Company paid the first annual installment of the Transition Tax of approximately \$18.0.

As a result of the Tax Act, on December 31, 2017 the Company indicated an intention to repatriate most of its pre-2018 accumulated earnings and recorded the foreign and U.S. state and local tax costs related to the repatriation. The associated tax payments are due as the repatriations are made, and the Company made foreign and U.S. state and local payments of approximately \$69.0 on repatriations in 2018. The Company intends to distribute certain 2018 foreign earnings and has accrued foreign and U.S. state and local taxes, if applicable, on those earnings as appropriate and intends to indefinitely reinvest all remaining 2018 foreign earnings. The Company intends to evaluate certain post-2018 earnings for distribution, and accrue for those distributions where appropriate, and to indefinitely reinvest all other foreign earnings.

The Company's primary sources of liquidity are internally generated cash flow, our cash, cash equivalents and short-term investments on hand, the U.S. Commercial Paper Program, the Euro Commercial Paper Program, and the 2019 Revolving Credit Facility (each as defined below in this Item 7). The Company believes that its cash, cash equivalents and short-term investment position on hand, ability to generate future cash flow from operations, availability under its credit facilities, and access to capital markets (including the recent issuance of the 2029 Senior Notes in January 2019, discussed further within this Item 7) provide adequate liquidity to meet its obligations for the next twelve months.

The Company's primary ongoing cash requirements will be for operating and capital expenditures, product development activities, repurchases of its Common Stock, funding of pension obligations, dividends, debt service, payments associated with the Transition Tax (which is payable in annual installments until 2025) and taxes due upon the repatriation of foreign earnings (which will be payable upon the repatriation of such earnings). The Company's debt service requirements consist primarily of principal and interest on the Company's senior notes, revolving credit facility, and commercial paper programs. The Company also may use cash to fund all or part of the cost of acquisitions, as we did with the January 2019 acquisition of SSI. The Company expects that capital expenditures in 2019 will be in a range of 3% to 4% of net sales.

Cash Flow Summary

The following table summarizes the Company's cash flows from operating, investing and financing activities for the years ended December 31, 2018, 2017 and 2016, as reflected in the Consolidated Statements of Cash Flow:

	Year Ended December 31,		
	2018	2017	2016
Net cash provided by operating activities	\$ 1,112.7	\$ 1,144.2	\$ 1,077.6
Net cash used in investing activities	(441.8)	(380.2)	(1,612.7)
Net cash used in financing activities	(1,070.1)	(140.1)	(133.5)
Effect of exchange rate changes on cash and cash equivalents	(40.6)	60.6	(34.0)
Net change in cash and cash equivalents	\$ (439.8)	\$ 684.5	\$ (702.6)

Operating Activities

The ability to generate cash from operating activities is one of the Company's fundamental financial strengths. Cash flow provided by operating activities was \$1,112.7 for 2018 compared to \$1,144.2 for 2017. The decrease in cash flow provided by operating activities ("Operating Cash Flow") for 2018 is primarily related to (i) certain tax payments made, primarily in the first half of 2018, related to the Tax Act Charge of approximately \$87.0, including the first annual installment of the Transition Tax of approximately \$18.0 in the second quarter of 2018 and payments for foreign and U.S. state and local taxes of approximately \$69.0 related to foreign cash repatriated during 2018 and (ii) the Company's voluntary cash contribution of approximately \$81.0 in the first quarter of 2018 to fund our U.S. defined benefit pension plans ("U.S. Plans"). Excluding these items, Operating Cash Flow in 2018 increased primarily due to the increase in net income, which was partially offset by the higher usage of cash related to the change in working capital. Operating Cash Flow was \$1,144.2 for 2017 compared to \$1,077.6 for 2016. The increase in Operating Cash Flow in 2017 was primarily due to an increase in net income (excluding the effects of the non-cash Tax Act Charge of \$398.5), which more than offset a higher usage of cash related to the change in working capital.

Table of Contents

In 2018, the components of working capital as presented on the accompanying Consolidated Statements of Cash Flow increased \$362.4, excluding the impact of acquisitions and foreign currency translation, primarily due to increases in accounts receivable, inventories and other current assets of \$237.9, \$173.3 and \$47.7, respectively, partially offset by increases in accounts payable and accrued liabilities, including income taxes, of \$48.8 and \$47.7, respectively. In 2017, the components of working capital as presented on the accompanying Consolidated Statements of Cash Flow increased \$158.1, excluding the impact of acquisitions and foreign currency translation, due primarily to increases in accounts receivable, inventories and other current assets of \$146.5, \$100.4 and \$75.9, respectively, partially offset by increases in accounts payable and accrued liabilities of \$140.5 and \$24.2, respectively. In 2016, the components of working capital as presented on the accompanying Consolidated Statements of Cash Flow decreased \$51.2, excluding the impact of acquisitions and foreign currency translation, due primarily to increases in accrued income taxes, other accrued liabilities, and accounts payable of \$91.7, \$61.9, and \$47.8, respectively, and a decrease in other current assets of \$29.9, partially offset by increases in accounts receivable and inventories of \$165.9 and \$14.2, respectively.

The following describes the significant changes in the amounts as presented on the accompanying Consolidated Balance Sheets at December 31, 2018 compared to December 31, 2017. Accounts receivable increased \$193.2 to \$1,791.8 primarily due to increased sales volumes in the fourth quarter of 2018 relative to the fourth quarter of 2017, partially offset by the effect of translation from exchange rate changes at December 31, 2018 compared to December 31, 2017 (“Translation”). Days sales outstanding at December 31, 2018 and 2017 were approximately 73 days. Inventories increased \$126.9 to \$1,233.8, primarily to support higher sales levels, partially offset by Translation. Inventory days at December 31, 2018 and 2017 were approximately 74 days and 76 days, respectively. Other current assets increased \$57.5 to \$254.3 primarily due to the increase in other receivables and prepaid expenses as well as the recording of contract assets of \$25.4 as a result of the adoption of the revenue recognition standard (Topic 606, as discussed below). Property, plant and equipment, net, increased \$59.0 to \$875.8, primarily due to capital additions of approximately \$340.2, partially offset by depreciation of \$247.6, disposals and Translation. Goodwill increased \$60.6 to \$4,103.2 primarily as a result of goodwill recognized related to three acquisitions in the Interconnect Products and Assemblies segment that closed in 2018, partially offset by Translation. Intangibles, net and other long-term assets increased \$5.8 to \$494.3 primarily as a result of the identifiable intangible assets of \$8.0 recognized related to 2018 acquisitions and an increase in deferred taxes, partially offset by the amortization of \$46.9 on the Company’s intangible assets and Translation. Accounts payable increased \$14.9 to \$890.5, primarily as a result of increased purchasing activity related to higher sales levels, which was partially offset by Translation. Payable days at December 31, 2018 and 2017 were 53 and 60, respectively. Total accrued expenses, including accrued income taxes, increased \$93.8 to \$796.5, primarily as a result of an increase in certain accrued employee-related compensation and benefit costs, as well as accrued income taxes, net of the tax payments of (i) the first annual installment payment of the Transition Tax and (ii) foreign and U.S. state and local taxes paid related to foreign cash repatriated. Accrued pension and postretirement benefit obligations decreased \$81.8 to \$190.2, primarily due to the Company’s voluntary cash contribution to fund the Company’s U.S. Plans. Other long-term liabilities, including deferred tax liabilities, decreased \$34.8 to \$532.8, primarily as a result of certain long-term tax liabilities becoming current.

In 2018, the Company made aggregate cash contributions to its defined benefit pension plans (the “Plans”, which is comprised of its U.S. Plans together with its foreign plans) of approximately \$88.3, of which approximately \$81.0 was related to the January 2018 voluntary contribution to fund our U.S. Plans. There is no current requirement for cash contributions to any of the U.S. Plans, and the Company plans to evaluate annually, based on actuarial calculations and the investment performance of the Plans’ assets, the timing and amount of cash contributions in the future.

In addition to Operating Cash Flow, the Company also considers Free Cash Flow, a non-GAAP financial measure defined in the “Non-GAAP Financial Measures” section below, as a key metric in measuring the Company’s ability to generate cash. The following table reconciles Free Cash Flow to its most directly comparable U.S. GAAP financial measure for the years ended December 31, 2018, 2017 and 2016. The decrease in Free Cash Flow in 2018 compared to 2017 is primarily related to an increase in capital expenditures to support certain new customer programs, along with a modest decrease in Operating Cash Flow, as described above. The increase in Free Cash Flow in 2017 compared to 2016 is primarily related to an increase in Operating Cash Flow, as described above, partially offset by an increase in capital expenditures.

	2018	2017	2016
Operating Cash Flow (GAAP)	\$ 1,112.7	\$ 1,144.2	\$ 1,077.6
Capital expenditures (GAAP)	(310.6)	(226.6)	(190.8)
Free Cash Flow (non-GAAP)	\$ 802.1	\$ 917.6	\$ 886.8

Table of Contents

Investing Activities

Cash flows from investing activities consist primarily of cash flows associated with capital expenditures, proceeds from disposals of property, plant and equipment, sales and maturities (purchases) of short-term investments, net, and acquisitions.

Net cash used in investing activities was \$441.8 in 2018, compared to \$380.2 in 2017 and \$1,612.7 in 2016. In 2018, net cash used in investing activities was driven primarily by capital expenditures (net of disposals) of \$305.6 and the use of \$158.9 in cash to fund acquisitions, partially offset by sales and maturities of short-term investments, net of \$22.7. In 2017, net cash used in investing activities was driven primarily by the use of \$265.5 in cash to fund acquisitions, along with capital expenditures (net of disposals) of \$222.5, partially offset by sales and maturities of short-term investments, net of \$107.8. In 2016, net cash used in investing activities was driven primarily by the use of \$1,305.1 in cash to fund acquisitions, most significantly the acquisition of FCI for \$1,178.6, capital expenditures (net of disposals) of \$183.7, and purchases of short-term investments, net of \$123.9.

Financing Activities

Cash flows from financing activities consist primarily of cash flows associated with borrowings and repayments of the Company's credit facilities and other long-term debt, repurchases of common stock, proceeds from the exercise of stock options, dividend payments, and purchases of and distributions to shareholders of noncontrolling interests.

Net cash used in financing activities was \$1,070.1 in 2018, compared to \$140.1 in 2017 and \$133.5 in 2016. In 2018, net cash used in financing activities was driven primarily by repurchases of the Company's common stock of \$935.2, net repayments of commercial paper and other debt of \$559.8, dividend payments of \$253.7, purchases of and distributions to shareholders of noncontrolling interests of \$18.2 and payments of costs related to debt financing associated with the issuances of the Euro senior notes and Euro commercial paper program of \$5.6, partially offset by net cash proceeds from the October 2018 issuance of the Euro senior notes of \$571.7 and cash proceeds from the exercise of stock options of \$130.7. In 2017, net cash used in financing activities was driven primarily by repurchases of the Company's common stock of \$618.0, repayment of the Company's 1.55% Senior Notes due September 2017 of \$375.0, dividend payments of \$205.0, purchases of and distributions to shareholders of noncontrolling interests of \$24.4 and payments of costs related to debt financing associated with the issuances of two series of senior notes of \$5.2, partially offset by borrowings related to the issuances of two series of senior notes in April 2017 of \$749.3, net borrowings under the commercial paper program of \$154.1, and cash proceeds from the exercise of stock options of \$184.1. In 2016, net cash used in financing activities was driven primarily by repurchases of the Company's common stock of \$325.8, dividend payments of \$172.7, distributions to shareholders of noncontrolling interests of \$6.8 and payments of costs related to the refinancing of our revolving credit facility of \$3.0, partially offset by cash proceeds from the exercise of stock options including the related excess tax benefits of \$191.6 and increased net borrowings of commercial paper of \$183.2.

The Company has significant flexibility to meet its financial commitments. The Company uses debt financing to lower the overall cost of capital and increase return on stockholders' equity. The Company's debt financing includes the use of the commercial paper programs, the revolving credit facility and senior notes as part of its overall cash management strategy.

As of December 31, 2018, the Company had a \$2,000.0 unsecured credit facility (the "2016 Revolving Credit Facility"), which matured in March 2021 and gave the Company the ability to borrow at a spread over LIBOR. At December 31, 2018, there were no borrowings under the 2016 Revolving Credit Facility. The 2016 Revolving Credit Facility required payment of certain annual agency and commitment fees and required that the Company satisfy certain financial covenants. At December 31, 2018, the Company was in compliance with the financial covenants under the 2016 Revolving Credit Facility.

On January 15, 2019, the Company amended its 2016 Revolving Credit Facility with a new \$2,500.0 unsecured credit facility ("2019 Revolving Credit Facility"). The 2019 Revolving Credit Facility, which matures January 2024, increases the aggregate commitments by \$500.0 and, consistent with the previous 2016 Revolving Credit Facility, gives the Company the ability to borrow at a spread over LIBOR. The Company intends to utilize the 2019 Revolving Credit Facility for general corporate purposes.

Table of Contents

The Company has a commercial paper program pursuant to which the Company issues short-term unsecured commercial paper notes in one or more private placements in the United States (the “U.S. Commercial Paper Program”). The amount of U.S. commercial paper notes outstanding (“USCP Notes”) as of December 31, 2018 was \$554.5.

On July 10, 2018, the Company and one of its wholly owned European subsidiaries (the “Euro Issuer”) entered into a euro-commercial paper program (the “Euro Commercial Paper Program” and, together with the U.S. Commercial Paper Program, the “Commercial Paper Programs”) pursuant to which the Euro Issuer may issue short-term unsecured commercial paper notes (the “ECP Notes” and, together with the USCP Notes, the “Commercial Paper”), which are guaranteed by the Company and are to be issued outside of the United States. The ECP Notes may be issued in Euros, Sterling, U.S. Dollars or other currencies. The amount of ECP Notes outstanding as of December 31, 2018 was €60.0 (approximately \$68.8).

Amounts available under the Commercial Paper Programs are borrowed, repaid and re-borrowed from time to time. As of December 31, 2018, the Company’s Board of Directors’ authorization for the ECP Notes limits the maximum aggregate principal amount outstanding of USCP Notes, ECP Notes, and any other commercial paper, euro-commercial paper or similar programs at any time to \$2,000.0, which was then further increased to \$2,500.0 in conjunction with the amended 2019 Revolving Credit Facility. The maximum aggregate principal amount outstanding of USCP Notes at any time was also increased to \$2,500.0, while the maximum aggregate principal amount outstanding of ECP Notes at any time remains at \$2,000.0. The Commercial Paper Programs are rated A-2 by Standard & Poor’s and P-2 by Moody’s and are currently backstopped by the Revolving Credit Facility, as amounts undrawn under the Company’s existing Revolving Credit Facility are available to repay the Commercial Paper, if necessary. Net proceeds of the issuances of Commercial Paper are expected to be used for general corporate purposes. The Company reviews its optimal mix of short-term and long-term debt regularly and may replace certain amounts of commercial paper, short-term debt and current maturities of long-term debt with new issuances of long-term debt in the future.

As of December 31, 2018, the Company has outstanding senior notes (the “Senior Notes”) as follows:

Principal Amount	Interest Rate	Maturity
\$ 750.0	2.55 %	January 2019
400.0	2.20 %	April 2020
375.0	3.125 %	September 2021
500.0	4.00 %	February 2022
350.0	3.20 %	April 2024
€ 500.0	2.00 %	October 2028 (Euro Notes)

The U.S. Senior Notes are unsecured and rank equally in right of payment with the Company’s other unsecured senior indebtedness. Interest on each series of the U.S. Senior Notes is payable semiannually. The Company may, at its

option, redeem some or all of any series of U.S. Senior Notes, subject to certain terms and conditions.

On April 5, 2017, the Company issued \$400.0 principal amount of unsecured 2.20% Senior Notes due April 1, 2020 (the “2020 Senior Notes”) and \$350.0 principal amount of unsecured 3.20% Senior Notes due April 1, 2024 (the “2024 Senior Notes” and, together with the 2020 Senior Notes, the “2020 and 2024 Notes”). In September 2017, the Company used the net proceeds from the 2020 and 2024 Notes to repay all of its outstanding \$375.0 principal amount of 1.55% Senior Notes due September 15, 2017, with the remainder of the net proceeds being used for general corporate purposes.

On October 8, 2018, the Euro Issuer issued €500.0 (approximately \$574.6) principal amount of unsecured 2.000% Senior Notes due October 8, 2028 at 99.498% of face value (the “2028 Euro Notes”, and collectively with the Senior Notes in the United States, “Senior Notes”). The 2028 Euro Notes are unsecured and rank equally in right of payment with the Euro Issuer’s other unsecured senior indebtedness, and are guaranteed on a senior unsecured basis by the Company. Interest on the 2028 Euro Notes is payable annually on October 8 of each year, commencing on October 8, 2019. The Company may, at its option, redeem some or all of the 2028 Euro Notes at any time by paying 100% of the principal amount, plus accrued and unpaid interest, if any, to the date of repurchase, and if redeemed prior to July 8, 2028, a make-whole premium. The Company used a portion of the net proceeds from the 2028 Euro Notes to repay a portion of the outstanding amounts under its Commercial Paper Programs, with the remainder of the net proceeds being used for general corporate purposes.

Table of Contents

On January 9, 2019, the Company issued \$500.0 principal amount of unsecured 4.350% Senior Notes due June 1, 2029 at 99.904% of face value (the “2029 Senior Notes”). The 2029 Senior Notes are unsecured and rank equally in right of payment with the Company’s other unsecured senior indebtedness. Interest on the 2029 Senior Notes is payable semiannually on June 1 and December 1 of each year, commencing on June 1, 2019. The Company may, at its option, redeem some or all of the 2029 Senior Notes at any time by paying 100% of the principal amount, plus accrued and unpaid interest, if any, to the date of repurchase, and if redeemed prior to March 1, 2029, a make-whole premium. The Company used the net proceeds from the 2029 Senior Notes, along with proceeds from borrowings under the U.S. Commercial Paper Program, to repay the outstanding amount of the Company’s 2.55% Senior Notes due in January 2019.

The Company’s Senior Notes contain certain financial and non-financial covenants. At December 31, 2018, the Company was in compliance with the financial covenants under its Senior Notes. Refer to Note 2 of the Notes to the Consolidated Financial Statements for further information related to the Company’s debt.

On April 24, 2018, the Company’s Board of Directors authorized a new stock repurchase program under which the Company may purchase up to \$2,000.0 of the Company’s Common Stock during the three-year period ending April 24, 2021 in accordance with the requirements of Rule 10b-18 of the Exchange Act (the “2018 Stock Repurchase Program”). During the year ended December 31, 2018, the Company repurchased 6.4 million shares of its Common Stock for \$553.2 under the 2018 Stock Repurchase Program. Approximately 5.7 million shares, or \$498.2, have been retired by the Company; the remaining 0.7 million shares, or \$55.0, have been retained in Treasury stock. From January 1, 2019 through January 31, 2019, the Company repurchased approximately 0.6 million additional shares of its Common Stock for \$50.6, leaving approximately \$1,396.2 available to purchase under the 2018 Stock Repurchase Program. The price and timing of any future purchases under the 2018 Stock Repurchase Program will depend on factors such as levels of cash generation from operations, the volume of stock option exercises by employees, cash requirements for acquisitions, dividends, economic and market conditions and stock price.

On January 24, 2017, the Company’s Board of Directors authorized a stock repurchase program under which the Company could purchase up to \$1,000.0 of the Company’s Common Stock during the two-year period ending January 24, 2019 in accordance with the requirements of Rule 10b-18 of the Exchange Act (the “2017 Stock Repurchase Program”). During the three months ended March 31, 2018, the Company repurchased 4.2 million shares of its Common Stock for \$382.0, while during the year ended December 31, 2017, the Company repurchased 8.4 million shares of its Common Stock for \$618.0. These shares have been retired by the Company. These repurchases of approximately 12.6 million shares for \$1,000.0 completed the 2017 Stock Repurchase Program.

In January 2015, the Company’s Board of Directors authorized a stock repurchase program under which the Company could purchase up to 10 million shares of the Company’s Common Stock during the two-year period ended January 20, 2017 (the “2015 Stock Repurchase Program”). During the year ended December 31, 2016, the Company repurchased 5.5 million shares of its Common Stock for \$325.8. These shares have been retired by the Company. At December 31, 2016, the Company had repurchased all of the shares authorized under the 2015 Stock Repurchase Program.

Contingent upon declaration by the Board of Directors, the Company generally pays a quarterly dividend on shares of its Common Stock. On April 24, 2018, the Company's Board of Directors approved an increase to its quarterly dividend rate from \$0.19 to \$0.23 per share effective with dividends declared in the second quarter of 2018.

The following table summarizes the declared quarterly dividends per share for each of the three years ended December 31, 2018, 2017 and 2016:

	2018	2017	2016
First Quarter	\$ 0.19	\$ 0.16	\$ 0.14
Second Quarter	0.23	0.16	0.14
Third Quarter	0.23	0.19	0.14
Fourth Quarter	0.23	0.19	0.16

The following table summarizes the dividends declared per share as well as the dividends declared and paid for the years ended December 31, 2018, 2017 and 2016:

	2018	2017	2016
Dividends declared	\$ 264.3	\$ 213.7	\$ 178.8
Dividends paid (including those declared in the prior year)	253.7	205.0	172.7

Table of Contents

Pensions

The Company and certain of its subsidiaries in the United States have defined benefit pension plans (“U.S. Plans”), which cover certain U.S. employees and which represent the majority of the plan assets and benefit obligations of the aggregate defined benefit plans of the Company. The U.S. Plans’ benefits are generally based on years of service and compensation and are generally noncontributory. Certain U.S. employees not covered by the U.S. Plans are covered by defined contribution plans. Certain foreign subsidiaries also have defined benefit plans covering their employees (the “Foreign Plans” and, together with the U.S. Plans, the “Plans”). The total liability for accrued pension and postretirement benefit obligations under the Company’s pension and postretirement benefit plans decreased in 2018 to \$178.5 (\$4.8 of which represents the expected benefit payments to be made during 2019 primarily for unfunded foreign plans, as included in other accrued expenses) from \$256.9 in 2017 primarily due to the voluntary contribution of \$81.0 made in January 2018 to fund the U.S. Plans as well as the impact of higher discount rates on our projected benefit obligation. There is no current requirement for cash contributions to any of the U.S. Plans, and the Company plans to evaluate annually, based on actuarial calculations and the investment performance of the Plans’ assets, the timing and amount of cash contributions in the future.

Refer to Note 7 of the Notes to the Company’s Consolidated Financial Statements for further discussion of the Company’s benefit plans and other postretirement benefit plans.

Acquisitions

In January 2019, pursuant to a definitive agreement entered into on November 27, 2018, the Company acquired SSI Controls Technologies (“SSI”), the sensor manufacturing division of SSI Technologies, Inc., for approximately \$400, net of cash acquired (subject to customary post-closing adjustments), plus a performance-related contingent payment. The acquisition of SSI was funded by cash, cash equivalents and short-term investments on hand. SSI, which is headquartered in the state of Wisconsin in the United States, is a leading designer and manufacturer of sensors and sensing solutions for the global automotive and industrial markets.

Environmental Matters

Certain operations of the Company are subject to environmental laws and regulations which govern the discharge of pollutants into the air and water, as well as the handling and disposal of solid and hazardous wastes. The Company believes that its operations are currently in substantial compliance with applicable environmental laws and regulations and that the costs of continuing compliance will not have a material adverse effect on the Company’s financial condition, results of operations or cash flows.

Inflation and Costs

The cost of the Company's products is influenced by the cost of a wide variety of raw materials. The Company strives to offset the impact of increases in the cost of raw materials, labor and services through price increases, productivity improvements and cost saving programs. However, in certain markets, particularly in communications related markets, implementing price increases can be difficult and there is no guarantee that the Company will be successful. For a discussion of certain risks attendant to inflation and costs, refer to the risk factor titled "The Company may experience difficulties in obtaining a consistent supply of materials at stable pricing levels" in Part I, Item 1A herein.

Foreign Exchange

The Company conducts business in many foreign currencies through its worldwide operations, and as a result is subject to foreign exchange exposure due to changes in exchange rates of the various currencies including possible currency devaluations. Changes in exchange rates can positively or negatively affect the Company's sales, operating margins and equity. The Company attempts to minimize currency exposure risk in a number of ways including producing its products in the same country or region in which the products are sold, thereby generating revenues and incurring expenses in the same currency, cost reduction and pricing actions, and working capital management. However, there can be no assurance that these actions will be fully effective in managing currency risk, including in the event of a significant and sudden decline in the value of any of the foreign currencies of the Company's worldwide operations. For further discussion of foreign exchange exposures, risks and uncertainties, refer to the risk factor titled "The Company's results may be negatively affected by foreign currency exchange rates" in Part I, Item 1A herein.

Table of Contents

Non-GAAP Financial Measures

In addition to assessing the Company's financial condition, results of operations, liquidity and cash flows in accordance with U.S. GAAP, management utilizes certain non-GAAP financial measures defined below as part of its internal reviews for purposes of monitoring, evaluating and forecasting the Company's financial performance, communicating operating results to the Company's Board of Directors and assessing related employee compensation measures. Management believes that these non-GAAP financial measures may be helpful to investors in assessing the Company's overall financial performance, trends and year-over-year comparative results, in addition to the reasons noted below. Non-GAAP financial measures related to operating income, operating margin, net income attributable to Amphenol Corporation, effective tax rate and diluted EPS exclude income and expenses that are not directly related to the Company's operating performance during the years presented. Items excluded in such non-GAAP financial measures in any period may consist of, without limitation, acquisition-related expenses, refinancing-related costs, and certain discrete tax items including but not limited to (i) the excess tax benefits related to stock-based compensation and (ii) the Tax Act Charge recorded in 2017 and the subsequent adjustment recorded in 2018 related to this charge. Non-GAAP financial measures related to net sales exclude the impact related to foreign currency exchange and acquisitions. The non-GAAP financial information contained herein is included for supplemental purposes only and should not be considered in isolation, as a substitute for or superior to the related U.S. GAAP financial measures. In addition, these non-GAAP financial measures are not necessarily the same or comparable to similar measures presented by other companies, as such measures may be calculated differently or may exclude different items.

The non-GAAP financial measures defined below should be read in conjunction with the Company's financial statements presented in accordance with U.S. GAAP. The reconciliations of these non-GAAP financial measures to the most directly comparable U.S. GAAP financial measures for the years ended December 31, 2018, 2017 and 2016 are included in "Results of Operations" and "Liquidity and Capital Resources" within this Item 7:

- Adjusted Diluted EPS is defined as diluted earnings per share (as reported in accordance with U.S. GAAP), excluding income and expenses and their specific tax effects, that are not directly related to the Company's operating performance during the years presented. Adjusted Diluted EPS is calculated as Adjusted Net Income attributable to Amphenol Corporation, as defined below, divided by the weighted average outstanding diluted shares as reported in the Company's Consolidated Statements of Income.
- Adjusted Effective Tax Rate is defined as Provision for income taxes, as reported in the Consolidated Statements of Income, expressed as a percentage of Income before income taxes, as reported in the Consolidated Statements of Income, each excluding the income and expenses and their specific tax effects that are not directly related to the Company's operating performance during the years presented.
- Adjusted Net Income attributable to Amphenol Corporation is defined as Net income attributable to Amphenol Corporation, as reported in the Consolidated Statements of Income, excluding income and expenses and their specific tax effects that are not directly related to the Company's operating performance during the years presented.

- Adjusted Operating Income is defined as Operating income, as reported in the Consolidated Statements of Income, excluding income and expenses that are not directly related to the Company's operating performance during the years presented.
- Adjusted Operating Margin is defined as Adjusted Operating Income (as defined above) expressed as a percentage of Net sales (as reported in the Consolidated Statements of Income).
- Constant Currency Net Sales Growth is defined as the year-over-year percentage change in net sales growth, excluding the impact of changes in foreign currency exchange rates. Amphenol's results are subject to volatility related to foreign currency translation fluctuations. As such, management evaluates the Company's sales performance based on actual sales growth in U.S. dollars, as well as Organic Net Sales Growth (defined below) and Constant Currency Net Sales Growth, and believes that such information is useful to investors to assess the underlying sales trends.
- Free Cash Flow is defined as Net cash provided by operating activities ("Operating Cash Flow" - as reported in accordance with U.S. GAAP) less capital expenditures (as reported in accordance with U.S. GAAP), both of

Table of Contents

which are derived from the Company's Consolidated Statements of Cash Flow. Free Cash Flow is an important liquidity measure for the Company, as we believe it is useful for management and investors to assess our ability to generate cash, as well as to assess how much cash can be used to reinvest in the growth of the Company or to return to shareholders through either stock repurchases or dividends.

· Organic Net Sales Growth is defined as the year-over-year percentage change in net sales growth resulting from operating volume and pricing changes, and excludes the impact of 1) changes in foreign currency exchange rates, which directly impact the Company's operating results and are outside the control of the Company and 2) acquisitions closed since the beginning of the prior calendar year, which were not included in the Company's results as of the comparable prior year periods and which do not reflect the underlying growth of the Company on a comparative basis. Management evaluates the Company's sales performance based on actual sales growth in U.S. dollars, as well as Constant Currency Net Sales Growth (defined above) and Organic Net Sales Growth, and believes that such information is useful to investors to assess the underlying sales trends.

Recent Accounting Pronouncements

Refer to Note 1 of the Notes to the Company's Consolidated Financial Statements for a discussion of recently issued accounting pronouncements.

Critical Accounting Policies and Estimates

The preparation of consolidated financial statements in conformity with accounting principles generally accepted in the United States of America 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 consolidated financial statements and the reported amounts of revenues and expenses during the reporting period. Actual results could differ from those estimates. Estimates are adjusted as new information becomes available. The Company's critical accounting policies and estimates are set forth below. The significant accounting policies are more fully described in Note 1 of the Notes to the Company's Consolidated Financial Statements.

Revenue Recognition

Adoption of Topic 606

The Company adopted Accounting Standards Update (“ASU”) No. 2014-09, Revenue from Contracts with Customers (Topic 606) (collectively with its related subsequent amendments, “Topic 606”) as of January 1, 2018 using the modified retrospective transition method applied to those contracts which were not completed as of January 1, 2018.

Under this transition method, the Company’s results in the Consolidated Statements of Income for the year ended December 31, 2018 are presented under Topic 606, while the comparative results for the years ended December 31, 2017 and 2016 were not retrospectively adjusted. Results for the years ended December 31, 2017 and 2016 were recognized in accordance with the Company’s revenue recognition policy then in effect under ASC Topic 605, Revenue Recognition (“Topic 605”) discussed below. The adoption of Topic 606 resulted in accounting policy changes surrounding revenue recognition which replaced previous revenue guidance under Topic 605.

The Company’s primary source of revenues consist of product sales to either end customers and their appointed contract manufacturers (including original equipment manufacturers or OEM) or to distributors. Our revenues are derived from contracts with customers, which in most cases are customer purchase orders that may be governed by master sales agreements. For each contract, the promise to transfer the control of the products, each of which is individually distinct, is considered to be the identified performance obligation. As part of the consideration promised in each contract, the Company evaluates the customer’s credit risk. Our contracts do not have any significant financing components, as payment terms are generally due net 30 to 120 days after delivery. Although products are almost always sold at fixed prices, in determining the transaction price, we evaluate whether the price is subject to refund (due to returns) or adjustment (due to volume discounts, rebates, or price concessions) to determine the net consideration we expect to be entitled to. We allocate the transaction price to each distinct product based on its relative standalone selling price. Taxes assessed by governmental authorities and collected from the customer, including but not limited to sales and use taxes and value-added taxes, are not included in the transaction price.

The vast majority of our sales are recognized at a point-in-time under the core principle of recognizing revenue when control transfers to the customer, which generally occurs when we ship or deliver the product from our

Table of Contents

manufacturing facility to our customers, when our customer accepts and has legal title of the goods, and the Company has a present right to payment for such goods. Based on the respective contract terms, most of our contracts' revenues are recognized either (i) upon shipment based on free on board ("FOB") shipping point, (ii) when the product arrives at its destination or (iii) when the products are pulled from consignment inventory. For the year ended December 31, 2018, less than 5% of our net sales are recognized over time, as the associated contracts relate to the sale of goods with no alternative use as they are only sold to a single customer and whose underlying contract terms provide the Company with an enforceable right to payment, including a reasonable profit margin, for performance completed to date, in the event of customer termination. For the contracts recognized over time, we typically record revenue using the input method, based on the materials and labor costs incurred to date relative to the contract's total estimated costs. This method reasonably depicts when and as control of the goods transfers to the customer, since it measures our progress in producing the goods which is generally commensurate with this transfer of control. Since we typically invoice our customers at the same time that we satisfy our performance obligations, we do not have significant contract assets or contract liabilities related to our contracts with customers recorded in the Consolidated Balance Sheets.

Pre-adoption of Topic 606

For the years ended December 31, 2017 and 2016, revenue from sales of the Company's products was recognized at the time the goods were delivered, title passed and the risks and rewards of ownership passed to the customer, provided the earnings process was complete and revenue was measurable. Such recognition generally occurred when the products reached the shipping point, the sales price was fixed and determinable, and collection was reasonably assured. Delivery was determined by the Company's shipping terms, which was primarily freight on board shipping point. Revenue was recorded at the net amount to be received after deductions for estimated discounts, allowances and returns. These estimates and reserves were determined and adjusted as needed based upon historical experience, contract terms and other related factors.

Income Taxes

Deferred income taxes are provided for revenue and expenses which are recognized in different periods for income tax and financial statement reporting purposes. The Company recognizes the effects of changes in tax laws and rates on deferred income taxes in the period in which legislation is enacted. Deferred income taxes are provided on undistributed earnings of foreign subsidiaries in the period in which the Company determines it no longer intends to permanently reinvest such earnings outside the United States. As of December 31, 2018, the Company has not provided for deferred income taxes on undistributed foreign earnings related to certain geographies of approximately \$800, as it is the Company's intention to permanently reinvest such earnings outside the United States. The amount of taxes that would be payable if these undistributed foreign earnings were to be repatriated would not be material. In addition, the Company remains indefinitely reinvested with respect to its financial statement basis in excess of tax basis of its investments in foreign subsidiaries. It is not practicable to determine the deferred tax liability with respect to such basis differences. Deferred tax assets are regularly assessed for recoverability based on both historical and anticipated earnings levels and a valuation allowance is recorded when it is more likely than not that these amounts will not be recovered. The tax effects of an uncertain tax position taken or expected to be taken in income tax returns

are recognized only if it is “more likely than not” to be sustained on examination by the taxing authorities, based on its technical merits as of the reporting date. The tax benefits recognized in the financial statements from such a position are measured based on the largest benefit that has a greater than fifty percent likelihood of being realized upon ultimate settlement. The Company includes estimated interest and penalties related to unrecognized tax benefits in the provision for income taxes.

As a result of the Tax Act, in 2017, the Company recorded (i) a provisional income tax charge related to the deemed repatriation of the accumulated unremitted earnings and profits of foreign subsidiaries, (ii) a provisional income tax charge related to changes in the Company’s permanent reinvestment assertion with regards to prior accumulated unremitted earnings from certain foreign subsidiaries, partially offset by (iii) a provisional income tax benefit associated with the remeasurement of its net deferred tax liabilities due to the U.S. federal corporate tax rate reduction, and included these amounts in its consolidated financial statements for the year ended December 31, 2017. Beginning in 2018, the Tax Act also included a global intangible low-taxed income (“GILTI”) provision, which imposes a tax on foreign earnings in excess of a deemed return on tangible assets of foreign subsidiaries. The Company elected an accounting policy to account for GILTI as a period cost if incurred, rather than recognizing deferred taxes for temporary basis differences expected to reverse as GILTI. The U.S. Treasury Department has not yet released final interpretive guidance relating to certain provisions of the Tax Act. The Company will account for the impact of additional guidance in the period in which any new guidance is released, if appropriate.

Table of Contents

In December 2017, the SEC staff issued Staff Accounting Bulletin No. 118 (“SAB 118”) to address the application of U.S. GAAP in situations where a registrant does not have the necessary information available, prepared, or analyzed in reasonable detail to complete the accounting for certain income tax effects of the Tax Act. In 2017, the Company recorded provisional income tax charges as a result of the Tax Act. Due to the timing of the Tax Act’s enactment and the complexity of its provisions, the Company had not completed its accounting for the impact of the Tax Act in 2017. As discussed in Note 1 of the accompanying Consolidated Financial Statements, SAB 118 was subsequently codified under ASU 2018-05 in March 2018.

The Company analyzed guidance and technical interpretations issued in 2018 related to the provisions of the Tax Act, and refined, analyzed and updated the underlying data, computations and assumptions used to prepare these provisional amounts. The Company completed its accounting of the Tax Act Charge and recorded an income tax benefit in the fourth quarter of 2018.

Disclosures about contractual obligations and commitments

The following table summarizes the Company’s known obligations to make future payments pursuant to certain contracts as of December 31, 2018, as well as an estimate of the timing in which such obligations are expected to be satisfied.

Contractual Obligations (dollars in millions)	Payment Due By Period				
	Total	Less than 1 year	1-3 years	3-5 years	More than 5 years
Debt (1)	\$ 3,584.5	\$ 764.4	\$ 1,399.1	\$ 500.1	\$ 920.9
Interest related to senior notes (1)	303.4	72.7	113.0	55.2	62.5
Operating leases	197.3	70.5	64.9	28.4	33.5
Purchase obligations (2)	414.2	384.9	23.6	3.4	2.3
Accrued pension and postretirement benefit obligations (3)	58.9	7.3	12.0	12.0	27.6
Transition tax (4)	151.4	13.6	27.2	39.0	71.6
Total (5)	\$ 4,709.7	\$ 1,313.4	\$ 1,639.8	\$ 638.1	\$ 1,118.4

(1) The Company has excluded expected interest payments on the 2019 Revolving Credit Facility, U.S. Commercial Paper Program and Euro Commercial Paper Program from the above table, as this calculation is largely dependent on average debt levels the Company expects to have during each of the years presented. The actual interest payments made related to the Company’s Revolving Credit Facility and both Commercial Paper Programs combined, in 2018, were approximately \$19.8. Expected debt levels, and therefore expected interest payments, are difficult to predict, as they are significantly impacted by such items as future acquisitions, repurchases of common stock, dividend payments as well as payments or additional borrowings made to reduce or increase the underlying revolver balance. The table above also excludes the expected interest payments associated with the \$500.0 principal of unsecured 4.350% senior notes issued in January 2019.

- (2) Purchase obligations relate primarily to open purchase orders for goods and services, including but not limited to, raw materials and components to be used in production.
- (3) Included in this table are estimated benefit payments expected to be made under the Company's unfunded pension and postretirement benefit plans and the anticipated minimum required contributions under the Company's funded pension plans. The Company also maintains several funded pension benefit plans, the most significant of which covers its U.S. employees. Over the past several years, there has been no minimum requirement for Company contributions to the U.S. Plans due to prior contributions made in excess of minimum requirements and as a result, there was no anticipated minimum required contribution included in the table above related to the U.S. Plans for 2019. However, the Company did make a voluntary contribution of approximately \$81.0 in 2018 to fund the U.S. Plans. It is not possible to reasonably estimate expected required contributions in the above table after 2019 since several assumptions are required to calculate minimum required contributions, such as the discount rate and expected returns on pension assets.
- (4) As a result of the enactment of the Tax Act in December 2017, the Company recorded a provisional tax charge on the deemed repatriation of the accumulated unremitted earnings and profits of foreign subsidiaries ("Transition Tax") for the year ended December 31, 2017, based on certain assumptions made upon the Company's then current interpretation of the Tax Act. The Company analyzed guidance and technical interpretations issued in 2018 related to the provisions of the Tax Act, and refined, analyzed and updated the underlying data, computations and assumptions used to prepare the provisional amount, and consequently completed its accounting and recorded an adjustment related to the Transition Tax. The amounts noted in the table above reflect the final Transition Tax, which is net of applicable tax credits and deductions and in accordance with the Tax Act is to be paid over the eight year period which started in 2018. The first installment of the Transition Tax was paid in the second quarter of 2018.
- (5) As of December 31, 2018, the Company has recorded liabilities of approximately \$167.3 related to unrecognized tax benefits. These liabilities have been excluded from the above table due to the high degree of uncertainty regarding the timing of potential future cash flows; it is difficult to make a reasonably reliable estimate of the amount and period in which all of these liabilities might be paid.

Table of Contents

Item 7A. Quantitative and Qualitative Disclosures About Market Risk

(amounts in millions)

The Company, in the normal course of doing business, is exposed to a variety of risks, including market risks associated with foreign currency exchange rates and changes in interest rates. The Company does not have any significant concentration with any one counterparty.

Foreign Currency Exchange Rate Risk

The Company conducts business in many foreign currencies through its worldwide operations, and as a result is subject to foreign exchange exposure due to changes in exchange rates of the various currencies. Changes in exchange rates can positively or negatively affect the Company's sales, operating margins and equity. The Company attempts to manage currency exposure risk in a number of ways including producing its products in the same country or region in which the products are sold (thereby generating revenues and incurring expenses in the same currency), cost reduction and pricing actions, and working capital management. However, there can be no assurance that these actions will be fully effective in managing currency risk, including in the event of a significant and sudden decline in the value of any of the foreign currencies of the Company's worldwide operations.

In July 2018, the Company and one of its wholly owned European subsidiaries (collectively, the "Euro Issuer") entered into a Euro Commercial Paper Program, and then in October 2018, issued €500.0 (approximately \$574.6) of unsecured 2.000% senior notes ("2028 Euro Notes") due October 8, 2028. While the 2028 Euro Notes are denominated in Euros, any borrowings under the Company's Euro Commercial Paper Program may be denominated in various foreign currencies, including the Euro. When borrowing in foreign currencies, there can be no assurance that the Company can successfully manage these changes in exchange rates, including in the event of a significant and sudden decline in the value of any of the foreign currencies for which such borrowings are made. Refer to Note 2 of the Notes to the Consolidated Financial Statements for a discussion of debt.

As of December 31, 2018, the Company had two forward contracts of varying amounts that effectively fixed Great Britain Pound and Korean Won intercompany debt obligations into fixed Hong Kong dollar denominated obligations expiring at various times through 2019 concurrent with the underlying intercompany loans. The fair value of the contracts at December 31, 2018 resulted in a net asset of \$2.4. A 10% change in foreign currency exchange rates would not have a material effect on the value of the hedges as of December 31, 2018 and 2017. The Company does not engage in purchasing forward contracts for trading or speculative purposes. Refer to Note 3 of the Notes to the Consolidated Financial Statements for a discussion of derivative financial instruments.

Interest Rate Risk

The Company is subject to market risk from exposure to changes in interest rates based on the Company's financing activities. The Company manages its exposure to interest rate risk through a mix of fixed and variable rate debt. The Company currently has outstanding various fixed rate series of senior notes over various maturity dates. In October 2018, the Euro Issuer issued the 2028 Euro Notes, and the Company used a portion of the net proceeds from the 2028 Euro Notes to repay a portion of the outstanding amounts under its U.S. Commercial Paper Program and Euro Commercial Paper Program (collectively, the "Commercial Paper Programs"), with the remainder of the net proceeds being used for general corporate purposes. In January 2019, the Company issued \$500.0 of unsecured 4.350% Senior Notes due June 2029. The Company used the net proceeds of the 4.350% Senior Notes, along with borrowings under the U.S. Commercial Paper Program, to repay \$750.0 of 2.55% Senior Notes due January 30, 2019.

While there were no such borrowings as of December 31, 2018, any borrowings under the Revolving Credit Facility either bear interest at or trade at rates that fluctuate with a spread over LIBOR. Any borrowings under the Commercial Paper Programs are subject to floating interest rates. Therefore, when the Company borrows under these debt instruments, the Company is exposed to market risk related to changes in interest rates. As of December 31, 2018, approximately \$639.9, or 18% of the Company's outstanding borrowings, which related primarily to the Company's Commercial Paper Programs, were subject to floating interest rates. At December 31, 2018 and 2017, the Company's average floating rate on borrowings under the U.S. Commercial Paper Program was 2.88% and 1.71%, respectively. At December 31, 2018, the Company's average floating rate on borrowings under the Euro Commercial Paper Program was (0.10)%. A 10% change in the interest rate at December 31, 2018 and 2017 for either or both Commercial Paper Programs would not have a material effect on interest expense. The Company does not expect changes in interest rates to have a material effect on income or cash flows in 2019, although there can be no assurances that interest rates will not change significantly.

Table of Contents

Item 8. Financial Statements and Supplementary Data

REPORT OF INDEPENDENT REGISTERED PUBLIC ACCOUNTING FIRM

To the Board of Directors and Shareholders of

Amphenol Corporation

Wallingford, Connecticut

Opinions on the Financial Statements and Internal Control over Financial Reporting

We have audited the accompanying consolidated balance sheets of Amphenol Corporation and subsidiaries (the “Company”) as of December 31, 2018 and 2017, the related consolidated statements of income, comprehensive income, changes in equity, and cash flow for each of the three years in the period ended December 31, 2018, and the related notes and the financial statement schedule listed in the Index at Item 15 (collectively referred to as the “financial statements”). We also have audited the Company’s internal control over financial reporting as of December 31, 2018, based on criteria established in Internal Control — Integrated Framework (2013) issued by the Committee of Sponsoring Organizations of the Treadway Commission (COSO).

In our opinion, the financial statements referred to above present fairly, in all material respects, the financial position of the Company as of December 31, 2018 and 2017, and the results of its operations and its cash flows for each of the three years in the period ended December 31, 2018, in conformity with accounting principles generally accepted in the United States of America. Also, in our opinion, the Company maintained, in all material respects, effective internal control over financial reporting as of December 31, 2018, based on criteria established in Internal Control — Integrated Framework (2013) issued by COSO.

Basis for Opinions

The Company’s management is responsible for these financial statements and financial statement schedule, for maintaining effective internal control over financial reporting, and for its assessment of the effectiveness of internal

control over financial reporting, included in the accompanying Management Report on Internal Control. Our responsibility is to express an opinion on these financial statements and financial statement schedule and an opinion on the Company's internal control over financial reporting based on our audits. We are a public accounting firm registered with the Public Company Accounting Oversight Board (United States) (PCAOB) and are required to be independent with respect to the Company in accordance with the U.S. federal securities laws and the applicable rules and regulations of the Securities and Exchange Commission and the PCAOB.

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

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

Definition and Limitations of Internal Control over Financial Reporting

A company's internal control over financial reporting is a process designed to provide reasonable assurance regarding the reliability of financial reporting and the preparation of financial statements for external purposes in accordance with generally accepted accounting principles. A company's internal control over financial reporting includes those policies and procedures that (1) pertain to the maintenance of records that, in reasonable detail, accurately and fairly reflect the transactions and dispositions of the assets of the company; (2) provide reasonable assurance that transactions are recorded as necessary to permit preparation of financial statements in accordance with generally accepted accounting principles, and that receipts and expenditures of the company are being made only in accordance with authorizations of management and directors of the company; and (3) provide reasonable assurance regarding prevention or timely

Table of Contents

detection of unauthorized acquisition, use, or disposition of the company's assets that could have a material effect on the financial statements.

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

/s/ Deloitte & Touche LLP

Hartford, Connecticut

February 13, 2019

We have served as the Company's auditor since 1997.

42

Table of Contents

AMPHENOL CORPORATION

Consolidated Statements of Income

(dollars and shares in millions, except per share data)

	Year Ended December 31,		
	2018	2017	2016
Net sales	\$ 8,202.0	\$ 7,011.3	\$ 6,286.4
Cost of sales	5,547.1	4,701.4	4,246.4
Gross profit	2,654.9	2,309.9	2,040.0
Acquisition-related expenses	8.5	4.0	36.6
Selling, general and administrative expenses	959.5	878.3	798.2
Operating income	1,686.9	1,427.6	1,205.2
Interest expense	(101.7)	(92.3)	(72.6)
Other income, net	3.2	17.1	8.5
Income before income taxes	1,588.4	1,352.4	1,141.1
Provision for income taxes	(371.5)	(691.7)	(308.5)
Net income	1,216.9	660.7	832.6
Less: Net income attributable to noncontrolling interests	(11.9)	(10.2)	(9.7)
Net income attributable to Amphenol Corporation	\$ 1,205.0	\$ 650.5	\$ 822.9
Net income per common share — Basic	\$ 4.00	\$ 2.13	\$ 2.67
Weighted average common shares outstanding — Basic	301.2	305.7	308.3
Net income per common share — Diluted	\$ 3.85	\$ 2.06	\$ 2.61
Weighted average common shares outstanding — Diluted	312.6	316.5	315.2
Dividends declared per common share	\$ 0.88	\$ 0.70	\$ 0.58

See accompanying notes to consolidated financial statements.

Table of Contents

AMPHENOL CORPORATION

Consolidated Statements of Comprehensive Income

(dollars in millions)

	Year Ended December 31,		
	2018	2017	2016
Net income	\$ 1,216.9	\$ 660.7	\$ 832.6
Total other comprehensive (loss) income, net of tax:			
Foreign currency translation adjustments	(167.0)	243.3	(110.7)
Unrealized gain (loss) on cash flow hedges	0.4	(0.1)	1.6
Defined benefit plan adjustment	(1.8)	27.8	(12.5)
Total other comprehensive (loss) income, net of tax	(168.4)	271.0	(121.6)
Total comprehensive income	1,048.5	931.7	711.0
Less: Comprehensive income attributable to noncontrolling interests	(9.2)	(13.2)	(7.6)
Comprehensive income attributable to Amphenol Corporation	\$ 1,039.3	\$ 918.5	\$ 703.4

See accompanying notes to consolidated financial statements.

AMPHENOL CORPORATION

Consolidated Balance Sheets

(dollars and shares in millions, except per share data)

	December 31,	
	2018	2017
Assets		
Current Assets:		
Cash and cash equivalents	\$ 1,279.3	\$ 1,719.1
Short-term investments	12.4	34.6
Total cash, cash equivalents and short-term investments	1,291.7	1,753.7
Accounts receivable, less allowance for doubtful accounts of \$33.5 and \$23.0, respectively	1,791.8	1,598.6
Inventories:		
Raw materials and supplies	463.6	386.2
Work in process	371.1	358.0
Finished goods	399.1	362.7
	1,233.8	1,106.9
Other current assets	254.3	196.8
Total current assets	4,571.6	4,656.0
Property, plant and equipment:		
Land and improvements	29.3	32.6
Buildings and improvements	325.7	322.3
Machinery and equipment	1,835.6	1,662.0
	2,190.6	2,016.9
Accumulated depreciation	(1,314.8)	(1,200.1)
	875.8	816.8
Goodwill	4,103.2	4,042.6
Intangibles, net and other long-term assets	494.3	488.5
	\$ 10,044.9	\$ 10,003.9
Liabilities & Equity		
Current Liabilities:		
Accounts payable	\$ 890.5	\$ 875.6
Accrued salaries, wages and employee benefits	157.2	151.6
Accrued income taxes	203.5	154.2
Accrued dividends	68.7	58.1
Other accrued expenses	367.1	338.8
Current portion of long-term debt	764.3	1.1
Total current liabilities	2,451.3	1,579.4
Long-term debt, less current portion	2,806.4	3,541.5
Accrued pension and postretirement benefit obligations	190.2	272.0
Deferred income taxes	255.6	241.2
Other long-term liabilities	277.2	326.4
Commitments and contingent liabilities		

Equity:

Class A Common Stock, \$0.001 par value; 1,000.0 shares authorized; 299.2 shares issued and 298.5 shares outstanding as of December 31, 2018; 305.7 shares issued and outstanding as of December 31, 2017	0.3	0.3
Additional paid-in capital	1,433.2	1,249.0
Retained earnings	3,028.7	2,941.5
Treasury stock, at cost; 0.7 shares as of December 31, 2018	(55.0)	—
Accumulated other comprehensive loss	(390.2)	(201.0)
Total shareholders' equity attributable to Amphenol Corporation	4,017.0	3,989.8
Noncontrolling interests	47.2	53.6
Total equity	4,064.2	4,043.4
	\$ 10,044.9	\$ 10,003.9

See accompanying notes to consolidated financial statements.

AMPHENOL CORPORATION

Consolidated Statements of Changes in Equity

(dollars and shares in millions, except per share data)

	Common Shares	Stock Amount	Treasury Shares	Stock Amount	Additional Paid-in Capital	Retained Earnings	Accumulated Other Comprehensive Loss	Noncontrolling Interests	Total Equity
Balance January 1, 2016	308	\$ 0.3	—	\$ —	\$ 783.3	\$ 2,804.4	\$ (349.5)	\$ 39.9	\$ 3,278.4
Net income						822.9		9.7	832.6
Other comprehensive loss							(119.5)	(2.1)	(121.6)
Acquisitions resulting in noncontrolling interests								7.5	7.5
Distributions to shareholders of noncontrolling interests								(6.8)	(6.8)
Purchase of treasury stock			(6)	(325.8)					(325.8)
Retirement of treasury stock	(6)		6	325.8		(325.8)			—
Stock options exercised, including tax benefit	6				190.0				190.0
Dividends declared (\$0.58 per common share)						(178.8)			(178.8)
Stock-based compensation expense					47.6				47.6
Balance December 31, 2016	308	0.3	—	—	1,020.9	3,122.7	(469.0)	48.2	3,723.1
Net income						650.5		10.2	660.7
Other comprehensive income							268.0	3.0	271.0
Acquisitions resulting in noncontrolling interests								11.1	11.1
					(5.5)			(10.3)	(15.8)

Purchase of noncontrolling interest									
Distributions to shareholders of noncontrolling interests								(8.6)	(8.6)
Purchase of treasury stock			(8)	(618.0)					(618.0)
Retirement of treasury stock	(8)		8	618.0		(618.0)			—
Stock options exercised	6				183.9				183.9
Dividends declared (\$0.70 per common share)						(213.7)			(213.7)
Stock-based compensation expense					49.7				49.7
Balance									
December 31, 2017	306	0.3	—	—	1,249.0	2,941.5	(201.0)	53.6	4,043.4
Cumulative effect of adoption of revenue recognition standard (Note 1)						3.2			3.2
Reclassification of income tax effects resulting from the Tax Act (ASU 2018-02) (Note 1)						23.5	(23.5)		—
Net income						1,205.0		11.9	1,216.9
Other comprehensive loss							(165.7)	(2.7)	(168.4)
Acquisitions resulting in noncontrolling interests								0.3	0.3
Purchase of noncontrolling interest					(2.3)			(5.4)	(7.7)
Distributions to shareholders of noncontrolling interests								(10.5)	(10.5)
Purchase of treasury stock			(11)	(935.2)					(935.2)
Retirement of treasury stock	(10)		10	880.2		(880.2)			—
Stock options exercised	3				130.9				130.9
						(264.3)			(264.3)

Dividends declared (\$0.88 per common share)									
Stock-based compensation expense				55.6					55.6
Balance									
December 31, 2018	299	\$ 0.3	(1)	\$ (55.0)	\$ 1,433.2	\$ 3,028.7	\$ (390.2)	\$ 47.2	\$ 4,064.2

See accompanying notes to consolidated financial statements.

46

Table of Contents

AMPHENOL CORPORATION

Consolidated Statements of Cash Flow

(dollars in millions)

	Year Ended December 31,		
	2018	2017	2016
Cash from operating activities:			
Net income	\$ 1,216.9	\$ 660.7	\$ 832.6
Adjustments to reconcile net income to cash provided by operating activities:			
Depreciation and amortization	299.7	226.8	217.0
Stock-based compensation expense	55.6	49.7	47.6
Deferred income tax (benefit) provision	(12.0)	186.3	(29.9)
Excess tax benefits from stock-based compensation payment arrangements	—	—	(44.4)
Net change in operating assets and liabilities:			
Accounts receivable, net	(237.9)	(146.5)	(165.9)
Inventories	(173.3)	(100.4)	(14.2)
Other current assets	(47.7)	(75.9)	29.9
Accounts payable	48.8	140.5	47.8
Accrued income taxes	(9.7)	11.2	91.7
Other accrued liabilities	57.4	13.0	61.9
Accrued pension and postretirement benefits	(76.6)	5.0	2.5
Other long-term assets and liabilities	(8.5)	173.8	1.0
Net cash provided by operating activities	1,112.7	1,144.2	1,077.6
Cash from investing activities:			
Capital expenditures	(310.6)	(226.6)	(190.8)
Proceeds from disposals of property, plant and equipment	5.0	4.1	7.1
Purchases of short-term investments	(44.5)	(40.2)	(232.4)
Sales and maturities of short-term investments	67.2	148.0	108.5
Acquisitions, net of cash acquired	(158.9)	(265.5)	(1,305.1)
Net cash used in investing activities	(441.8)	(380.2)	(1,612.7)
Cash from financing activities:			
Proceeds from issuance of senior notes	571.7	749.3	—
Repayments of long-term debt	(15.2)	(375.0)	—
(Repayments) borrowings under commercial paper programs, net	(544.6)	154.1	183.2
Payment of costs related to debt financing	(5.6)	(5.2)	(3.0)
Purchase of treasury stock	(935.2)	(618.0)	(325.8)
Proceeds from exercise of stock options	130.7	184.1	147.2
Excess tax benefits from stock-based compensation payment arrangements	—	—	44.4
Distributions to and purchases of noncontrolling interests	(18.2)	(24.4)	(6.8)

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Dividend payments	(253.7)	(205.0)	(172.7)
Net cash used in financing activities	(1,070.1)	(140.1)	(133.5)
Effect of exchange rate changes on cash and cash equivalents	(40.6)	60.6	(34.0)
Net change in cash and cash equivalents	(439.8)	684.5	(702.6)
Cash and cash equivalents balance, beginning of year	1,719.1	1,034.6	1,737.2
Cash and cash equivalents balance, end of year	\$ 1,279.3	\$ 1,719.1	\$ 1,034.6
Cash paid during the year for:			
Interest	\$ 94.2	\$ 84.3	\$ 68.5
Income taxes	393.2	325.2	246.8

See accompanying notes to consolidated financial statements.

Table of Contents

AMPHENOL CORPORATION

Notes to Consolidated Financial Statements

(All amounts included in the following Notes to Consolidated Financial Statements are presented in millions, except share and per share data, unless otherwise noted)

Note 1—Summary of Significant Accounting Policies

Business

Amphenol Corporation (together with its subsidiaries, “Amphenol”, the “Company”, “we”, “our”, or “us”) is one of the world’s largest designers, manufacturers and marketers of electrical, electronic and fiber optic connectors, interconnect systems, antennas, sensors and sensor-based products and coaxial and high-speed specialty cable. The Company sells its products to customers worldwide.

The Company operates through two reportable business segments:

- Interconnect Products and Assemblies – The Interconnect Products and Assemblies segment primarily designs, manufactures and markets a broad range of connector and connector systems, value-add products and other products, including antennas and sensors, used in a broad range of applications in a diverse set of end markets.
- Cable Products and Solutions – The Cable Products and Solutions segment primarily designs, manufactures and markets cable, value-add products and components for use primarily in the broadband communications and information technology markets as well as certain applications in other markets.

Use of Estimates

The preparation of consolidated financial statements in conformity with accounting principles generally accepted in the United States of America 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 consolidated

financial statements and the reported amounts of revenues and expenses during the reporting period. The Company's management evaluates these significant estimates and assumptions that affect the consolidated financial statements and related disclosures. Actual results could differ from those estimates.

Principles of Consolidation

The consolidated financial statements are prepared in U.S. dollars and include the accounts of the Company and its wholly-owned and majority-owned subsidiaries. All material intercompany balances and transactions have been eliminated in consolidation. The results of companies acquired are included in the Consolidated Financial Statements from the effective date of acquisition.

Cash and Cash Equivalents

Cash and cash equivalents consist of cash and liquid investments with an original maturity of less than three months. The carrying amounts approximate fair values of those instruments, the majority of which are in non-U.S. bank accounts.

Short-term Investments

Short-term investments consist primarily of certificates of deposit with original maturities of twelve months or less. The carrying amounts approximate fair values of those instruments, the vast majority of which are in non-U.S. bank accounts.

Table of Contents

Accounts Receivable

Accounts receivable is stated at net realizable value. The Company regularly reviews accounts receivable balances and adjusts the receivable reserves as necessary whenever events or circumstances indicate the carrying value may not be recoverable.

Inventories

Inventories are stated at the lower of standard cost, which approximates average cost, or net realizable value. The principal components of cost included in inventories are materials, direct labor and manufacturing overhead. The Company regularly reviews inventory quantities on hand, evaluates the realizability of inventories and adjusts the carrying value as necessary based on forecasted product demand. Provisions for slow-moving and obsolete inventory are made based on historical experience and product demand.

Depreciable Assets

Property, plant and equipment are carried at cost less accumulated depreciation. Depreciation is recorded on a straight-line basis over the respective asset lives determined on a composite basis by asset group or on a specific item basis using the estimated useful lives of such assets, which generally range from 3 to 12 years for machinery and equipment and 20 to 40 years for buildings. Leasehold building improvements are depreciated over the shorter of the lease term or estimated useful life. The Company periodically reviews fixed asset lives. Depreciation expense is included in both Cost of sales and Selling, general and administrative expenses in the Consolidated Statements of Income, dependent upon the specific categorization and use of the underlying asset being depreciated. The Company assesses the impairment of property and equipment subject to depreciation, whenever events or changes in circumstances indicate the carrying value may not be recoverable. Factors the Company considers important, which could trigger an impairment review, include significant changes in the manner of the use of the asset, significant changes in historical trends in operating performance, significant changes in projected operating performance, and significant negative economic trends. There have been no impairments recorded as a result of such reviews during any of the periods presented.

Goodwill

The Company performs its evaluation for the impairment of goodwill for the Company's two reporting units on an annual basis as of each July 1 or more frequently if an event occurs or circumstances change that would indicate that a reporting unit's carrying amount may be impaired. The Company has defined its reporting units as the two reportable

business segments “Interconnect Products and Assemblies” and “Cable Products and Solutions”, as the components of these reportable business segments have similar economic characteristics.

In 2018 and 2017 as part of our annual evaluations, the Company utilized the option to first assess qualitative factors to determine whether it was necessary to perform the quantitative goodwill impairment assessment. As part of this assessment, the Company reviews qualitative factors which include, but are not limited to, economic, market and industry conditions, as well as the financial performance of each reporting unit. In accordance with applicable guidance, an entity is not required to calculate the fair value of a reporting unit if, after assessing these qualitative factors, the Company determines that it is more likely than not that the fair value of each of its reporting units is greater than its respective carrying amount. As of July 1, 2018 and 2017, the Company determined that it was more likely than not that the fair value of its reporting units exceeded their respective carrying amounts and therefore, a quantitative assessment was not required. There has been no goodwill impairment in 2018, 2017 or 2016 in connection with our impairment tests.

Intangible Assets

Intangible assets are included in Intangibles, net and other long-term assets and consist primarily of proprietary technology, customer relationships and license agreements and are generally amortized over the estimated periods of benefit. The Company assesses and reviews its long-lived assets, other than goodwill, for potential impairment including identifiable intangible assets subject to amortization whenever events or changes in circumstances indicate the carrying amount may not be recoverable. Factors the Company considers important, which could trigger an impairment review, include significant changes in the manner of the use of the asset, changes in historical trends in operating performance,

Table of Contents

significant changes in projected operating performance, anticipated future cash flows and significant negative economic trends. Indefinite-lived intangible assets that are not subject to amortization are reviewed at least annually for impairment. In the third quarter of 2018, the Company performed its annual assessment of these identifiable indefinite-lived intangible assets. Based on our qualitative assessment, the Company determined that it was more likely than not that the fair value of the indefinite-lived intangible assets exceeded their respective carrying amounts. There has been no intangible asset impairment in 2018, 2017 or 2016 as a result of such reviews.

Revenue Recognition

Adoption of Topic 606

In May 2014, the Financial Accounting Standards Board (the “FASB”) issued Accounting Standards Update (“ASU”) No. 2014-09, Revenue from Contracts with Customers (Topic 606) (“ASU 2014-09”, and collectively with its related subsequent amendments, “Topic 606”). Topic 606 supersedes previous revenue recognition guidance and requires entities to recognize revenue to depict the transfer of promised goods or services to customers in an amount that reflects the consideration to which the entity expects to be entitled in exchange for such goods or services. The Company adopted Topic 606 as of January 1, 2018 using the modified retrospective transition method applied to those contracts which were not completed as of January 1, 2018. Under this transition method, the Company’s results in the Consolidated Statements of Income for the year ended December 31, 2018 are presented under Topic 606, while the comparative results for the years ended December 31, 2017 and 2016 were not retrospectively adjusted. Results for the years ended December 31, 2017 and 2016 were recognized in accordance with the Company’s revenue recognition policy then in effect under ASC Topic 605, Revenue Recognition (“Topic 605”), as discussed below. The adoption of Topic 606 resulted in accounting policy changes surrounding revenue recognition which replaced the related previous policies under Topic 605. The following is a summary of the Company’s revenue recognition and related accounting policies and disclosures resulting from the adoption of Topic 606.

The Company’s primary source of revenues consist of product sales to either end customers and their appointed contract manufacturers (including original equipment manufacturers) or to distributors, and the vast majority of our sales are recognized at a point-in-time under the core principle of recognizing revenue when control transfers to the customer. Revenues are derived from contracts with customers, which in most cases are customer purchase orders that may be governed by master sales agreements. For each contract, the promise to transfer the control of the products, each of which is individually distinct, is considered to be the identified performance obligation. As part of the consideration promised in each contract, the Company evaluates the customer’s credit risk. Our contracts do not have any significant financing components, as payment terms are generally due net 30 to 120 days after delivery. Although products are almost always sold at fixed prices, in determining the transaction price, we evaluate whether the price is subject to refund (due to returns) or adjustment (due to volume discounts, rebates, or price concessions) to determine the net consideration we expect to be entitled to. We allocate the transaction price to each distinct product based on its relative standalone selling price. Taxes assessed by governmental authorities and collected from the customer, including but not limited to sales and use taxes and value-added taxes, are not included in the transaction price.

The vast majority of our sales are recognized at a point-in-time under the core principle of recognizing revenue when control transfers to the customer. With limited exceptions, the Company recognizes revenue at the point in time when we ship or deliver the product from our manufacturing facility to our customer, when our customer accepts and has legal title of the goods, and the Company has a present right to payment for such goods. Based on the respective contract terms, most of our contracts' revenues are recognized either (i) upon shipment based on free on board ("FOB") shipping point, (ii) when the product arrives at its destination or (iii) when the product is pulled from consignment inventory. For the year ended December 31, 2018, less than 5% of our net sales are recognized over time, as the associated contracts relate to the sale of goods with no alternative use as they are only sold to a single customer and whose underlying contract terms provide the Company with an enforceable right to payment, including a reasonable profit margin, for performance completed to date, in the event of customer termination. For the contracts recognized over time, we typically record revenue using the input method, based on the materials and labor costs incurred to date relative to the contract's total estimated costs. This method reasonably depicts when and as control of the goods transfers to the customer, since it measures our progress in producing the goods, which is generally commensurate with this transfer of control. Since we typically invoice our customers at the same time that we satisfy our performance obligations, we do not have significant contract assets or contract liabilities related to our contracts with customers recorded in the Consolidated Balance Sheets as of December 31, 2018.

Table of Contents

The Company receives customer orders negotiated with multiple delivery dates that may extend across more than one reporting period until the contract is fulfilled, the end of the order period is reached, or a pre-determined maximum order value has been reached. Orders typically fluctuate from quarter to quarter based on customer demand and general business conditions, and it is generally expected that a substantial portion of our remaining performance obligations will be fulfilled within three months. Nearly all of our performance obligations are fulfilled within one year. Since our performance obligations are part of contracts that generally have original durations of one year or less, we have not disclosed the aggregate amount of transaction prices associated with unsatisfied or partially unsatisfied performance obligations as of December 31, 2018.

Sales to Distributors and Resellers

Sales to certain distributors and resellers are made under terms allowing certain price adjustments and limited rights of return of the Company's products held in their inventory or upon sale to their end customers. The Company maintains a reserve for unprocessed and estimated future price adjustment claims and returns as a refund liability. The reserve is recorded as a reduction to revenue in the same period that the related revenue is recorded and is calculated based on an analysis of historical claims and returns over a period of time to appropriately account for current pricing and business trends. Similarly, sales returns and allowances are recorded based on historical return rates, as a reduction to revenue with a corresponding reduction to cost of sales for the estimated cost of inventory that is expected to be returned. These reserves were not material upon the adoption of Topic 606 on January 1, 2018, nor were they material in the Consolidated Balance Sheet as of December 31, 2018.

Warranty

Standard product warranty coverage which provides assurance that our products will conform to the contractually agreed-upon specifications for a limited period from the date of shipment is typically offered, while extended or separately-priced warranty coverage is typically not offered. The warranty claim is generally limited to a credit equal to the purchase price or a promise to repair or replace the product for a specified period of time at no additional charge. We estimate our warranty liability based on historical experience, product history, and current trends, and record warranty expense in cost of sales in the Consolidated Statements of Income. Warranty liabilities and related warranty expense have not been and were not material in the accompanying Consolidated Financial Statements as of and for the years ended December 31, 2018, 2017 and 2016.

Shipping and Handling Costs

The Company accounts for shipping and handling activities related to contracts with customers as a cost to fulfill our promise to transfer control of the related product, including any such costs incurred after the customer has obtained control of the goods. Shipping and handling costs are generally charged to and paid by the majority of our customers

as part of the contract. For a nominal portion of our customer contracts, primarily for certain customers in the broadband communications market (a market primarily in the Cable Products and Solutions segment), such costs are not separately charged to the customers. Shipping and handling costs are included in Cost of sales in the accompanying Consolidated Statements of Income.

Contract Assets and Contract Liabilities

The Company records contract assets or contract liabilities depending on the timing of revenue recognition, billings and cash collections on a contract-by-contract basis. Contract assets represent unbilled receivables, which generally arise when revenue recognized over time exceed amounts billed to customers. Contract liabilities represent billings or advanced consideration received from customers in excess of revenue recognized to date. As the Company's performance obligations are typically less than one year, these amounts are generally recorded as current in the accompanying Consolidated Balance Sheets within Other current assets or Other accrued expenses as of December 31, 2018. Contract assets and contract liabilities recorded in the Company's Consolidated Balance Sheets were not material both at the date of adoption and as of December 31, 2018.

Contract Costs

The Company's policy is to capitalize any incremental costs incurred to obtain a customer contract, only to the extent that such costs are explicitly chargeable to the customer and the benefit associated with the costs is expected to be longer than one year. Otherwise, such costs are expensed as incurred and recorded within Selling, general and

Table of Contents

administrative expenses in the accompanying Consolidated Statements of Income. Incremental costs to fulfill customer orders, which are mostly comprised of pre-production and set-up costs, are generally capitalized to the extent such costs are contractually guaranteed to be reimbursed by the customer. Otherwise, such costs are expensed as incurred. Capitalized contract costs to obtain a contract or to fulfill a contract that are not accounted for under other existing accounting standards are recorded as either other current or long-term assets on the accompanying Consolidated Balance Sheets, depending on the timing of when the Company expects to recognize the expense, and are generally amortized consistent with the timing of when transfer of control of the related goods occurs. Such capitalized contract costs were not material both at the date of adoption and as of December 31, 2018, and the related amortization expense was not material for the year ended December 31, 2018.

Pre-adoption of Topic 606

The Company adopted Topic 606 using the modified retrospective method and as such, comparative results for the years ended December 31, 2017 and 2016 were not retrospectively adjusted. For the years ended December 31, 2017 and 2016, revenue from sales of the Company's products was recognized at the time the goods were delivered, title passed and the risks and rewards of ownership passed to the customer, provided the earnings process was complete and revenue was measurable. Such recognition generally occurred when the products reached the shipping point, the sales price was fixed and determinable, and collection was reasonably assured. Delivery was determined by the Company's shipping terms, which was primarily freight on board shipping point. Revenue was recorded at the net amount to be received after deductions for estimated discounts, allowances and returns. These estimates and reserves were determined and adjusted as needed based upon historical experience, contract terms and other related factors. The shipping costs for the majority of the Company's sales were paid directly by the Company's customers. In the broadband communications market (approximately 6% of net sales in 2017), the Company paid for shipping costs to the majority of its customers. Shipping costs were also paid by the Company for certain customers in the Interconnect Products and Assemblies segment.

Retirement Pension Plans

Costs for retirement pension plans include current service costs and amortization of prior service costs over the average working life expectancy. It is the Company's policy to fund current pension costs taking into consideration minimum funding requirements and maximum tax deductible limitations. The expense of retiree medical benefit programs is recognized during the employees' service with the Company. The recognition of expense for retirement pension plans and medical benefit programs is significantly impacted by estimates made by management such as discount rates used to value certain liabilities, expected return on assets, mortality projections and future health care costs. The Company uses third-party specialists to assist management in appropriately measuring the expense and obligations associated with pension and other postretirement plan benefits. The defined benefit plan obligation is based on significant assumptions such as mortality rates, discount rates and plan asset rates of return as determined by the Company in consultation with the respective benefit plan actuaries and investment advisors.

Stock-Based Compensation

The Company accounts for its stock option and restricted share awards based on the fair value of the award at the date of grant and recognizes compensation expense over the service period that the awards are expected to vest. The Company recognizes expense for stock-based compensation with graded vesting on a straight-line basis over the vesting period of the entire award. Stock-based compensation expense includes the estimated effects of forfeitures, which are adjusted over the requisite service period to the extent actual forfeitures differ or are expected to differ from such estimates. Changes in estimated forfeitures are recognized in the period of change and impact the amount of expense to be recognized in future periods.

Income Taxes

Deferred income taxes are provided for revenue and expenses which are recognized in different periods for income tax and financial statement reporting purposes. The Company recognizes the effects of changes in tax laws and rates on deferred income taxes in the period in which legislation is enacted. Deferred income taxes are provided on undistributed earnings of foreign subsidiaries in the period in which the Company determines it no longer intends to permanently reinvest such earnings outside the United States. As of December 31, 2018, the Company has not provided for deferred income taxes on undistributed foreign earnings related to certain geographies of approximately \$800, as it is the Company's intention to permanently reinvest such earnings outside the United States. The amount of taxes that would

Table of Contents

be payable if these undistributed foreign earnings were to be repatriated would not be material. In addition, the Company remains indefinitely reinvested with respect to its financial statement basis in excess of tax basis of its investments in foreign subsidiaries. It is not practicable to determine the deferred tax liability with respect to such basis differences. Deferred tax assets are regularly assessed for recoverability based on both historical and anticipated earnings levels and a valuation allowance is recorded when it is more likely than not that these amounts will not be recovered. The tax effects of an uncertain tax position taken or expected to be taken in income tax returns are recognized only if it is “more likely than not” to be sustained on examination by the taxing authorities, based on its technical merits as of the reporting date. The tax benefits recognized in the financial statements from such a position are measured based on the largest benefit that has a greater than fifty percent likelihood of being realized upon ultimate settlement. The Company includes estimated interest and penalties related to unrecognized tax benefits in the provision for income taxes.

For the year ended December 31, 2017, as a result of the Tax Cuts and Jobs Act (“Tax Act”), the Company recorded (i) a provisional income tax charge related to the deemed repatriation of the accumulated unremitted earnings and profits of foreign subsidiaries, (ii) a provisional income tax charge related to changes in the Company’s permanent reinvestment assertion with regards to prior accumulated unremitted earnings from certain foreign subsidiaries, partially offset by (iii) a provisional income tax benefit associated with the remeasurement of its net deferred tax liabilities due to the U.S. federal corporate tax rate reduction, and included these amounts in its consolidated financial statements. Beginning in 2018, the Tax Act also included a global intangible low-taxed income (“GILTI”) provision, which imposes a tax on foreign earnings in excess of a deemed return on tangible assets of foreign subsidiaries. The Company has elected an accounting policy to account for GILTI as a period cost if incurred, rather than recognizing deferred taxes for temporary basis differences expected to reverse as GILTI. The U.S. Treasury Department has not yet released final interpretive guidance relating to certain provisions of the Tax Act. The Company will account for the impact of additional guidance in the period in which any new guidance is released, if appropriate.

In December 2017, the SEC staff issued Staff Accounting Bulletin No. 118 (“SAB 118”) (subsequently codified under ASU 2018-05, as discussed below) to address the application of U.S. GAAP in situations where a registrant does not have the necessary information available, prepared, or analyzed in reasonable detail to complete the accounting for certain income tax effects of the Tax Act. In 2017, the Company recorded a provisional income tax charge as a result of the Tax Act. Due to the timing of the Tax Act’s enactment and the complexity of its provisions, the Company had not completed its accounting for the impact of the Tax Act in 2017. The Company analyzed guidance and technical interpretations issued in 2018 related to the provisions of the Tax Act, and refined, analyzed and updated the underlying data, computations and assumptions used to prepare this provisional income tax charge. As a result, the Company completed its accounting and recorded an income tax benefit of \$14.5 in 2018.

Foreign Currency Translation

The financial position and results of operations of the Company’s significant foreign subsidiaries are measured using local currency as the functional currency. Assets and liabilities of such subsidiaries have been translated into U.S. dollars at current exchange rates and related revenues and expenses have been translated at weighted average exchange rates. The aggregate effect of translation adjustments is included as a component of Accumulated other

comprehensive income (loss) within equity. Transaction gains and losses related to operating assets and liabilities are included in Cost of sales.

Research and Development

Costs incurred in connection with the development of new products and applications are expensed as incurred. Research and development expenses for the creation of new and improved products and processes were \$220.9, \$193.7 and \$166.1, for the years 2018, 2017 and 2016, respectively, and are included in Selling, general and administrative expenses.

Acquisitions

The Company accounts for acquisitions using the acquisition method of accounting, which requires that assets acquired and liabilities assumed be recognized at fair value as of the acquisition date. The purchase price of acquisitions is allocated to the tangible and identifiable intangible assets acquired and liabilities assumed based on estimated fair values, and any excess purchase price over the identifiable assets acquired and liabilities assumed is recorded as goodwill. Any subsequent adjustments to the purchase price allocation prior to the completion of the measurement period will be reflected as an adjustment to goodwill in the period in which the adjustments are identified.

Table of Contents

The Company may use independent valuation specialists to assist in determining the estimated fair values of assets acquired and liabilities assumed, which could require certain significant management assumptions and estimates.

Environmental Obligations

The Company recognizes the potential cost for environmental remediation activities when site assessments are made, remediation efforts are probable and related amounts can be reasonably estimated; potential insurance reimbursements are not recorded. The Company assesses its environmental liabilities as necessary and appropriate through regular reviews of contractual commitments, site assessments, feasibility studies and formal remedial design and action plans.

Net Income per Common Share

Basic income per common share is based on the net income attributable to Amphenol Corporation for the year divided by the weighted average number of common shares outstanding. Diluted income per common share assumes the exercise of outstanding dilutive stock options using the treasury stock method.

Treasury Stock

Treasury stock purchases are recorded at cost. Any issuances from treasury shares are recorded using the weighted-average cost method.

Derivative Financial Instruments

Derivative financial instruments, which are periodically used by the Company in the management of its interest rate and foreign currency exposures, are accounted for as cash flow hedges. Gains and losses on derivatives designated as cash flow hedges resulting from changes in fair value are recorded in Accumulated other comprehensive income (loss), and subsequently reflected in Cost of sales in the Consolidated Statements of Income in a manner that matches the timing of the actual income or expense of such instruments with the hedged transaction. Any ineffective portion of the change in the fair value of designated hedging instruments is included in the Consolidated Statements of Income.

Recent Accounting Pronouncements

Recently Adopted Accounting Standards

Revenue Recognition

As discussed above, the Company adopted Topic 606 as of January 1, 2018 using the modified retrospective transition method applied to those contracts which were not completed as of January 1, 2018. The vast majority of our sales continue to be recognized when products are shipped from our facilities or delivered to our customers, depending on the respective contractual terms. For a nominal portion of our contracts where the accounting did change, the adoption of Topic 606 resulted in an increase to the opening balance of retained earnings of approximately \$3.2 as of January 1, 2018. This impact was primarily due to the acceleration of net sales and associated net income related to certain uncompleted contracts for the manufacture of goods with no alternative use and for which we have an enforceable right to payment, including a reasonable profit margin, from the customer for performance completed to date. For these contracts, we now recognize revenue over time as control of the goods transfers, rather than when the goods are delivered, and title, risk and reward of ownership are passed to the customer, as under previous guidance.

The adoption of Topic 606 did not have a material impact on our consolidated financial statements as of January 1, 2018 and for the year ended December 31, 2018. Refer to Note 11 herein for further discussion regarding the Company's disaggregation of revenue.

Other Recently Adopted Accounting Standards

In March 2017, the FASB issued ASU 2017-07, Compensation—Retirement Benefits (Topic 715): Improving the Presentation of Net Periodic Pension Cost and Net Periodic Postretirement Benefit Cost (“ASU 2017-07”), requiring employers to provide more details about the components of costs related to retirement benefits. Specifically, ASU 2017-07 requires employers to report the service costs for providing pensions to employees in the same line item as other

Table of Contents

employee compensation costs, while requiring other pension-related costs, such as interest costs, amortization of pension-related costs from prior periods, and the gains or losses on plan assets, to be reported separately and outside of the subtotal of operating income. ASU 2017-07 is effective for fiscal years, and interim periods within those fiscal years, beginning after December 15, 2017. The Company adopted ASU 2017-07 in the first quarter of 2018, which did not have a material impact on our consolidated financial statements.

In May 2017, the FASB issued ASU 2017-09, Compensation—Stock Compensation (Topic 718): Scope of Modification Accounting (“ASU 2017-09”), which provides guidance to determine which changes to the terms or conditions of share-based payment awards require an entity to apply modification accounting in Topic 718. ASU 2017-09 was effective for fiscal years, and interim periods within those fiscal years, beginning after December 15, 2017, and required prospective application to changes in terms or conditions of awards occurring on or after the adoption date. The Company adopted ASU 2017-09 in the first quarter of 2018, which did not have any impact on our consolidated financial statements.

In February 2018, the FASB issued ASU 2018-02, Income Statement—Reporting Comprehensive Income (Topic 220): Reclassification of Certain Tax Effects from Accumulated Other Comprehensive Income (“ASU 2018-02”), which amends the standard on comprehensive income by providing an option for an entity to reclassify stranded tax effects, resulting from the enactment of the Tax Cuts and Jobs Act (“Tax Act”) on December 22, 2017, from accumulated other comprehensive income directly to retained earnings. The stranded tax effects result from the remeasurement of net deferred tax positions that were originally recorded in comprehensive income but whose remeasurement was reflected in the income statement in 2017. ASU 2018-02 only applies to the effects of the Tax Act and is effective for fiscal years, and interim periods within those fiscal years, beginning after December 15, 2018, with early adoption permitted. ASU 2018-02 may be applied either at the beginning of the period of adoption or on a retrospective basis to any period in which the impacts of the Tax Act are recognized. The Company early adopted ASU 2018-02 in the fourth quarter of 2018, as of October 1, 2018, which resulted in the reclassification of the stranded tax effects of the Tax Act of approximately \$23.5 from Accumulated other comprehensive loss to Retained earnings on the Consolidated Balance Sheets, related to the change in the statutory tax rate. The comparative prior periods were not restated and are reported under the accounting standards in effect for those periods.

In March 2018, the FASB issued ASU 2018-05, Income Taxes (Topic 740): Amendments to SEC Paragraphs Pursuant to SEC Staff Accounting Bulletin No. 118 (“ASU 2018-05”), which addresses the application of U.S. GAAP when preparing the initial accounting for the income tax effects of a change in tax laws or rates. SEC Staff Accounting Bulletin No. 118 (“SAB 118”) was issued in December 2017 to provide immediate accounting guidance resulting from the enactment of the Tax Act. ASU 2018-05 codifies the guidance of SAB 118 within FASB ASC Topic 740, Income Taxes (“ASC 740”), including guidance allowing for the recognition of provisional amounts in situations where the related accounting is not complete and reasonable estimates can be made at the time that financial statements are issued covering the reporting period that includes the enactment date of the Tax Act, as well as allowing for a measurement period of up to one year from the enactment date to finalize the accounting related to the Tax Act. Previously, ASC 740 did not directly address incomplete accounting for the effects of a change in tax laws or rates. The Company applied SAB 118 (and subsequently ASU 2018-05) associated with the provisional income tax charge (“Tax Act Charge”) recorded in 2017, as well as the completion of the accounting associated with such charge in 2018. Refer to Note 4 herein for further details regarding the Tax Act.

In August 2018, the FASB issued ASU 2018-14, Compensation—Retirement Benefits—Defined Benefit Plans—General (Subtopic 715-20): Disclosure Framework—Changes to the Disclosure Requirements for Defined Benefit Plans (“ASU 2018-14”), which amends the current annual disclosure requirements related to defined benefit pension and other postretirement plans by adding new requirements, removing certain requirements and providing clarification on existing requirements. ASU 2018-14 does not amend the interim disclosure requirements of existing guidance and is effective for fiscal years ending after December 31, 2020, with early adoption permitted and must be applied on a retrospective basis. The Company early adopted ASU 2018-14 in the fourth quarter of 2018, which did not have a material impact on our consolidated financial statements and related disclosures.

The Securities and Exchange Commission has recently issued several final rules, including but not limited to SEC Final Rule Release No. 33-10532 Disclosure Update and Simplification (“Final Rule”), which amends certain redundant, duplicative, outdated, superseded or overlapping disclosure requirements. This Final Rule is intended to facilitate disclosure information provided to investors and simplify compliance without significantly impacting the mix of information provided to investors. The amendments also expand the disclosure requirements regarding the analysis of

Table of Contents

stockholders' equity for interim financial statements, in which entities will be required to present a reconciliation for each period for which a statement of comprehensive income is required to be filed. We adopted the Final Rule effective on November 5, 2018, which did not have any material impact on our consolidated financial statements and related disclosures.

Recently Issued Accounting Standards Not Yet Adopted

Leases

In February 2016, the FASB issued ASU 2016-02, Leases (Topic 842) (“ASU 2016-02” or “Topic 842”), which amends, among other things, the existing guidance by requiring lessees to recognize lease right-of-use assets (“ROU assets”) and liabilities (for reasonably certain lease payments) arising from operating leases on the balance sheet. For leases with a term of twelve months or less, ASU 2016-02 permits an entity to make an accounting policy election to not recognize a ROU asset nor lease liability, but rather to recognize such leases as lease expense, generally on a straight-line basis over the lease term. In July 2018, the FASB issued ASU 2018-10, Codification Improvements to Topic 842, Leases, which clarified various aspects of the guidance under ASU 2016-02. ASU 2016-02 is effective for fiscal years, and interim periods within those fiscal years, beginning after December 15, 2018, with early adoption permitted. Originally, entities were required to adopt ASU 2016-02 using a modified retrospective approach, which required prior periods to be presented under Topic 842. However, in July 2018, the FASB issued ASU 2018-11, Leases (Topic 842): Targeted Improvements, which allows entities the option of recognizing the cumulative effect of applying Topic 842 as an adjustment to the opening balance of retained earnings in the year of adoption while continuing to present all prior periods under previous lease accounting guidance.

The Company has implemented a new lease management system that will facilitate the adoption of this standard and enable the Company to fulfill its requirements for both reporting and disclosure purposes, and we have reviewed and implemented the necessary changes to our existing policies, processes and controls to achieve appropriate compliance. The Company will adopt Topic 842 in the first quarter of 2019 using the modified retrospective transition approach allowed under ASU 2018-11, and will recognize any cumulative effect of applying the standard as an adjustment to the opening balance of retained earnings as of January 1, 2019. We plan to adopt certain optional practical expedients provided in ASU 2016-02 for both transition and post-adoption. The Company has nearly completed its assessment of ASU 2016-02 and its impact on our consolidated financial statements and related disclosures, and we currently expect the adoption of this standard will result in the recognition of ROU assets and related lease liabilities on our Condensed Consolidated Balance Sheets as of January 1, 2019 of approximately \$180 related to our operating lease commitments, with no impact to the opening balance of retained earnings. Topic 842 is not expected to have a material impact on our Condensed Consolidated Statements of Income, Condensed Consolidated Statements of Comprehensive Income and Condensed Consolidated Statements of Cash Flow. The future impact of Topic 842 on the Company’s consolidated financial statements will be dependent upon the Company’s lease portfolio going forward. In the first quarter of 2019, the Company will also provide new disclosures about our leasing activities as required under Topic 842.

Other Recently Issued Accounting Standards Not Yet Adopted

In August 2018, the FASB issued ASU 2018-13, Fair Value Measurement (Topic 820): Disclosure Framework—Changes to the Disclosure Requirements for Fair Value Measurement (“ASU 2018-13”), which adds, amends and removes certain disclosure requirements related to fair value measurements. Among other changes, this standard requires certain additional disclosure surrounding Level 3 assets, including changes in unrealized gains or losses in other comprehensive income and certain inputs in those measurements. ASU 2018-13 is effective for fiscal years, and interim periods within those fiscal years, beginning after December 15, 2019. Certain amended or eliminated disclosures in this standard may be adopted early, while certain additional disclosure requirements in this standard can be adopted on its effective date. In addition, certain changes in the standard require retrospective adoption, while other changes must be adopted prospectively. The Company is currently evaluating ASU 2018-13 and its impact on our consolidated financial statements.

Table of Contents

Note 2—Long-Term Debt

Long-term debt consists of the following:

		December 31, 2018		December 31, 2017	
	Maturity	Carrying Amount	Approximate Fair Value (1)	Carrying Amount	Approximate Fair Value (1)
Revolving Credit Facility	March 2021	\$ —	\$ —	\$ —	\$ —
U.S. Commercial Paper Program (less unamortized discount of \$0.5 and \$0.3 at December 31, 2018 and 2017, respectively)	March 2021	554.5	554.5	1,175.4	1,175.4
Euro Commercial Paper Program (plus unamortized premium of nil at December 31, 2018)	March 2021	68.8	68.8	—	—
4.00% Senior Notes (less unamortized discount of \$0.4 and \$0.5 at December 31, 2018 and 2017, respectively)	February 2022	499.6	508.8	499.5	522.5
2.55% Senior Notes (less unamortized discount of nil and \$0.2 at December 31, 2018 and 2017, respectively)	January 2019	750.0	749.4	749.8	752.8
3.125% Senior Notes (less unamortized discount of \$0.1 and \$0.2 at December 31, 2018 and 2017, respectively)	September 2021	374.9	374.2	374.8	381.2
2.20% Senior Notes (less unamortized discount of \$0.1 and \$0.2 at December 31, 2018 and 2017, respectively)	April 2020	399.9	395.5	399.8	398.0
3.20% Senior Notes (less unamortized discount of \$0.3 and \$0.4 at December 31, 2018 and 2017, respectively)	April 2024	349.7	334.5	349.6	351.9
2.000% Euro Senior Notes (less unamortized discount of \$2.8 at December 31, 2018)	October 2028	570.5	572.8	—	—
Notes payable to foreign banks and other debt	2019-2032	16.6	16.6	6.6	6.6
Less unamortized deferred debt issuance costs		(13.8)	—	(12.9)	—
Total debt		3,570.7	3,575.1	3,542.6	3,588.4
Less current portion		764.3	763.7	1.1	1.1
Total long-term debt		\$ 2,806.4	\$ 2,811.4	\$ 3,541.5	\$ 3,587.3

- (1) The fair value of each series of the Company's Senior Notes is based on recent bid prices in an active market and is therefore classified as Level 1 in the fair value hierarchy (Note 3).

Revolving Credit Facility

As of December 31, 2018, the Company had a \$2,000.0 unsecured credit facility (the "2016 Revolving Credit Facility"), which matured in March 2021 and gave the Company the ability to borrow at a spread over LIBOR. The Company may utilize the 2016 Revolving Credit Facility for general corporate purposes. The carrying value of any borrowings under the 2016 Revolving Credit Facility would approximate their fair value due primarily to their market interest rates and would be classified as Level 2 in the fair value hierarchy (Note 3). At December 31, 2018, there were no borrowings under the 2016 Revolving Credit Facility. The 2016 Revolving Credit Facility required payment of certain annual agency and commitment fees and required that the Company satisfy certain financial covenants.

On January 15, 2019, the Company amended its 2016 Revolving Credit Facility with a new \$2,500.0 unsecured credit facility ("2019 Revolving Credit Facility"). The 2019 Revolving Credit Facility, which matures January 2024, increases the aggregate commitments by \$500.0 and, consistent with the previous 2016 Revolving Credit Facility, gives the Company the ability to borrow at a spread over LIBOR. The Company intends to utilize the 2019 Revolving Credit Facility for general corporate purposes.

Commercial Paper

The Company has a commercial paper program pursuant to which the Company issues short-term unsecured commercial paper notes ("U.S. Commercial Paper" or "USCP Notes") in one or more private placements in the United States (the "U.S. Commercial Paper Program"). The maturities of the USCP Notes vary, but may not exceed 397 days from the date of issue. The USCP Notes are sold under customary terms in the commercial paper market and may be issued at a discount from par, or, alternatively, may be sold at par, and bear varying interest rates on a fixed or floating basis. The average interest rate on the U.S. Commercial Paper as of December 31, 2018 and 2017 was 2.88% and 1.71%, respectively.

On July 10, 2018, the Company and one of its wholly owned European subsidiaries (the "Euro Issuer") entered into a euro-commercial paper program (the "Euro Commercial Paper Program" and, together with the U.S. Commercial Paper Program, the "Commercial Paper Programs") pursuant to which the Euro Issuer may issue short-term unsecured

Table of Contents

commercial paper notes (the “ECP Notes” and, together with the USCP Notes, “Commercial Paper”), which are guaranteed by the Company and are to be issued outside of the United States. The maturities of the ECP Notes will vary, but may not exceed 183 days from the date of issue. The ECP Notes are sold under customary terms in the euro-commercial paper market and may be issued at par or a discount therefrom or a premium thereto and bear varying interest rates on a fixed or floating basis. The ECP Notes may be issued in Euros, Sterling, U.S. Dollars or other currencies. As of December 31, 2018, the amount of ECP Notes outstanding was €60.0 (approximately \$68.8), with an average interest rate of (0.10)%.

Amounts available under the Commercial Paper Programs may be borrowed, repaid and re-borrowed from time to time. As of December 31, 2018, the Company’s Board of Directors’ authorization for the ECP Notes limits the maximum aggregate principal amount outstanding of USCP Notes, ECP Notes, and any other commercial paper, euro-commercial paper or similar programs at any time to \$2,000.0, which was then further increased to \$2,500.0 in conjunction with the amended 2019 Revolving Credit Facility. The maximum aggregate principal amount outstanding of USCP Notes at any time was also increased to \$2,500.0, while the maximum aggregate principal amount outstanding of ECP Notes at any time remains at \$2,000.0. The Commercial Paper Programs are rated A-2 by Standard & Poor’s and P-2 by Moody’s and are currently backstopped by the Revolving Credit Facility, as amounts undrawn under the Company’s existing Revolving Credit Facility are available to repay Commercial Paper, if necessary. Net proceeds of the issuances of the Commercial Paper are expected to be used for general corporate purposes. The Commercial Paper is classified as long-term debt in the accompanying Consolidated Balance Sheets since the Company has the intent and ability to refinance the Commercial Paper on a long-term basis using the Company’s revolving credit facility. The Commercial Paper is actively traded and is therefore classified as Level 1 in the fair value hierarchy (Note 3). The carrying value of Commercial Paper borrowings approximates their fair value.

U.S. Senior Notes

All of the Company’s outstanding senior notes in the United States (“U.S. Senior Notes”) are unsecured and rank equally in right of payment with the Company’s other unsecured senior indebtedness. Interest on each series of U.S. Senior Notes is payable semiannually. The Company may, at its option, redeem some or all of any series of U.S. Senior Notes at any time subject to certain terms and conditions, which include paying 100% of the principal amount, plus accrued and unpaid interest, if any, to the date of repurchase, and, with certain exceptions, a make-whole premium.

On April 5, 2017, the Company issued \$400.0 principal amount of unsecured 2.20% Senior Notes due April 1, 2020 at 99.922% of face value (the “2020 Senior Notes”) and \$350.0 principal amount of unsecured 3.20% Senior Notes due April 1, 2024 at 99.888% of face value (the “2024 Senior Notes” and, together with the 2020 Senior Notes, the “2020 and 2024 Notes”). Interest on each of the 2020 and 2024 Notes is payable semiannually on April 1 and October 1 of each year, commencing on October 1, 2017. The Company may, at its option, redeem some or all of the 2020 Senior Notes at any time by paying 100% of the principal amount, plus accrued and unpaid interest, if any, to the date of repurchase, and if redeemed prior to the date of maturity, a make-whole premium. The Company may, at its option, redeem some or all of the 2024 Senior Notes at any time by paying 100% of the principal amount, plus accrued and unpaid interest, if any, to the date of repurchase, and if redeemed prior to February 1, 2024, a make-whole premium. In September 2017, the Company used the net proceeds from the 2020 and 2024 Notes to repay all of its

outstanding \$375.0 principal amount of 1.55% Senior Notes due September 15, 2017, with the remainder of the net proceeds being used for general corporate purposes.

On January 9, 2019, the Company issued \$500.0 principal amount of unsecured 4.350% Senior Notes due June 1, 2029 at 99.904% of face value (the “2029 Senior Notes”). The 2029 Senior Notes are unsecured and rank equally in right of payment with the Company’s other unsecured senior indebtedness. Interest on the 2029 Senior Notes is payable semiannually on June 1 and December 1 of each year, commencing on June 1, 2019. The Company may, at its option, redeem some or all of the 2029 Senior Notes at any time by paying 100% of the principal amount, plus accrued and unpaid interest, if any, to the date of repurchase, and if redeemed prior to March 1, 2029, a make-whole premium. The Company used the net proceeds from the 2029 Senior Notes, along with borrowings under the U.S. Commercial Paper Program, to repay \$750.0 of 2.55% Senior Notes due in January 2019.

Euro Senior Notes

On October 8, 2018, the Euro Issuer issued €500.0 (approximately \$574.6) principal amount of unsecured 2.000% Senior Notes due October 8, 2028 at 99.498% of face value (the “2028 Euro Notes” or “2.000% Euro Senior Notes”, and collectively with the U.S. Senior Notes, “Senior Notes”). The 2028 Euro Notes are unsecured and rank equally in right

Table of Contents

of payment with the Euro Issuer's other unsecured senior indebtedness, and are guaranteed on a senior unsecured basis by the Company. Interest on the 2028 Euro Notes is payable annually on October 8 of each year, commencing on October 8, 2019. The Company may, at its option, redeem some or all of the 2028 Euro Notes at any time by paying 100% of the principal amount, plus accrued and unpaid interest, if any, to the date of repurchase, and if redeemed prior to July 8, 2028, a make-whole premium. The Company used a portion of the net proceeds from the 2028 Euro Notes to repay a portion of the outstanding amounts under its Commercial Paper Programs, with the remainder of the net proceeds being used for general corporate purposes.

The Company's Senior Notes contain certain financial and non-financial covenants.

The maturity of the Company's debt (exclusive of unamortized deferred debt issuance costs as of December 31, 2018) over each of the next five years ending December 31 and thereafter, is as follows:

2019	\$ 764.4
2020	400.5
2021	998.6
2022	499.9
2023	0.2
Thereafter	920.9
	\$ 3,584.5

At December 31, 2018, the Company had approximately \$30.0 of uncommitted standby letter of credit facilities, of which \$20.5 were issued.

Note 3—Fair Value Measurements

Fair value is determined based on the exchange price that would be received for an asset or paid to transfer a liability (an exit price) in the principal or most advantageous market for the asset or liability in an orderly transaction between market participants. These requirements establish market or observable inputs as the preferred source of values. Assumptions based on hypothetical transactions are used in the absence of market inputs. The Company does not have any non-financial instruments accounted for at fair value on a recurring basis.

The valuation techniques required are based upon observable and unobservable inputs. Observable inputs reflect market data obtained from independent sources, while unobservable inputs reflect the Company's market assumptions. These two types of inputs create the following fair value hierarchy:

Level 1 Quoted prices for identical instruments in active markets.

Level 2 Quoted prices for similar instruments in active markets; quoted prices for identical or similar instruments in markets that are not active; and model-derived valuations whose inputs are observable or whose significant value drivers are observable.

Level 3 Significant inputs to the valuation model are unobservable.

The Company believes that the assets or liabilities subject to such standards with fair value disclosure requirements are short-term investments and derivative instruments. Substantially all of the Company's short-term investments consist of certificates of deposit with original maturities of twelve months or less and as such, are considered as Level 1 in the fair value hierarchy as they are traded in active markets for identical assets. The carrying amounts of these instruments, the majority of which are in non-U.S. bank accounts, approximate their fair value. The Company's derivative instruments represent foreign exchange rate forward contracts, which are valued using bank quotations based on market observable inputs such as forward and spot rates and are therefore classified as Level 2 in the fair value hierarchy. The impact of the credit risk related to these financial assets is immaterial. The fair values of the Company's

Table of Contents

financial and non-financial assets and liabilities subject to such standards at December 31, 2018 and December 31, 2017 are as follows:

	Total	Fair Value Measurements		
		Quoted Prices in Active Markets for Identical Assets (Level 1)	Significant Observable Inputs (Level 2)	Significant Unobservable Inputs (Level 3)
2018				
Short-term investments	\$ 12.4	\$ 12.4	\$ —	\$ —
Forward contracts	2.4	—	2.4	—
Total	\$ 14.8	\$ 12.4	\$ 2.4	\$ —
2017				
Short-term investments	\$ 34.6	\$ 34.6	\$ —	\$ —
Forward contracts	2.3	—	2.3	—
Total	\$ 36.9	\$ 34.6	\$ 2.3	\$ —

The Company does not have any significant financial or non-financial assets and liabilities that are measured at fair value on a non-recurring basis.

For the years ended December 31, 2018 and 2017, a gain (loss) of \$0.4 and \$(0.1), respectively, was recognized in Accumulated other comprehensive loss associated with foreign exchange rate forward contracts. The amounts reclassified from Accumulated other comprehensive loss to foreign exchange gain (loss) in the accompanying Consolidated Statements of Income during 2018 and 2017 were not material. The fair values of the forward contracts are recorded within Other current assets, Intangibles, net and other long-term assets, Other accrued expenses or Other long-term liabilities in the accompanying Consolidated Balance Sheets, depending on their value and remaining contractual period.

Note 4—Income Taxes

The components of income before income taxes and the provision for income taxes are as follows:

	Year Ended December 31,		
	2018	2017	2016
Income before income taxes:			
United States	\$ 194.1	\$ 153.0	\$ 87.7

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Foreign	1,394.3	1,199.4	1,053.4
	\$ 1,588.4	\$ 1,352.4	\$ 1,141.1
Current tax provision:			
United States	\$ 37.8	\$ 200.0	\$ 74.6
Foreign	345.7	305.4	263.8
	383.5	505.4	338.4
Deferred tax provision (benefit):			
United States	27.8	51.0	(32.3)
Foreign	(39.8)	135.3	2.4
	(12.0)	186.3	(29.9)
Total provision for income taxes	\$ 371.5	\$ 691.7	\$ 308.5

On December 22, 2017, the United States federal government enacted the Tax Act, marking a change from a worldwide tax system to a modified territorial tax system in the United States. As part of this change, the Tax Act, among other changes, provides for a transition tax on the accumulated unremitted foreign earnings and profits of the Company's foreign subsidiaries ("Transition Tax") and a reduction of the U.S. federal corporate income tax rate from 35% to 21%. As a result, in the fourth quarter of 2017, the Company recorded an income tax charge of \$398.5 ("Tax Act Charge") that was comprised of (i) the Transition Tax of \$259.4, (ii) a charge of \$176.6 related to changes in the Company's permanent reinvestment assertion with regards to prior accumulated unremitted earnings from certain foreign subsidiaries, partially offset by (iii) a tax benefit of \$37.5 associated with the remeasurement of the Company's U.S. net deferred tax liabilities due to the U.S. federal corporate tax rate reduction. These three components of the Tax Act Charge were provisional amounts recorded in accordance with SAB 118 (now codified in ASU 2018-05), which

Table of Contents

addresses the application of U.S. GAAP in situations where a registrant does not have the necessary information available, prepared, or analyzed in reasonable detail to complete the accounting for certain income tax effects of the Tax Act. Due to the timing of the Tax Act's enactment and the complexity of its provisions, the Company had not completed its accounting for the impact of the Tax Act in 2017.

The Company analyzed guidance and technical interpretations issued in 2018 related to the provisions of the Tax Act, and refined, analyzed and updated the underlying data, computations and assumptions used to prepare the Tax Act Charge. As a result, the Company completed its accounting within the one-year measurement period and recorded an income tax benefit of \$14.5 in 2018.

The Company paid its first annual installment in the second quarter of 2018. We will pay the Transition Tax, net of applicable tax credits and deductions, over an eight-year period until 2025, as permitted under the Tax Act. The current and long-term portions of the Transition Tax are recorded in Accrued income taxes and Other long-term liabilities, respectively, on the Consolidated Balance Sheet as of December 31, 2018 and 2017. The Company also recorded a tax charge, related to changes in the Company's permanent reinvestment assertion, in 2017 due to our intention to repatriate prior accumulated unremitted earnings from certain foreign subsidiaries over time. We will pay such taxes when those respective earnings are repatriated.

At December 31, 2018, the Company had \$125.7 of foreign tax loss carryforwards and \$48.6 of U.S. state tax loss carryforwards, of which \$69.0 and \$48.6, respectively, will either expire or be refunded at various dates through 2038 and the balance can be carried forward indefinitely. The Company had \$2.9 of foreign tax credit carryforwards and \$13.0 of U.S. state tax credit carryforwards, of which \$2.7 and \$7.3, respectively, will either expire or be refunded at various dates through 2038 and the balance can be carried forward indefinitely.

A valuation allowance of \$34.7 and \$39.6 at December 31, 2018 and 2017, respectively, has been recorded which relates to the U.S. federal and state and foreign net operating loss carryforwards and U.S. state tax credits. The net change in the valuation allowance for deferred tax assets was an decrease of \$4.9 in 2018, which related primarily to foreign net operating loss carryforwards. The net change in the valuation allowance for deferred tax assets was an increase of \$2.4 in 2017, which related to foreign net operating loss and U.S. state credit carryforwards.

Differences between the U.S. statutory federal tax rate and the Company's effective income tax rate are analyzed below:

	Year Ended December 31,					
	2018		2017		2016	
U.S. statutory federal tax rate	21.0	%	35.0	%	35.0	%

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State and local taxes	0.6	0.2	0.1
Foreign earnings and dividends taxed at different rates	2.3	(9.1)	(9.7)
U.S. tax on foreign income	1.8	—	(0.3)
Tax Act - transition tax	0.7	19.2	—
Tax Act - remeasurement of deferred tax liabilities, net	—	(2.8)	—
Tax Act - change in indefinite reinvestment assertion	(1.6)	13.1	—
Excess tax benefits related to stock-based compensation	(1.2)	(4.9)	—
Impact of acquisition-related expenses	—	—	0.5
Other, net	(0.2)	0.4	1.4
Effective tax rate	23.4 %	51.1 %	27.0 %

Table of Contents

The components of the Company's deferred tax assets and liabilities are comprised of the following:

	December 31,	
	2018	2017
Deferred tax assets relating to:		
Accrued liabilities and reserves	\$ 39.1	\$ 31.7
Operating loss and tax credit carryforwards	81.5	84.2
Pensions	29.0	27.8
Inventories	40.4	35.1
Employee benefits	34.0	29.8
Total deferred tax assets	224.0	208.6
Valuation allowance	(34.7)	(39.6)
Total deferred tax assets, net of valuation allowances	189.3	169.0
Deferred tax liabilities relating to:		
Goodwill	152.2	135.5
Depreciation and amortization	68.5	61.8
Unremitted foreign earnings	141.3	176.6
Contingent consideration	4.3	4.3
Total deferred tax liabilities	366.3	378.2
Net deferred tax liability	\$ 177.0	\$ 209.2
Classification of deferred tax assets and liabilities, as reflected on the Consolidated Balance Sheets:		
Intangibles, net and other long-term assets	\$ 78.6	\$ 32.0
Deferred income taxes	255.6	241.2
Net deferred tax liability, long-term	\$ 177.0	\$ 209.2

A tabular reconciliation of the gross amounts of unrecognized tax benefits excluding interest and penalties at the beginning and end of the year for 2018, 2017 and 2016 is shown below. The gross increases for tax positions in prior periods recorded in 2016 included \$78.7 related to acquisitions.

	2018	2017	2016
Unrecognized tax benefits as of January 1	\$ 127.3	\$ 106.2	\$ 29.8
Gross increases for tax positions in prior periods	18.9	32.7	81.9
Gross increases for tax positions in current period	2.0	2.4	7.0
Settlements	(14.1)	(11.0)	(10.8)
Lapse of statute of limitations	(3.6)	(3.0)	(1.7)
Unrecognized tax benefits as of December 31	\$ 130.5	\$ 127.3	\$ 106.2

The Company includes estimated interest and penalties related to unrecognized tax benefits in the provision for income taxes. During the years ended December 31, 2018, 2017 and 2016, the provision for income taxes included a net expense of \$1.1, \$3.7 and \$6.5, respectively, in estimated interest and penalties. As of December 31, 2018, 2017 and 2016, the liability for unrecognized tax benefits included \$40.5, \$39.3 and \$35.3, respectively, for tax-related interest and penalties.

The Company operates in the U.S. and numerous foreign taxable jurisdictions, and at any point in time has numerous audits underway at various stages of completion. With few exceptions, the Company is subject to income tax examinations by tax authorities for the years 2014 and after. The Company is generally not able to precisely estimate the ultimate settlement amounts or timing until the close of an audit. The Company evaluates its tax positions and establishes liabilities for uncertain tax positions that may be challenged by tax authorities and may not be fully sustained, despite the Company's belief that the underlying tax positions are fully supportable. As of December 31, 2018 and 2017, the amount of the liability for unrecognized tax benefits, including penalties and interest, which if recognized would impact the effective tax rate, was approximately \$141.8 and \$130.1, respectively, which is included in Other long-term liabilities in the accompanying Consolidated Balance Sheets. Unrecognized tax benefits are reviewed on an ongoing basis and are adjusted for changing facts and circumstances, including progress of tax audits and the closing of statutes

Table of Contents

of limitation. Based on information currently available, management anticipates that over the next twelve-month period, audit activity could be completed and statutes of limitation may close relating to existing unrecognized tax benefits of approximately \$33.8.

Note 5—Equity

Stock-Based Compensation:

The Company's income before income taxes was reduced by \$55.6, \$49.7 and \$47.6 for the years ended December 31, 2018, 2017 and 2016, respectively, related to the expense incurred for stock-based compensation plans, which is included in Selling, general and administrative expenses in the accompanying Consolidated Statements of Income. In addition, for the years ended December 31, 2018, 2017 and 2016, the Company recognized aggregate income tax benefits in the provision for income taxes in the accompanying Consolidated Statements of Income associated with stock-based compensation of \$27.5, \$78.3 and \$11.4, respectively. These aggregate income tax benefits during the years ended December 31, 2018, 2017 and 2016 includes the excess tax benefit of \$19.8, \$66.6 and nil, respectively, from option exercises during these years. Prior to 2017 and under previous accounting guidance, these excess tax benefits were recorded directly to equity.

Stock Options

In May 2017, the Company adopted the 2017 Stock Purchase and Option Plan for Key Employees of Amphenol and Subsidiaries (the "2017 Employee Option Plan"). A committee of the Company's Board of Directors has been authorized to grant stock options pursuant to the 2017 Employee Option Plan. The number of shares of the Company's Class A Common Stock ("Common Stock") reserved for issuance under the 2017 Employee Option Plan is 30,000,000 shares. As of December 31, 2018, there were 16,985,620 shares of Common Stock available for the granting of additional stock options under the 2017 Employee Option Plan. The Company also continues to maintain the 2009 Stock Purchase and Option Plan for Key Employees of Amphenol and Subsidiaries, as amended (the "2009 Employee Option Plan"). No additional stock options will be granted under the 2009 Employee Option Plan. The 2000 Stock Purchase and Option Plan for Key Employees of Amphenol and Subsidiaries, as amended, expired in May 2011 and all options granted thereunder have been either exercised or forfeited. Options granted under the 2017 Employee Option Plan and the 2009 Employee Option Plan generally vest ratably over a period of five years from the date of grant and are generally exercisable over a period of ten years from the date of grant.

In 2004, the Company adopted the 2004 Stock Option Plan for Directors of Amphenol Corporation (the "2004 Directors Option Plan"). The 2004 Directors Option Plan is administered by the Company's Board of Directors. The 2004 Directors Option Plan expired in May 2014, except that its terms continue with respect to any outstanding options granted thereunder. Options were last granted under the 2004 Directors Option Plan in May 2011. Options

granted under the 2004 Directors Option Plan are fully vested and are generally exercisable over a period of ten years from the date of grant.

Table of Contents

Stock option activity for 2016, 2017 and 2018 was as follows:

	Options	Weighted Average Exercise Price	Weighted Average Remaining Contractual Term (in years)	Aggregate Intrinsic Value (in millions)
Options outstanding at January 1, 2016	31,136,475	\$ 37.62	6.92	
Options granted	7,560,450	57.72		
Options exercised	(5,703,254)	25.80		
Options forfeited	(727,280)	50.17		
Options outstanding at December 31, 2016	32,266,391	44.14	7.03	
Options granted	7,029,600	72.98		
Options exercised	(5,773,287)	31.87		
Options forfeited	(300,340)	55.16		
Options outstanding at December 31, 2017	33,222,364	52.27	7.05	
Options granted	6,302,100	87.95		
Options exercised	(3,464,876)	37.81		
Options forfeited	(508,920)	69.03		
Options outstanding at December 31, 2018	35,550,668	\$ 59.77	6.81	\$ 798.6
Vested and non-vested options expected to vest at December 31, 2018	33,437,668	\$ 59.06	6.73	\$ 772.9
Exercisable options at December 31, 2018	16,261,168	\$ 46.22	5.30	\$ 566.0

A summary of the status of the Company's non-vested options as of December 31, 2018 and changes during the year then ended is as follows:

	Options	Weighted Average Fair Value at Grant Date
Non-vested options at January 1, 2018	19,600,440	\$ 8.29
Options granted	6,302,100	12.82
Options vested	(6,104,120)	8.35
Options forfeited	(508,920)	9.09
Non-vested options at December 31, 2018	19,289,500	\$ 9.73

The weighted average fair value at the grant date of options granted during 2017 and 2016 was \$8.78 and \$7.39, respectively.

During the years ended December 31, 2018, 2017 and 2016, the following activity occurred under the Company's option plans:

	2018	2017	2016
Total intrinsic value of stock options exercised	\$ 188.1	\$ 268.7	\$ 197.2
Total fair value of stock options vested	51.0	46.3	43.1

As of December 31, 2018, the total compensation cost related to non-vested options not yet recognized was approximately \$140.3, with a weighted average expected amortization period of 3.41 years.

The grant date fair value of each option grant under the 2009 Employee Option Plan, the 2017 Employee Option Plan and the 2004 Directors Option Plan is estimated using the Black-Scholes option pricing model. The grant-date fair value of each share grant is determined based on the closing share price of the Company's Common Stock on the date of the grant. The fair value is then amortized on a straight-line basis over the requisite service period of the awards, which is generally the vesting period. Use of a valuation model for option grants requires management to make certain assumptions with respect to selected model inputs. Expected share price volatility is calculated based on the historical volatility of the Common Stock and implied volatility derived from related exchange traded options. The average expected life is based on the contractual term of the option and expected exercise and historical post-vesting termination experience. The risk-free interest rate is based on U.S. Treasury zero-coupon issuances with a remaining term equal to

Table of Contents

the expected life assumed at the date of grant. The expected annual dividend per share is based on the Company's dividend rate.

The fair value of stock options has been estimated at the date of grant using the Black-Scholes option-pricing model with the following weighted average assumptions:

	2018	2017	2016
Risk free interest rate	2.9 %	1.7 %	1.3 %
Expected life	4.7 years	4.6 years	4.6 years
Expected volatility	13.0 %	13.0 %	15.0 %
Expected dividend yield	1.0 %	1.0 %	1.0 %

Restricted Stock

In 2012, the Company adopted the 2012 Restricted Stock Plan for Directors of Amphenol Corporation (the "2012 Directors Restricted Stock Plan"). The 2012 Directors Restricted Stock Plan is administered by the Company's Board of Directors. As of December 31, 2018, the number of restricted shares available for grant under the 2012 Directors Restricted Stock Plan was 109,150. Restricted shares granted under the 2012 Directors Restricted Stock Plan generally vest on the first anniversary of the grant date. Grants under the 2012 Directors Restricted Stock Plan entitle the holder to receive shares of the Company's Common Stock without payment.

Restricted share activity for 2016, 2017 and 2018 was as follows:

	Restricted Shares	Fair Value at Grant Date	Weighted Average Remaining Amortization Term (in years)
Restricted shares outstanding at January 1, 2016	17,256	\$ 57.97	0.39
Restricted shares granted	16,905	57.99	
Shares vested and issued	(17,256)	57.97	
Restricted shares outstanding at December 31, 2016	16,905	57.99	0.38
Restricted shares granted	12,905	73.25	
Shares vested and issued	(16,905)	57.99	
Restricted shares outstanding at December 31, 2017	12,905	73.25	0.37
Restricted shares granted	15,014	87.84	

Shares vested and issued	(13,046)	73.35	
Restricted shares outstanding at December 31, 2018	14,873	\$ 87.89	0.39

The total fair value of restricted share awards that vested during 2018, 2017, and 2016 was \$1.0 for each of these years. As of December 31, 2018, the total compensation cost related to non-vested restricted shares not yet recognized was approximately \$0.5 with a weighted average expected amortization period of 0.39 years.

Stock Repurchase Program:

On April 24, 2018, the Company's Board of Directors authorized a new stock repurchase program under which the Company may purchase up to \$2,000.0 of the Company's Common Stock during the three-year period ending April 24, 2021 in accordance with the requirements of Rule 10b-18 of the Exchange Act (the "2018 Stock Repurchase Program"). During the year ended December 31, 2018, the Company repurchased 6.4 million shares of its Common Stock for \$553.2 under the 2018 Stock Repurchase Program. Approximately 5.7 million shares, or \$498.2, have been retired by the Company; the remaining 0.7 million shares, or \$55.0, have been retained in Treasury stock. From January 1, 2019 through January 31, 2019, the Company repurchased approximately 0.6 million additional shares of its Common Stock for \$50.6, leaving approximately \$1,396.2 available to purchase under the 2018 Stock Repurchase Program. The price and timing of any future purchases under the 2018 Stock Repurchase Program will depend on factors such as levels of cash generation from operations, the volume of stock option exercises by employees, cash requirements for acquisitions, dividends, economic and market conditions and stock price.

On January 24, 2017, the Company's Board of Directors authorized a stock repurchase program under which the Company could purchase up to \$1,000.0 of the Company's Common Stock during the two-year period ending

Table of Contents

January 24, 2019 in accordance with the requirements of Rule 10b-18 of the Exchange Act (the “2017 Stock Repurchase Program”). During the three months ended March 31, 2018, the Company repurchased 4.2 million shares of its Common Stock for \$382.0, while during the year ended December 31, 2017, the Company repurchased 8.4 million shares of its Common Stock for \$618.0. These shares have been retired by the Company. These repurchases of approximately 12.6 million shares for \$1,000.0 completed the 2017 Stock Repurchase Program.

In January 2015, the Company’s Board of Directors authorized a stock repurchase program under which the Company could repurchase up to 10 million shares of the Company’s Common Stock during the two-year period ended January 20, 2017 (the “2015 Stock Repurchase Program”). During the year ended December 31, 2016, the Company repurchased 5.5 million shares of its Common Stock for \$325.8. These shares have been retired by the Company. At December 31, 2016, the Company had repurchased all of the shares authorized under the 2015 Stock Repurchase Program.

Dividends:

Contingent upon declaration by the Board of Directors, the Company generally pays a quarterly dividend on shares of its Common Stock. The following table summarizes the declared quarterly dividends per share for each of the three years ended December 31, 2018, 2017 and 2016:

	2018	2017	2016
First Quarter	\$ 0.19	\$ 0.16	\$ 0.14
Second Quarter	0.23	0.16	0.14
Third Quarter	0.23	0.19	0.14
Fourth Quarter	0.23	0.19	0.16
Total	\$ 0.88	\$ 0.70	\$ 0.58

The following table summarizes the dividends declared per share as well as the dividends declared and paid for the years ended December 31, 2018, 2017 and 2016:

	2018	2017	2016
Dividends declared	\$ 264.3	\$ 213.7	\$ 178.8
Dividends paid (including those declared in the prior year)	253.7	205.0	172.7

Table of Contents

Accumulated Other Comprehensive Income (Loss):

Balances of related after-tax components comprising Accumulated other comprehensive income (loss) included in equity at December 31, 2018, 2017 and 2016 are as follows:

	Foreign Currency Translation Adjustments	Unrealized Gain (Loss) on Cash Flow Hedges	Defined Benefit Plan Adjustment	Accumulated Other Comprehensive Income (Loss)
Balance at January 1, 2016	\$ (164.9)	\$ (1.7)	\$ (182.9)	\$ (349.5)
Other comprehensive income (loss) before reclassifications, net of tax of nil, (\$0.3) and \$12.3, respectively	(108.6)	1.6	(28.8)	(135.8)
Amounts reclassified from Accumulated other comprehensive income (loss) to earnings, net of tax of (\$8.9)	—	—	16.3	16.3
Balance at December 31, 2016	(273.5)	(0.1)	(195.4)	(469.0)
Other comprehensive income (loss) before reclassifications, net of tax of nil, \$0.1 and (\$3.4), respectively	240.3	(0.1)	10.7	250.9
Amounts reclassified from Accumulated other comprehensive income (loss) to earnings, net of tax of (\$9.1)	—	—	17.1	17.1
Balance at December 31, 2017	(33.2)	(0.2)	(167.6)	(201.0)
Other comprehensive income (loss) before reclassifications, net of tax of nil, (\$0.1) and \$6.6, respectively	(164.3)	0.4	(22.0)	(185.9)
Amounts reclassified from Accumulated other comprehensive income (loss) to earnings, net of tax of (\$6.4)	—	—	20.2	20.2
Amounts reclassified from Accumulated other comprehensive income (loss) to retained earnings, resulting from income tax effects of the Tax Act (ASU 2018-02) (Note 1)	—	—	(23.5)	(23.5)
Balance at December 31, 2018	\$ (197.5)	\$ 0.2	\$ (192.9)	\$ (390.2)

The amounts reclassified from Accumulated other comprehensive income (loss) to earnings for defined benefit plan liabilities are reported within Other income, net in the Consolidated Statements of Income. The amounts reclassified from Accumulated other comprehensive income (loss) for unrealized gain (loss) on cash flow hedges are included in Cost of sales in the Consolidated Statements of Income.

Note 6—Earnings Per Share

Basic earnings per share (“EPS”) is computed by dividing net income attributable to Amphenol Corporation by the weighted average number of common shares outstanding. Diluted EPS is computed by dividing net income attributable to Amphenol Corporation by the weighted average number of common shares and dilutive common shares outstanding, which relates to stock options. A reconciliation of the basic weighted average common shares outstanding to diluted weighted average common shares outstanding for the years ended December 31, 2018, 2017 and 2016 is as follows:

(dollars and shares in millions, except per share data)	2018	2017	2016
Net income attributable to Amphenol Corporation shareholders	\$ 1,205.0	\$ 650.5	\$ 822.9
Basic weighted average common shares outstanding	301.2	305.7	308.3
Effect of dilutive stock options	11.4	10.8	6.9
Diluted weighted average common shares outstanding	312.6	316.5	315.2
Earnings per share attributable to Amphenol Corporation shareholders:			
Basic	\$ 4.00	\$ 2.13	\$ 2.67
Diluted	\$ 3.85	\$ 2.06	\$ 2.61

Excluded from the computations above were anti-dilutive common shares of 3.3 million, 1.6 million and 8.5 million for the years ended December 31, 2018, 2017 and 2016, respectively.

Table of Contents

Note 7—Benefit Plans and Other Postretirement Benefits

Defined Benefit Plans

The Company and certain of its domestic subsidiaries have defined benefit pension plans (the “U.S. Plans”), which cover certain U.S. employees and which represent the majority of the plan assets and benefit obligations of the aggregate defined benefit plans of the Company. The U.S. Plans’ benefits are generally based on years of service and compensation and are generally noncontributory. Certain U.S. employees not covered by the U.S. Plans are covered by defined contribution plans. Certain foreign subsidiaries have defined benefit plans covering their employees (the “Foreign Plans” and together with the U.S. Plans, the “Plans”). The largest foreign pension plan, in accordance with local regulations, is unfunded and had a projected benefit obligation of approximately \$92.7 and \$93.0 at December 31, 2018 and 2017, respectively. Total required contributions to be made during 2019 for the unfunded Foreign Plans are included in Other accrued expenses in the accompanying Consolidated Balance Sheets and in the tables below.

The following is a summary of the Company’s defined benefit plans’ funded status as of the most recent actuarial valuations as of December 31 of each year.

	U.S. Plans		Foreign Plans		Total	
	2018	2017	2018	2017	2018	2017
Change in projected benefit obligation:						
Projected benefit obligation at beginning of year	\$ 486.7	\$ 469.8	\$ 255.0	\$ 233.5	\$ 741.7	\$ 703.3
Service cost	4.5	6.7	2.8	2.9	7.3	9.6
Interest cost	14.9	15.3	4.7	4.7	19.6	20.0
Plan amendments	0.2	—	0.8	—	1.0	—
Actuarial (gain) loss	(33.1)	21.1	(3.1)	(2.2)	(36.2)	18.9
Foreign exchange translation	—	—	(13.0)	26.7	(13.0)	26.7
Benefits paid	(24.3)	(26.2)	(11.9)	(10.6)	(36.2)	(36.8)
Projected benefit obligation at end of year	448.9	486.7	235.3	255.0	684.2	741.7
Change in plan assets:						
Fair value of plan assets at beginning of year	389.6	342.1	108.3	97.8	497.9	439.9
Actual return on plan assets	(28.8)	57.2	(0.9)	5.2	(29.7)	62.4
Employer contributions	81.7	16.5	6.6	6.0	88.3	22.5
Foreign exchange translation	—	—	(6.2)	9.9	(6.2)	9.9

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Benefits paid	(24.3)	(26.2)	(11.9)	(10.6)	(36.2)	(36.8)		
Fair value of plan assets at end of year	418.2	389.6	95.9	108.3	514.1	497.9		
Underfunded status at end of year	\$ 30.7	\$ 97.1	\$ 139.4	\$ 146.7	\$ 170.1	\$ 243.8		
Amounts recognized on the balance sheet as of December 31:								
Other accrued expenses	\$ 1.0	\$ —	\$ 2.9	\$ 3.1	\$ 3.9	\$ 3.1		
Accrued pension and postretirement benefit obligations	29.7	97.1	136.5	143.6	166.2	240.7		
Underfunded status at end of year	\$ 30.7	\$ 97.1	\$ 139.4	\$ 146.7	\$ 170.1	\$ 243.8		
Accumulated other comprehensive loss, net	\$ (140.2)	\$ (110.5)	\$ (52.7)	\$ (53.9)	\$ (192.9)	\$ (164.4)		
Weighted average assumptions used to determine projected benefit obligations:								
Discount rate	4.14	%	3.48	%	2.28	%	2.21	%
Rate of compensation increase	3.00	%	3.00	%	1.77	%	1.70	%

The projected benefit obligation decreased in 2018 primarily due to actuarial gains in 2018 resulting from the impact of higher discount rates on our projected benefit obligation. The projected benefit obligation increased in 2017 primarily due to higher actuarial losses in 2017, primarily resulting from the impact of lower discount rates on our projected benefit obligation. The accumulated benefit obligation for the Company's defined benefit pension plans was \$674.5 and \$731.2 at December 31, 2018 and 2017, respectively. As of December 31, 2018 and 2017, the accumulated benefit obligation for the U.S. Plans was \$446.4 and \$484.4, respectively, and for the Foreign Plans was \$228.1 and \$246.8, respectively. All of the Company's U.S. Plans and Foreign Plans have accumulated benefit obligations (and projected benefit obligations) in excess of plan assets as of December 31, 2018 and 2017.

Table of Contents

The following is a summary of the components of net pension expense for the Company's defined benefit plans for the years ended December 31, 2018, 2017 and 2016:

	U.S. Plans			Foreign Plans			Total		
	2018	2017	2016	2018	2017	2016	2018	2017	2016
Components of net pension expense:									
Service cost	\$ 4.5	\$ 6.7	\$ 6.2	\$ 2.8	\$ 2.9	\$ 2.8	\$ 7.3	\$ 9.6	\$ 9.0
Interest cost	14.9	15.3	15.4	4.7	4.7	5.5	19.6	20.0	20.9
Expected return on plan assets	(34.5)	(27.2)	(26.2)	(3.8)	(3.5)	(3.9)	(38.3)	(30.7)	(30.1)
Amortization of prior service cost	2.3	2.7	2.4	—	—	—	2.3	2.7	2.4
Settlements	—	—	—	0.6	—	—	0.6	—	—
Amortization of actuarial losses	19.0	18.3	18.6	4.2	4.6	3.4	23.2	22.9	22.0
Net pension expense	\$ 6.2	\$ 15.8	\$ 16.4	\$ 8.5	\$ 8.7	\$ 7.8	\$ 14.7	\$ 24.5	\$ 24.2
Weighted average assumptions used to determine net periodic benefit cost:									
Discount rate	3.48 %	3.93 %	4.11 %	2.21 %	2.28 %	2.96 %			
Expected long-term return on assets	7.75 %	7.75 %	7.75 %	3.69 %	3.80 %	4.29 %			
Rate of compensation increase	3.00 %	3.00 %	3.00 %	1.70 %	1.63 %	1.61 %			

The pension expense for the Plans is calculated based upon a number of actuarial assumptions established on January 1 of the applicable year, including mortality projections as well as a weighted average discount rate, rate of increase in future compensation levels and an expected long-term rate of return on the respective Plans' assets which are detailed in the table above. The Company records service costs in the same line item as the respective employee

compensation costs and within operating income, while all other pension-related costs including interest cost, expected return on plan assets, amortization of prior service cost and amortization of net actuarial losses are reported separately within Other income, net in the Consolidated Statements of Income.

The discount rate used by the Company for valuing pension liabilities is based on a review of high quality corporate bond yields with maturities approximating the remaining life of the projected benefit obligations. The weighted average discount rate for the U.S. Plans on this basis was 4.14% and 3.48% at December 31, 2018 and 2017, respectively. The increase in the discount rate for the U.S. Plans resulted in a decrease in the benefit obligation of approximately \$35.0 at December 31, 2018. The weighted average discount rate for the Foreign Plans was 2.28% and 2.21% at December 31, 2018 and 2017, respectively. The increase in the discount rate for the Foreign Plans did not have a material impact on the benefit obligation at December 31, 2018. The Company calculates its service and interest costs by applying a split discount rate approach under which specific spot rates along the selected yield curve are applied to the relevant projected cash flows as the Company believes this method more precisely measures its obligations. The mortality assumptions used by the Company reflect commonly used mortality tables and improvement scales for each plan and increased life expectancies for plan participants.

The Company's investment strategy for the Plans' assets is to achieve a rate of return on plan assets equal to or greater than the average for the respective investment classification through prudent allocation and periodic rebalancing between fixed income and equity instruments. The current investment policy includes a strategy to maintain an adequate level of diversification, subject to portfolio risks. The target allocations for the U.S. Plans are generally 60% equity and 40% fixed income. Short-term strategic ranges for investments are established within these long term target percentages. The Company invests in a diversified investment portfolio through various investment managers and evaluates its plan assets for the existence of concentration risks. As of December 31, 2018, there were no significant concentrations of risks in the Company's defined benefit plan assets. The Company does not invest nor instruct investment managers to invest pension assets in Amphenol securities. The Plans may indirectly hold the Company's securities as a result of external investment management in certain commingled funds. Such holdings would not be material relative to the Plans' total assets. The Company's Foreign Plans primarily invest in equity and debt securities and insurance contracts, as determined by each Plans' Trustees or investment managers.

In developing the expected long-term rate of return assumption for the U.S. Plans, the Company evaluated input from its external actuaries and investment consultants as well as consideration of long-term inflation assumptions. Projected returns by such consultants are based on broad equity and bond indices. The Company also considered its historical compounded return of approximately 8.5%, which has been in excess of these broad equity and bond benchmark indices. As described above, the expected long-term rate of return on the U.S. Plans' assets is based on an asset allocation assumption of approximately 60% with equity managers (with an expected long-term rate of return of approximately 8-9%) and 40% with fixed income managers (with an expected long-term rate of return of approximately

Table of Contents

5-6%). The Company believes that the long-term asset allocation on average will approximate 60% with equity managers and 40% with fixed income managers. The Company regularly reviews the actual asset allocation and periodically rebalances investments to its targeted allocation when considered appropriate.

The Company's Plan assets, the vast majority of which relate to the U.S. Plans, are reported at fair value and classified in their entirety based on the lowest level of input that is significant to the fair value measurement. The process requires judgment and may have an effect on the placement of the Plan assets within the fair value measurement hierarchy. The fair values of the Company's pension Plans' assets at December 31, 2018 and 2017 by asset category are as follows (refer to Note 3 for definitions of Level 1, 2 and 3 inputs):

Asset Category	Total	Level 1	Level 2	Level 3	Assets Measured at Net Asset Value (a)
December 31, 2018					
Equity securities:					
U.S. equities — large cap	\$ 139.3	\$ 104.9	\$ 34.4	\$ —	\$ —
U.S. equities — small/mid cap and other	27.5	—	27.5	—	—
International equities — growth	32.7	28.0	4.7	—	—
International equities — other	84.9	—	34.0	—	50.9
Alternative investment funds	19.9	—	—	—	19.9
Fixed income securities:					
U.S. fixed income securities — short term	11.2	—	—	—	11.2
U.S. fixed income securities — intermediate term	77.7	77.7	—	—	—
U.S. fixed income securities — high yield	26.4	—	26.4	—	—
International fixed income securities — other	45.9	—	45.9	—	—
Insurance contracts	35.1	—	—	35.1	—
Real estate funds	10.2	—	—	10.2	—
Cash and cash equivalents	3.3	3.3	—	—	—
Total	\$ 514.1	\$ 213.9	\$ 172.9	\$ 45.3	\$ 82.0
December 31, 2017					
Equity securities:					
U.S. equities — large cap	\$ 141.5	\$ 106.6	\$ 34.9	\$ —	\$ —
U.S. equities — small/mid cap and other	22.0	—	22.0	—	—
International equities — growth	35.6	30.4	5.2	—	—

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International equities — other	95.5	—	40.7	—	54.8
Alternative investment funds	12.9	—	—	—	12.9
Fixed income securities:					
U.S. fixed income securities — short term	6.1	—	—	—	6.1
U.S. fixed income securities — intermediate term	61.4	61.4	—	—	—
U.S. fixed income securities — high yield	21.9	—	21.9	—	—
International fixed income securities — other	47.4	—	47.4	—	—
Insurance contracts	37.9	—	—	37.9	—
Real estate funds	7.0	—	—	7.0	—
Cash and cash equivalents	8.7	8.7	—	—	—
Total	\$ 497.9	\$ 207.1	\$ 172.1	\$ 44.9	\$ 73.8

(a) Certain investments measured at fair value using the net asset value (NAV) practical expedient have been removed from the fair value hierarchy but included in the table above in order to permit the reconciliation of the fair value hierarchy to total plan assets.

Table of Contents

Equity securities consist primarily of publicly traded U.S. and non-U.S. equities. Publicly traded securities are valued at the last trade or closing price reported in the active market in which the individual securities are traded. Certain equity securities held in commingled funds are valued at unitized net asset value (“NAV”) based on the fair value of the underlying net assets owned by the funds. Alternative investment funds include investments in hedge funds including fund of fund products.

Fixed income securities consist primarily of government securities and corporate bonds. They are valued at the closing price in the active market or at quotes obtained from brokers/dealers or pricing services. Certain fixed income securities held within commingled funds are valued at NAV as determined by the custodian of the funds based on the fair value of the underlying net assets of the funds.

The Level 3 pension plan assets as of December 31, 2018 and 2017 included in the table above consist primarily of contracts with insurance companies related to certain foreign plans. The insurance contracts generally include guarantees in accordance with the policy purchased. Our valuation of Level 3 assets is based on insurance company or third-party actuarial valuations, representing an estimation of the surrender or market values of the insurance contract between the Company and the insurance companies. Our Level 3 pension plan assets also include certain investments in commingled real estate funds which are valued at net asset value, although based on unobservable inputs. The following table sets forth a summary of changes of the fair value of the Level 3 pension plan assets for the years ended December 31, 2018 and 2017:

	2018	2017
Balance on January 1	\$ 44.9	\$ 34.0
Unrealized gains (losses), net	1.2	0.6
Purchases, sales and settlements, net	0.9	5.8
Foreign currency translation	(1.7)	4.5
Balance on December 31	\$ 45.3	\$ 44.9

The amounts, before tax, included in Accumulated other comprehensive loss at December 31, 2018 and 2017 that have not yet been recognized as expense were as follows:

	U.S. Plans		Foreign Plans		Total	
	2018	2017	2018	2017	2018	2017
Net loss	\$ 178.8	\$ 167.7	\$ 63.4	\$ 70.0	\$ 242.2	\$ 237.7
Net prior service cost	5.7	7.7	0.8	—	6.5	7.7

The Company made cash contributions to the Plans of \$88.3, \$22.5, and \$22.2 in 2018, 2017, and 2016, respectively. In January 2018, the Company made voluntary cash contributions of approximately \$81.0 to fund the U.S. Plans. There is no current requirement for cash contributions to any of the U.S. Plans, and the Company plans to evaluate annually, based on actuarial calculations and the investment performance of the Plans' assets, the timing and amount of cash contributions in the future.

Benefit payments related to the Plans above, including those amounts to be paid out of Company assets and reflecting future expected service as appropriate, are expected to be as follows:

	U.S. Plans	Foreign Plans	Total
2019	\$ 25.9	\$ 6.9	\$ 32.8
2020	27.0	7.0	34.0
2021	28.0	7.4	35.4
2022	29.0	8.8	37.8
2023	29.8	8.6	38.4
2024-2028	152.2	51.9	204.1

The Company also has an unfunded Supplemental Employee Retirement Plan ("SERP"), which provides for the payment of the portion of annual pension which cannot be paid from the retirement plan as a result of regulatory

Table of Contents

limitations on average compensation for purposes of the benefit computation. The obligation related to the SERP is included in the accompanying Consolidated Balance Sheets and in the tables above.

Certain foreign subsidiaries of the Company offer certain benefits under local statutory plans which are excluded from the tables above. The net liability for such plans was \$13.7 and \$16.6 as of December 31, 2018 and 2017, respectively, the majority of which is included within Accrued pension and postretirement benefit obligations in the accompanying Consolidated Balance Sheets.

Other Postretirement Benefit Plans

The Company maintains self-insurance programs for that portion of its health care and workers compensation costs not covered by insurance. The Company also provides certain health care and life insurance benefits to certain eligible retirees in the U.S. through postretirement benefit (“OPEB”) programs. The Company’s share of the cost of such plans for most participants is fixed, and any increase in the cost of such plans will be the responsibility of the retirees. The Company funds the benefit costs for such plans on a pay-as-you-go basis. As of December 31, 2018 and 2017, the total liability associated with postretirement benefit obligations was approximately \$8.4 and \$13.1, respectively, the majority of which is included in Accrued pension and postretirement benefit obligations on the accompanying Consolidated Balance Sheets. The weighted average discount rate used to determine the projected benefit obligation as of December 31, 2018 and 2017 was 4.06% and 3.29%, respectively. Net postretirement benefit expense on the accompanying Consolidated Statements of Income for the years ended December 31, 2018, 2017 and 2016 were \$0.8, \$0.9 and \$1.1, respectively. Since the Company’s obligation for postretirement medical plans is fixed and since the benefit obligation and the net postretirement benefit expense are not material in relation to the Company’s financial condition or results of operations, the Company believes any change in medical costs from that estimated will not have a significant impact on the Company.

Defined Contribution Plans

The Company offers various defined contribution plans for certain U.S. and foreign employees. Participation in these plans is based on certain eligibility requirements. Through 2018, the Company matched the majority of employee contributions to the U.S. defined contribution plans with cash contributions up to a maximum of 5% of eligible compensation. The Company provided matching contributions to the U.S. defined contribution plans of approximately \$8.6, \$6.9 and \$5.0 in 2018, 2017 and 2016, respectively. Effective January 1, 2019, the Company increased its matching of employee contributions to the U.S. defined contribution plans to a maximum of 6% of eligible compensation.

Note 8—Leases

At December 31, 2018, the Company was committed under operating leases for buildings, office space, automobiles and equipment, which expire at various dates. Total rent expense under operating leases for the years 2018, 2017 and 2016 was approximately \$87.2, \$58.5 and \$50.5, respectively.

Minimum lease payments under non-cancelable operating leases are as follows:

2019	\$ 70.5
2020	39.0
2021	25.9
2022	16.5
2023	11.9
Beyond 2023	33.5
Total minimum obligation	\$ 197.3

Note 9—Acquisitions

During the twelve months ended December 31, 2018, the Company completed three acquisitions, all in the Interconnect Products and Assemblies segment. The Company is in the process of completing its analyses of the fair value of the assets acquired and liabilities assumed. The Company anticipates that the final assessments of values will

Table of Contents

not differ materially from the preliminary assessments. These acquisitions were not material to the Company either individually or in the aggregate.

Acquisition-related Expenses

In 2018, the Company incurred approximately \$8.5 (\$7.2 after-tax) of acquisition-related expenses in the fourth quarter related to external transaction costs. In 2017, the Company incurred approximately \$4.0 (\$3.7 after-tax) of acquisition-related expenses in the second quarter related to external transaction costs. In 2016, the Company incurred approximately \$30.3 (\$27.3 after-tax) of acquisition-related expenses related to the acquisition of FCI Asia Pte. Ltd. (“FCI”) in the first quarter, primarily related to external transaction costs, amortization related to the value associated with acquired backlog and post-closing restructuring charges; and approximately \$6.3 (\$5.8 after-tax) of acquisition-related transaction expenses incurred in the third quarter. Such acquisition-related expenses are separately presented in the accompanying Consolidated Statements of Income.

Acquisition of SSI Controls Technologies (“SSI”)

In January 2019, pursuant to a definitive agreement entered into on November 27, 2018, the Company acquired SSI Controls Technologies (“SSI”), the sensor manufacturing division of SSI Technologies, Inc., for approximately \$400, net of cash acquired (subject to customary post-closing adjustments), plus a performance-related contingent payment. SSI, which is headquartered in the United States (Wisconsin), is a leading designer and manufacturer of sensors and sensing solutions for the global automotive and industrial markets. The acquisition of SSI is not material to the Company.

Note 10—Goodwill and Other Intangible Assets

The changes in the carrying amount of goodwill by segment were as follows:

	Interconnect Products and Assemblies	Cable Products and Solutions	Total
Goodwill at December 31, 2016	\$ 3,532.5	\$ 146.3	\$ 3,678.8
Acquisition-related	233.6	0.2	233.8
Foreign currency translation	130.0	—	130.0
Goodwill at December 31, 2017	3,896.1	146.5	4,042.6

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Acquisition-related	126.7	—	126.7
Foreign currency translation	(66.1)	—	(66.1)
Goodwill at December 31, 2018	\$ 3,956.7	\$ 146.5	\$ 4,103.2

Other than goodwill noted above, the following is a summary of the Company's intangible assets as of December 31, 2018 and 2017:

	Weighted Average Life (years)	December 31, 2018			December 31, 2017		
		Gross Carrying Amount	Accumulated Amortization	Net Carrying Amount	Gross Carrying Amount	Accumulated Amortization	Net Carrying Amount
Customer relationships	10	\$ 399.2	\$ 234.7	\$ 164.5	\$ 398.1	\$ 199.8	\$ 198.3
Proprietary technology	11	107.5	60.5	47.0	107.5	50.7	56.8
Backlog and other	2	34.0	33.7	0.3	34.0	33.6	0.4
Total intangible assets (definite-lived)	10	540.7	328.9	211.8	539.6	284.1	255.5
Trade names (indefinite-lived)		186.1	—	186.1	186.1	—	186.1
		\$ 726.8	\$ 328.9	\$ 397.9	\$ 725.7	\$ 284.1	\$ 441.6

Intangible assets are included in Intangibles, net and other long-term assets in the accompanying Consolidated Balance Sheets. The amortization expense for the years ended December 31, 2018, 2017 and 2016 was approximately \$46.9, \$48.6 and \$54.6, respectively. The 2016 amortization expense includes \$8.0 related to the amortization of acquired backlog. Amortization expense relating to the Company's current intangible assets estimated for each of the next five fiscal years is approximately \$42.6 in 2019, \$37.0 in 2020, \$32.3 in 2021, \$24.9 in 2022 and \$22.2 in 2023.

Table of Contents

Note 11—Reportable Business Segments and International Operations

The Company has two reportable business segments: (i) Interconnect Products and Assemblies and (ii) Cable Products and Solutions. The Company organizes its reportable business segments based upon similar economic characteristics and business groupings of products, services, and customers. These reportable business segments are determined based upon how the Company reviews its businesses, assesses operating performance and makes investing and resource allocation decisions. The Interconnect Products and Assemblies segment primarily designs, manufactures and markets a broad range of connector and connector systems, value-add products and other products, including antennas and sensors, used in a broad range of applications in a diverse set of end markets. The Cable Products and Solutions segment primarily designs, manufactures and markets cable, value-add products and components for use primarily in the broadband communications and information technology markets as well as certain applications in other markets. The accounting policies of the segments are the same as those for the Company as a whole and are described in Note 1 herein. The Company evaluates the performance of business units on, among other things, profit or loss from operations before interest, headquarters' expense allocations, stock-based compensation expense, income taxes, amortization related to certain intangible assets and nonrecurring gains and losses.

	Interconnect Products and Assemblies			Cable Products and Solutions			Total Reportable Business Segments	
	2018	2017	2016	2018	2017	2016	2018	2017
Net sales:								
External	\$ 7,781.9	\$ 6,606.9	\$ 5,922.3	\$ 420.1	\$ 404.4	\$ 364.1	\$ 8,202.0	\$ 7,011.3
Intersegment	12.8	9.7	6.9	34.0	40.7	30.0	46.8	50.4
Depreciation and amortization	287.2	214.7	206.8	6.6	6.3	4.9	293.8	221.0
Segment operating income	1,752.5	1,475.2	1,280.3	52.6	54.2	52.8	1,805.1	1,529.4
Segment assets (excluding goodwill)	5,678.6	5,732.6	4,587.5	208.1	200.3	197.1	5,886.7	5,932.9
Capital expenditures	305.0	220.4	186.2	5.2	5.6	4.0	310.2	226.0

Reconciliation of segment operating income to consolidated income before income taxes:

	2018	2017	2016
Segment operating income	\$ 1,805.1	\$ 1,529.4	\$ 1,333.1
Interest expense	(101.7)	(92.3)	(72.6)

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Other income, net	3.2	17.1	8.5
Stock-based compensation expense	(55.6)	(49.7)	(47.6)
Acquisition-related expenses	(8.5)	(4.0)	(36.6)
Other operating expenses	(54.1)	(48.1)	(43.7)
Income before income taxes	\$ 1,588.4	\$ 1,352.4	\$ 1,141.1

Reconciliation of segment assets to consolidated total assets:

	2018	2017
Segment assets, excluding goodwill	\$ 5,886.7	\$ 5,932.9
Goodwill	4,103.2	4,042.6
Other assets	55.0	28.4
Consolidated total assets	\$ 10,044.9	\$ 10,003.9

Table of Contents

Net sales by geographic area for the years ended December 31, 2018, 2017 and 2016 and property, plant and equipment, net by geographic area as of December 31 were as follows:

	2018	2017	2016
Net sales			
United States	\$ 2,241.4	\$ 1,978.4	\$ 1,740.7
China	2,594.0	2,067.3	1,865.6
Other foreign locations	3,366.6	2,965.6	2,680.1
Total	\$ 8,202.0	\$ 7,011.3	\$ 6,286.4
Property, plant and equipment, net			
United States	\$ 225.1	\$ 212.7	\$ 209.2
China	273.8	244.7	200.1
Other foreign locations	376.9	359.4	302.1
Total	\$ 875.8	\$ 816.8	\$ 711.4

Disaggregation of Net Sales

The following table shows our net sales disaggregated into categories the Company considers meaningful to depict how the nature, amount, timing and uncertainty of revenue and cash flows are affected by economic factors for the year ended December 31, 2018:

	Year ended December 31, 2018		
	Interconnect Cable		
	Products and Assemblies	Products and Solutions	Total Reportable Business Segments
Net sales by:			
Sales channel:			
End customers and contract manufacturers	\$ 6,667.9	\$ 322.3	\$ 6,990.2
Distributors and resellers	1,114.0	97.8	1,211.8
	\$ 7,781.9	\$ 420.1	\$ 8,202.0
Geography:			
United States	\$ 2,038.0	\$ 203.4	\$ 2,241.4
China	2,589.9	4.1	2,594.0
Other foreign locations	3,154.0	212.6	3,366.6
	\$ 7,781.9	\$ 420.1	\$ 8,202.0

Net sales by geographic area are based on the customer location to which the product is shipped. During the year ended December 31, 2018, aggregate sales to the Company's largest customer, including sales of products to EMS companies that the Company believes are manufacturing products on their behalf, represented approximately 12% of the Company's net sales. No single customer represented 10% or more of the Company's net sales for the years ended December 31, 2017 and 2016. It is impracticable to disclose net sales by product or group of products.

For further discussion related to the Company's policies surrounding revenue recognition, refer to Note 1 herein.

Note 12—Commitments and Contingencies

The Company has been named as a defendant in several legal actions arising from normal business activities. The Company records a loss contingency liability when a loss is considered probable and the amount can be reasonably estimated. Although the potential liability with respect to certain of such legal actions cannot be reasonably estimated, none of such matters is expected to have a material adverse effect on the Company's financial condition, results of operations or cash flows. The Company's legal costs associated with defending itself are recorded to expense as incurred.

The Company has also received a subpoena from the U.S. Department of Defense, Office of the Inspector General, requesting documents pertaining to certain products manufactured by the Company's Military and Aerospace Group that are purchased or used by the U.S. government. The Company is cooperating with the request. The inquiry is in the early stages and the Company is unable to estimate the timing or outcome of the matter.

Table of Contents

Certain operations of the Company are subject to environmental laws and regulations which govern the discharge of pollutants into the air and water, as well as the handling and disposal of solid and hazardous wastes. The Company believes that its operations are currently in substantial compliance with applicable environmental laws and regulations and that the costs of continuing compliance will not have a material adverse effect on the Company's financial condition, results of operations or cash flows.

The Company also has purchase obligations related to commitments to purchase certain goods and services. At December 31, 2018, the Company had purchase commitments of \$384.9 in 2019, \$23.6 in 2020 and 2021, combined, and \$5.7 beyond 2021.

Table of Contents

Note 13—Selected Quarterly Financial Data (Unaudited)

	Three Months Ended				September 30,	December 31,		
	March 31,	June 30,						
2018								
Net sales	\$ 1,866.9	\$ 1,981.4		\$ 2,129.0		\$ 2,224.7		
Gross profit	606.9	644.8		688.2		715.0		
Operating income	376.9	408.2		444.2		457.6	(4)	
Net income	268.3	(1) 287.8	(2)	319.6	(3)	341.2	(4)	(4)
Net income attributable to Amphenol Corporation	265.6	(1) 284.8	(2)	316.6	(3)	338.1	(4)	(4)
Net income per common share—Basic	0.87	(1) 0.95	(2)	1.05	(3)	1.13	(4)	(4)
Net income per common share—Diluted	0.84	(1) 0.91	(2)	1.01	(3)	1.09	(4)	(4)
2017								
Net sales	\$ 1,560.1	\$ 1,666.5		\$ 1,840.8		\$ 1,943.9		
Gross profit	515.9	552.6		606.1		635.4		
Operating income	314.1	336.2	(6)	377.9		399.4		
Net income (loss)	227.3	(5) 253.6	(6)	280.3	(7)	(100.4)	(8)	(8)
Net income (loss) attributable to Amphenol Corporation	224.9	(5) 251.5	(6)	277.5	(7)	(103.4)	(8)	(8)
Net income (loss) per common share—Basic	0.73	(5) 0.82	(6)	0.91	(7)	(0.34)	(8)	(8)
Net income (loss) per common share—Diluted	0.71	(5) 0.80	(6)	0.88	(7)	(0.34)	(8)	(8)

(1) Net income and net income per common share includes excess tax benefits related to stock-based compensation of \$4.1. The excess tax benefits had the effect of increasing Net income, Net income attributable to Amphenol Corporation, and Net income per common share-Diluted by \$4.1, \$4.1 and \$0.01 per share, respectively, for the three months ended March 31, 2018.

(2) Net income and net income per common share includes excess tax benefits related to stock-based compensation of \$3.0. The excess tax benefits had the effect of increasing Net income, Net income attributable to Amphenol Corporation, and Net income per common share-Diluted by \$3.0, \$3.0 and \$0.01 per share, respectively, for the three months ended June 30, 2018.

(3) Net income and net income per common share includes excess tax benefits related to stock-based compensation of \$7.0. The excess tax benefits had the effect of increasing Net income, Net income attributable to Amphenol Corporation, and Net income per common share-Diluted by \$7.0, \$7.0 and \$0.02 per share, respectively, for the

three months ended September 30, 2018.

- (4) Operating income, net income and net income per common share includes acquisition-related expenses of \$8.5 (\$7.2 after-tax, or \$0.02 per share) primarily related to external transaction costs. Net income and net income per common share also includes an income tax benefit of \$14.5 (\$0.04 per share) recorded in 2018 related to the completion of its accounting for the provisional Tax Act Charge from 2017 resulting from the enactment of the Tax Cuts and Jobs Act ("Tax Act"), and the excess tax benefits related to stock-based compensation of \$5.7 (\$0.02 per share). These items had the aggregate effect of decreasing Operating income by \$8.5, while increasing Net income, Net income attributable to Amphenol Corporation, and Net income per common share-Diluted by \$13.0, \$13.0 and \$0.04 per share, respectively, for the three months ended December 31, 2018.
- (5) Net income and net income per common share includes excess tax benefits related to stock-based compensation of \$8.0. The excess tax benefits had the effect of increasing Net income, Net income attributable to Amphenol Corporation, and Net income per common share-Diluted by \$8.0, \$8.0 and \$0.02 per share, respectively, for the three months ended March 31, 2017.
- (6) Operating income, net income and net income per common share includes acquisition-related expenses of \$4.0 (\$3.7 after-tax, or \$0.01 per share) primarily related to 2017 acquisitions and excess tax benefits related to stock-based compensation of \$21.2 (\$0.07 per share). These items had the aggregate effect of decreasing Operating income by \$4.0, while increasing Net income, Net income attributable to Amphenol Corporation, and Net income per common share-Diluted by \$17.5, \$17.5 and \$0.06 per share, respectively, for the three months ended June 30, 2017.
- (7) Net income and net income per common share includes excess tax benefits related to stock-based compensation of \$16.6. The excess tax benefits had the effect of increasing Net income, Net income attributable to Amphenol Corporation, and Net income per common share-Diluted by \$16.6, \$16.6 and \$0.05 per share, respectively, for the three months ended September 30, 2017.
- (8) Net loss and net loss per common share includes the provisional Tax Act Charge of \$398.5 (\$1.26 per share) related to the enactment of the Tax Act, partially offset by the excess tax benefits related to stock-based compensation of \$20.8 (\$0.07 per share). In addition, diluted weighted average shares used to calculate the GAAP diluted net loss per common share for the fourth quarter of 2017 excluded the anti-dilutive effect of 12.4 million common share equivalents due to the GAAP net loss position during the period; this net loss per common share-diluted in this period would have been \$0.01 less if the dilutive impact of common share equivalents was included in the diluted weighted average common shares outstanding. These items had the aggregate effect of decreasing Net income, Net income attributable to Amphenol Corporation, and Net income (loss) per common share-Diluted by \$377.7, \$377.7 and \$1.20 per share, respectively, for the three months ended December 31, 2017.

Table of Contents

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Item 9. Changes in and Disagreements with Accountants on Accounting and Financial Disclosure

None.

Item 9A. Controls and Procedures

The Company's management, with the participation of the Company's Chief Executive Officer and Chief Financial Officer, has evaluated the effectiveness of the design and operation of our disclosure controls and procedures, pursuant to Rules 13a-15(e) or 15d-15(e) of the Securities Exchange Act of 1934, as amended (the "Exchange Act"), as of December 31, 2018. These controls and procedures are designed to provide reasonable assurance that information required to be disclosed by the Company in reports that it files or submits under the Exchange Act is recorded, processed, summarized and reported within the time periods specified in the Securities and Exchange Commission rules and forms, and such information is accumulated and communicated to our management, including our Chief Executive Officer and Chief Financial Officer, as appropriate, to allow timely decisions regarding required disclosure. Based on their evaluation, the Chief Executive Officer and Chief Financial Officer have concluded that the Company's disclosure controls and procedures were effective as of December 31, 2018.

There has been no change in our internal control over financial reporting during the Company's most recent fiscal quarter ended December 31, 2018 that has materially affected, or is reasonably likely to materially affect, our internal control over financial reporting. Beginning January 1, 2018, the Company adopted ASU 2014-09, Revenue from Contracts with Customers (Topic 606) and all of its related subsequent amendments. Although the new revenue recognition standard did not have a material impact on the Consolidated Financial Statements, the Company implemented changes to our processes related to revenue recognition and the related control activities, including the implementation of certain controls over financial reporting necessary for the required disclosures, as well as the implementation of new policies and any necessary changes to existing related policies. Refer to Notes 1 and 11 of the accompanying Consolidated Financial Statements for further discussion on the adoption of Topic 606.

Management Report on Internal Control

Internal control over financial reporting is designed to provide reasonable assurance regarding the reliability of financial reporting and the preparation of financial statements for external reporting purposes in accordance with accounting principles generally accepted in the United States of America. Due to its inherent limitations, internal control over financial reporting may not prevent or detect misstatements. Management is responsible for establishing

and maintaining adequate internal control over financial reporting of Amphenol Corporation and its subsidiaries (the “Company”), pursuant to Rules 13a-15(f) and 15d-15(f) of the Exchange Act. Under the supervision and with the participation of our management, including our principal executive officer and principal financial officer, the Company conducted an evaluation of the effectiveness of the internal control over financial reporting based on criteria established in the Internal Control – Integrated Framework (2013) issued by the Committee of Sponsoring Organizations of the Treadway Commission (COSO). Based on that evaluation, management concluded that the Company’s internal control over financial reporting was effective as of December 31, 2018.

Deloitte & Touche LLP, an independent registered public accounting firm, has audited the Company’s internal control over financial reporting as of December 31, 2018 in accordance with the standards of the Public Company Accounting Oversight Board (PCAOB). Those standards require that Deloitte & Touche LLP plan and perform the audit to obtain reasonable assurance about whether effective internal control over financial reporting was maintained in all material respects. Deloitte & Touche LLP has issued an attestation report on the Company’s internal control over financial reporting as of December 31, 2018, which is included in Item 8 of this Annual Report on Form 10-K.

Item 9B. Other Information

None.

Table of Contents

PART III

The Company intends to file a definitive proxy statement (the “Proxy Statement”) pursuant to Regulation 14A under the Securities Exchange Act within 120 days following the end of the fiscal year ended December 31, 2018, and certain information included therein is incorporated herein by reference.

Item 10. Directors, Executive Officers and Corporate Governance

Pursuant to Instruction G(3) to Form 10-K, the information required by Item 10 with respect to the Directors of the Registrant is incorporated herein by reference to the Proxy Statement.

Pursuant to Instruction G(3) to Form 10-K, the information required by Item 10 with respect to the Executive Officers of the Registrant is incorporated herein by reference to the Proxy Statement.

Information regarding the Company’s Code of Business Conduct and Ethics is available on the Company’s website at www.amphenol.com. The Company will post all amendments to its Code of Business Conduct and Ethics on its website. In addition, a current copy may be requested by writing to the Company’s World Headquarters at:

358 Hall Avenue

P.O. Box 5030

Wallingford, CT 06492

Attention: Investor Relations

Item 11. Executive Compensation

Pursuant to Instruction G(3) to Form 10-K, the information required by Item 11 is incorporated herein by reference to the Proxy Statement.

Item 12. Security Ownership of Certain Beneficial Owners and Management and Related Stockholder Matters

Pursuant to Instruction G(3) to Form 10-K, the information required by Item 12 is incorporated herein by reference to the Proxy Statement.

For information required under Item 201(d) of Regulation S-K, refer to Item 5 of this Annual Report on Form 10-K.

Item 13. Certain Relationships and Related Transactions, and Director Independence

Pursuant to Instruction G(3) to Form 10-K, the information required by Item 13 is incorporated herein by reference to the Proxy Statement.

Item 14. Principal Accounting Fees and Services

Pursuant to Instruction G(3) to Form 10-K, the information required by Item 14 is incorporated herein by reference to the Proxy Statement.

Table of Contents

PART IV

Item 15. Exhibits, Financial Statement Schedules

(a)(1) Consolidated Financial Statements

	Page
<u>Report of Independent Registered Public Accounting Firm</u>	41
<u>Consolidated Statements of Income—Years Ended December 31, 2018, 2017 and 2016</u>	43
<u>Consolidated Statements of Comprehensive Income—Years Ended December 31, 2018, 2017 and 2016</u>	44
<u>Consolidated Balance Sheets—December 31, 2018 and 2017</u>	45
<u>Consolidated Statements of Changes in Equity—Years Ended December 31, 2018, 2017 and 2016</u>	46
<u>Consolidated Statements of Cash Flow—Years Ended December 31, 2018, 2017 and 2016</u>	47
<u>Notes to Consolidated Financial Statements</u>	48
<u>Management Report on Internal Control</u>	78

(a)(2) Financial Statement Schedules for the Three Years Ended December 31, 2018

Schedule

<u>II—Valuation and Qualifying Accounts for the years ended December 31, 2018, 2017 and 2016</u>	83
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Schedules other than the above have been omitted because they are either not applicable or the required information has been disclosed in the consolidated financial statements or notes thereto.

(a)(3) Listing of Exhibits

The following exhibits are filed as part of, or incorporated by reference into, this Annual Report on Form 10-K:

- 3.1 Restated Certificate of Incorporation of Amphenol Corporation, dated August 3, 2016 (filed as Exhibit 3.1 to the June 30, 2016 10-Q).*
- 3.2 Amphenol Corporation, Third Amended and Restated By-Laws dated March 21, 2016 (filed as Exhibit 3.1 to the Form 8-K filed on March 22, 2016).*
- 4.1 Indenture, dated as of November 5, 2009, between Amphenol Corporation and The Bank of New York Mellon, as trustee (filed as Exhibit 4.1 to the Form 8-K filed on November 5, 2009).*
- 4.2 Indenture, dated as of October 8, 2018, between Amphenol Technologies Holding GmbH, Amphenol Corporation and The Bank of New York Mellon, as trustee (filed as Exhibit 4.1 to the Form 8-K filed on October 9, 2018).*
- 4.3 Officers' Certificate, dated January 26, 2012, establishing the 4.00% Senior Notes due 2022 pursuant to the Indenture (filed as Exhibit 4.2 to the Form 8-K filed on January 26, 2012).*
- 4.4 Officers' Certificate, dated January 30, 2014, establishing the 2.55% Senior Notes pursuant to the Indenture (filed as Exhibit 4.2 to the Form 8-K filed on January 30, 2014).*
- 4.5 Officer's Certificate, dated September 12, 2014, establishing both the 1.550% Senior Notes due 2017 and the 3.125% Senior Notes due 2021 pursuant to the Indenture (filed as Exhibit 4.2 to the Form 8-K filed on September 12, 2014).*
- 4.6 Officer's Certificate, dated April 5, 2017, establishing both the 2.200% Senior Notes due 2020 and the 3.200% Senior Notes due 2024 pursuant to the Indenture (filed as Exhibit 4.2 to the Form 8-K filed on April 5, 2017).*
- 4.7 Officer's Certificate, dated January 9, 2019, establishing the 4.350% Senior Notes due 2029 pursuant to the Indenture (filed as Exhibit 4.2 to the Form 8-K filed on January 10, 2019).*

Table of Contents

- 10.1 2017 Stock Purchase and Option Plan for Key Employees of Amphenol and Subsidiaries (filed as Annex A to the Company’s Definitive Proxy Statement on Schedule 14A for its 2017 Annual Meeting of Stockholders, filed on April 17, 2017).*
- 10.2 Form of 2017 Stock Option Agreement (filed as Exhibit 10.1 to the Form 8-K filed on May 19, 2017).*
- 10.3 2009 Stock Purchase and Option Plan for Key Employees of Amphenol and Subsidiaries (filed as Exhibit 10.7 to the June 30, 2009 10-Q).*
- 10.4 The First Amendment to the 2009 Stock Purchase and Option Plan for Key Employees of Amphenol and Subsidiaries (filed as Exhibit 10.2 to the Form 8-K filed on May 23, 2014).*
- 10.5 Form of 2009 Non-Qualified Stock Option Grant Agreement dated as of May 20, 2009 (filed as Exhibit 10.8 to the June 30, 2009 10-Q).*
- 10.6 Form of 2009 Management Stockholders’ Agreement dated as of May 20, 2009 (filed as Exhibit 10.9 to the June 30, 2009 10-Q).*
- 10.7 Pension Plan for Employees of Amphenol Corporation as amended and restated effective January 1, 2016 (filed as Exhibit 10.6 to the December 31, 2016 10-K).*
- 10.8 First Amendment to Pension Plan for Employees of Amphenol Corporation as amended and restated effective January 1, 2016, dated November 10, 2016 (filed as Exhibit 10.7 to the December 31, 2016 10-K).*
- 10.9 Second Amendment to Pension Plan for Employees of Amphenol Corporation as amended and restated effective January 1, 2016, dated October 1, 2016 (filed as Exhibit 10.8 to the December 31, 2016 10-K).*
- 10.10 Third Amendment to Pension Plan for Employees of Amphenol Corporation as amended and restated effective January 1, 2016, dated December 13, 2016 (filed as Exhibit 10.9 to the December 31, 2016 10-K).*
- 10.11 Fourth Amendment to Pension Plan for Employees of Amphenol Corporation as amended and restated effective January 1, 2016, dated May 2, 2017 (filed as Exhibit 10.12 to the June 30, 2017 10-Q).*
- 10.12 Fifth Amendment to Pension Plan for Employees of Amphenol Corporation as amended and restated effective January 1, 2016, dated October 29, 2018 (filed as Exhibit 10.12 to the December 31, 2018 10-K).**
- 10.13 Amended and Restated Amphenol Corporation Supplemental Employee Retirement Plan (filed as Exhibit 10.24 to the December 31, 2008 10-K).*
- 10.14 First Amendment to the Amended and Restated Amphenol Corporation Supplemental Employee Retirement Plan, dated October 29, 2018 (filed as Exhibit 10.14 to the December 31, 2018 10-K).**
- 10.15 Amphenol Corporation Directors’ Deferred Compensation Plan (filed as Exhibit 10.11 to the December 31, 1997 10-K).*
- 10.16 The 2004 Stock Option Plan for Directors of Amphenol Corporation (filed as Exhibit 10.44 to the June 30, 2004 10-Q).*
- 10.17 The Amended 2004 Stock Option Plan for Directors of Amphenol Corporation (filed as Exhibit 10.29 to the June 30, 2008 10-Q).*
- 10.18 The 2012 Restricted Stock Plan for Directors of Amphenol Corporation dated May 24, 2012 (filed as Exhibit 10.15 to the June 30, 2012 10-Q).*
- 10.19 2012 Restricted Stock Plan for Directors of Amphenol Corporation Restricted Share Award Agreement dated May 24, 2012 (filed as Exhibit 10.16 to the June 30, 2012 10-Q).*
- 10.20 2019 Amphenol Corporation Management Incentive Plan (filed as Exhibit 10.20 to the December 31, 2018 10-K).**
- 10.21 2014 Amphenol Corporation Executive Incentive Plan (filed as Exhibit 10.1 to the Form 8-K filed on May 23, 2014).*
- 10.22 Credit Agreement, dated as of March 1, 2016, among the Company, certain subsidiaries of the Company, a syndicate of financial institutions and JPMorgan Chase Bank, N.A. acting as the administrative agent (filed as Exhibit 10.1 to the Form 8-K filed on March 2, 2016).*
- 10.23 Amended and Restated Credit Agreement, dated as of January 15, 2019, among the Company, certain subsidiaries of the Company, a syndicate of financial institutions and JPMorgan Chase Bank, N.A. acting as the administrative agent (filed as Exhibit 10.1 to the Form 8-K filed on January 18, 2019).*
- 10.24

- Continuing Agreement for Standby Letters of Credit between the Company and Deutsche Bank dated March 4, 2009 (filed as Exhibit 10.36 to the March 31, 2009 10-Q).*
- 10.25 The Amphenol Corporation Employee Savings/401(K) Plan Adoption Agreement as amended and restated effective January 1, 2019, dated December 21, 2018 (filed as Exhibit 10.25 to the December 31, 2018 10-K).**
- 10.26 Amended and Restated Amphenol Corporation Supplemental Defined Contribution Plan (filed as Exhibit 10.30 to the September 30, 2011 10-Q).*
- 10.27 Amphenol Corporation Supplemental Defined Contribution Plan as amended effective January 1, 2012 (filed as Exhibit 10.34 to the December 31, 2011 10-K).*
- 10.28 Amphenol Corporation Supplemental Defined Contribution Plan as amended effective January 1, 2019 (filed as Exhibit 10.28 to the December 31, 2018 10-K).**

Table of Contents

10.29	<u>Commercial Paper Program form of Dealer Agreement dated as of August 29, 2014 between the Company, Citibank Global Markets and JP Morgan Securities LLC (filed as Exhibit 10.1 to the Form 8-K filed on September 5, 2014).*</u>
10.30	<u>Commercial Paper Program Dealer Agreement dated as of July 10, 2018 between Amphenol Technologies Holding GmbH (as issuer), Amphenol Corporation (as guarantor), Barclays Bank PLC (as Arranger), and Barclays Bank PLC and Commerzbank Aktiengesellschaft (as Original Dealers) (filed as Exhibit 10.1 to the Form 8-K filed on July 11, 2018).*</u>
10.31	<u>Form of Indemnification Agreement for Directors and Executive Officers (filed as Exhibit 10.27 to the December 31, 2016 10-K).*</u>
21.1	<u>Subsidiaries of the Company.**</u>
23.1	<u>Consent of Deloitte & Touche LLP.**</u>
31.1	<u>Certification pursuant to Exchange Act Rules 13a-14 and 15d-14, as adopted pursuant to Section 302 of the Sarbanes-Oxley Act of 2002.**</u>
31.2	<u>Certification pursuant to Exchange Act Rules 13a-14 and 15d-14, as adopted pursuant to Section 302 of the Sarbanes-Oxley Act of 2002.**</u>
32.1	<u>Certification pursuant to 18 U.S.C. Section 1350, as adopted pursuant to Section 906 of the Sarbanes-Oxley Act of 2002.**</u>
32.2	<u>Certification pursuant to 18 U.S.C. Section 1350, as adopted pursuant to Section 906 of the Sarbanes-Oxley Act of 2002.**</u>
101.INS	XBRL Instance Document.**
101.SCH	XBRL Taxonomy Extension Schema Document.**
101.CAL	XBRL Taxonomy Extension Calculation Linkbase Document.**
101.DEF	XBRL Taxonomy Extension Definition Linkbase Document.**
101.LAB	XBRL Taxonomy Extension Label Linkbase Document.**
101.PRE	XBRL Taxonomy Extension Presentation Linkbase Document.**

* Incorporated herein by reference as stated.

** Filed herewith.

Item 16. Form 10-K Summary

Not applicable.

Table of Contents

SCHEDULE II

AMPHENOL CORPORATION AND SUBSIDIARIES

VALUATION AND QUALIFYING ACCOUNTS

For the years ended December 31, 2018, 2017 and 2016

(Dollars in millions)

	Balance at beginning of period	Charged to cost and expenses	Additions (Deductions)	Balance at end of period
Allowance for doubtful accounts:				
Year ended December 31, 2018	\$ 23.0	\$ 13.0	\$ (2.5)	\$ 33.5
Year ended December 31, 2017	23.6	1.8	(2.4)	23.0
Year ended December 31, 2016	25.6	6.0	(8.0)	23.6
Valuation allowance on deferred tax assets:				
Year ended December 31, 2018	\$ 39.6	\$ (3.8)	\$ (1.1)	\$ 34.7
Year ended December 31, 2017	37.2	2.5	(0.1)	39.6
Year ended December 31, 2016	18.5	4.8	13.9	37.2

Table of Contents

Signatures

Pursuant to the requirements of Section 13 or 15(d) of the Securities Exchange Act of 1934, the registrant has duly caused this report to be signed on its behalf by the undersigned, thereunto duly authorized in the Town of Wallingford, State of Connecticut on the 13th day of February, 2019.

AMPHENOL CORPORATION

/s/ R. Adam Norwitt
R. Adam Norwitt
President and Chief Executive Officer

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

Signature	Title	Date
/s/ R. Adam Norwitt R. Adam Norwitt	President, Chief Executive Officer and Director (Principal Executive Officer)	February 13, 2019
/s/ Craig A. Lampo Craig A. Lampo	Senior Vice President and Chief Financial Officer (Principal Financial Officer and Principal Accounting Officer)	February 13, 2019
/s/ Martin H. Loeffler Martin H. Loeffler	Chairman of the Board of Directors	February 13, 2019
/s/ Ronald P. Badie Ronald P. Badie	Director	February 13, 2019
/s/ Stanley L. Clark Stanley L. Clark	Director	February 13, 2019
/s/ John D. Craig John D. Craig	Director	February 13, 2019

/s/ David P. Falck David P. Falck	Director	February 13, 2019
/s/ Edward G. Jepsen Edward G. Jepsen	Director	February 13, 2019
/s/ Robert A. Livingston Robert A. Livingston	Director	February 13, 2019
/s/ John R. Lord John R. Lord	Director	February 13, 2019
/s/ Diana G. Reardon Diana G. Reardon	Director	February 13, 2019
/s/ Anne Clarke Wolff Anne Clarke Wolff	Director	February 13, 2019