HEXCEL CORP /DE/
Form 10-K
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UNITED STATES

SECURITIES AND EXCHANGE COMMISSION

Washington, D. C. 20549

FORM 10–K

ANNUAL REPORT PURSUANT TO SECTION 13 OR 15(d) OF THE SECURITIES EXCHANGE ACT OF 1934
For the Fiscal Year Ended December 31, 2017

or

Transition Report Pursuant to Section 13 or 15 (d) of the Securities Exchange Act of 1934
For the transition period from to

Commission File Number 1-8472

Hexcel Corporation

(Exact name of registrant as specified in its charter)

Delaware	94-1109521
(State of Incorporation)	(I.R.S. Employer Identification No.)

281 Tresser Boulevard

Stamford, Connecticut 06901

(Address of principal executive offices and zip code)

Registrant's telephone number, including area code: (203) 969-0666

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

Title of each class	Name of each exchange on which registered
COMMON STOCK	NEW YORK STOCK EXCHANGE

Securities registered pursuant to Section 12(g) of the Act: None

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

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

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

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

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

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

Large accelerated filer	Accelerated filer
Non-accelerated filer	Smaller reporting company
Emerging Growth Company	
(Do not check if a smaller reporting company)	

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

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

The aggregate market value of the registrant's common stock held by non-affiliates was $4,694,720,597 based on the reported last sale price of common stock on June 30, 2017, which is the last business day of the registrant's most

recently completed second fiscal quarter.

The number of shares outstanding of each of the registrant's classes of common stock, as of the latest practicable date.

Class	Outstanding as of January 31, 2018
COMMON STOCK	89,842,578

Documents Incorporated by Reference:

Proxy Statement for Annual Meeting of Stockholders (to the extent specified herein) — Part III.

PART I

ITEM 1. Business.

General Development of Business

Hexcel Corporation, founded in 1946, was incorporated in California in 1948, and reincorporated in Delaware in 1983. Hexcel Corporation and its subsidiaries (herein referred to as “Hexcel”, “the Company”, “we”, “us”, or “our”), is a leadi advanced composites company. We develop, manufacture, and market lightweight, high-performance structural materials, including carbon fibers, specialty reinforcements, prepregs and other fiber-reinforced matrix materials, honeycomb, adhesives, engineered honeycomb and composite structures, for use in Commercial Aerospace, Space & Defense and Industrial markets. Our products are used in a wide variety of end applications, such as commercial and military aircraft, space launch vehicles and satellites, wind turbine blades, automotive, recreational products and other industrial applications. Our composite solutions enable our customers to improve the performance of their products by reducing weight while enhancing strength and durability.

We serve international markets through manufacturing facilities, sales offices and representatives located in the Americas, Asia Pacific, Europe, Russia and Africa.

We are also a partner in a joint venture in Malaysia, which manufactures composite structures for Commercial Aerospace applications.

In 2017, we acquired Structil SA (“Structil”) which further enhances our technology portfolio work with new adhesive, prepreg and pultrusion technologies. We also acquired the aerospace and defense assets of Oxford Performance Materials (“OPM”) bringing thermoplastic, carbon fiber reinforced 3D printed parts to our product offerings.

Narrative Description of Business and Segments

We are a manufacturer of products within a single industry: Advanced Composites. Hexcel has two reportable segments: Composite Materials and Engineered Products. The Composite Materials segment is comprised of our carbon fiber, specialty reinforcements, resins, prepregs and other fiber-reinforced matrix materials, and honeycomb core product lines and pultruded profiles. The Engineered Products segment is comprised of lightweight high strength composite structures, engineered core and honeycomb products with added functionality.

The following summaries describe the ongoing activities related to the Composite Materials and Engineered Products segments as of December 31, 2017.

Composite Materials

The Composite Materials segment manufactures and markets carbon fibers, fabrics and specialty reinforcements, prepregs and other fiber-reinforced matrix materials, structural adhesives, honeycomb, molding compounds, tooling materials, polyurethane systems and laminates that are incorporated into many applications, including military and commercial aircraft, wind turbine blades, recreational products, transport (cars, boats, trains) and other industrial applications.

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The following table identifies the principal products and examples of the primary end-uses from the Composite Materials segment:

SEGMENT	PRODUCTS	PRIMARY END-USES
COMPOSITE MATERIALS	Carbon Fibers	Raw materials for prepregs, fabrics and specialty reinforcements Filament winding for various aerospace, defense and industrial applications
	Fabrics, Multi-axials and Specialty Reinforcements	Raw materials for prepregs and honeycomb Composites and components used in aerospace, defense, wind energy, automotive, recreation, marine and other industrial applications
	Prepregs, Other Fiber-Reinforced Matrix Materials and Resins	Composite structures Commercial and military aircraft components Satellites and launchers Aero-engines Wind turbine and helicopter blades Cars, boats and trains Skis, snowboards, bicycles and hockey sticks
	Structural Adhesives	Bonding of metals, honeycomb and composite materials
	Honeycomb	Composite structures and interiors Impact and shock absorption systems Helicopter blades
	Pultruded Profiles (acquired from Structil)	Tubes Rods and flat sections for sporting goods Robotics Medical and billing applications

Carbon Fibers: HexTow® carbon fibers are manufactured for sale to third-party customers as well as for our own use in manufacturing certain reinforcements and composite materials. Carbon fibers are also woven into carbon fabrics,

used as reinforcement in conjunction with a resin matrix to produce pre-impregnated composite materials (referred to as “prepregs”). Carbon fiber is also used in filament winding to produce finished composite components. Key product applications include structural components for commercial and military aircraft, space launch vehicles, and certain other applications such as recreational and industrial equipment.

Fabrics, Multi-axials and Specialty Reinforcements: HexForce® fabrics, multiaxials and specialty reinforcements are made from a variety of fibers, including carbon, glass, aramid and other high strength polymers, quartz, ceramic and other specialty fibers. These reinforcements are used in the production of prepregs and other matrix materials for third-party customers as well as for our own use. They are also used in the manufacture of a variety of industrial and recreational products such as wind energy blades, automotive components, oil exploration and production equipment, boats, surfboards, skis and other sporting goods equipment.

Prepregs: HexPly® prepregs are manufactured for sale to third-party customers and for internal use by our Engineered Products segment in manufacturing composite laminates and monolithic structures. Prepregs are used in primary and secondary structural aerospace applications such as wing components, horizontal and vertical stabilizer components, fairings, radomes and engine fan blades and cases, engine nacelles as well as overhead storage bins and other interior components. They are also used in many of the industrial and recreational products noted above. Prepregs are manufactured by combining high-performance reinforcement fabrics or unidirectional fibers with a resin matrix to form a composite material that, when cured, has exceptional structural properties not present in either of the constituent materials. Prepregs are applied via hand layup, automatic tape layup and advanced fiber placement to produce finished composite components. Prepreg reinforcements include glass, carbon, aramid, quartz, ceramic and other specialty fibers. Resin matrices include bismaleimide, cyanate ester, epoxy, phenolic, polyimide and other specialty resins.

Other Fiber-Reinforced Matrix Materials: Fiber reinforced matrix developments include HexMC®, a form of quasi-isotropic carbon fiber prepreg that enables small to medium sized, complex-shaped, composite components to be mass produced. HexTool® is

a specialized form of HexMC® for use in the cost-effective construction of high temperature resistant composite tooling. HexFIT® film infusion material is a product that combines resin films and dry fiber reinforcements to save lay-up time in production and enables the manufacture of large contoured composite structures, such as wind turbine blades.

Resins: HexFlow® polymer matrix materials are sold in liquid and film form for use in direct process manufacturing of composite parts. Resins can be combined with fiber reinforcements in manufacturing processes such as resin transfer molding ("RTM"), resin film infusion ("RFI") or vacuum assisted resin transfer molding ("VARTM") to produce high quality composite components for both aerospace and industrial applications, without the need for customer investment in autoclaves.

Structural Adhesives: We manufacture and market a comprehensive range of Redux® film and paste adhesives. These structural adhesives, which bond metal to metal and composites and honeycomb structures, are used in the aerospace industry and for many industrial applications.

Honeycomb: HexWeb® honeycomb is a lightweight, cellular structure generally composed of a sheet of nested hexagonal cells. It can also be manufactured in over-expanded and asymmetric cell configurations to meet special design requirements such as contours or complex curvatures. Honeycomb is primarily used as a lightweight core material and acts as a highly efficient energy absorber. When sandwiched between composite or metallic facing skins, honeycomb significantly increases the stiffness of the structure, while adding very little weight.

We produce honeycomb from a number of metallic and non-metallic materials. Most metallic honeycomb is made from aluminum and is available in a selection of alloys, cell sizes and dimensions. Non-metallic materials used in the manufacture of honeycomb include fiberglass, carbon fiber, thermoplastics, non-flammable aramid papers, aramid fiber and other specialty materials.

We sell honeycomb as standard blocks and in slices cut from a block. Honeycomb is also used in Acousti-Cap® where a non-metallic, permeable cap material is embedded into honeycomb core that is used in aircraft engine nacelles to dramatically reduce noise during takeoff and landing without adding a structural weight penalty. Aerospace is the largest market for honeycomb products. In addition, we produce honeycomb for our Engineered Products segment for use in manufacturing finished parts for airframe Original Equipment Manufacturers ("OEMs").

Polyspeed® Pultruded profiles: Hexcel manufactures a wide range of pultruded sections including rods, flat sections, tubes and specific profiles that are usually made from carbon fiber but can also be made from glass, quartz, basalt or other fibers. The profile matrix is a Hexcel formulation of thermoset resin (epoxy or polyurethane). Hexcel pultruded profiles are used in a wide range of industrial applications.

The following table identifies the key customers and the major manufacturing facilities of the Composite Materials segment:

COMPOSITE MATERIALS
KEY CUSTOMERS

Aernnova	Daher	Sikorsky, a Lockheed Martin Company
Airbus	Embraer	Solvay
AVIC	FACC	Spirit Aerosystems
Bell	General Electric	Toray

BMW	GKN	Trek
The Boeing Company	Leonardo	Triumph
Bombardier	Nordam	United Technologies
CFAN	Orbital ATK	Vestas
CTRM Aero Composites	Safran	

MAJOR MANUFACTURING FACILITIES

Casa Grande, Arizona	Neumarkt, Austria
Dagneux, France	Roussillon, France
Decatur, Alabama	Parla, Spain
Duxford, England	Salt Lake City, Utah
Illescas, Spain	Seguin, Texas
Leicester, England	Stade, Germany
Les Avenières, France	Tianjin, China
Nantes, France	Windsor, Colorado

Net sales for the Composite Materials segment to third-party customers were $1,597 million in 2017, $1,610 million in 2016 and $1,459 million in 2015, which represented about 78% to 81%, of our net sales each year. Net sales for composite materials are highly dependent upon the number of large commercial aircraft produced as further discussed under the captions “Significant Customers,” “Markets” and “Management’s Discussion and Analysis of Financial Condition and Results of Operations”. In addition, less than 5% of our total production of composite materials in 2017 was used internally by the Engineered Products segment.

Engineered Products

The Engineered Products segment manufactures and markets composite structures and precision machined honeycomb parts primarily for use in the aerospace industry. Composite structures are manufactured from a variety of composite and other materials, including prepregs, honeycomb, and structural adhesives, using such manufacturing processes as autoclave processing, multi-axis numerically controlled machining, heat forming, and other composite manufacturing techniques. Composite structures includes Hex printed parts. Hex parts offer significant weight cost and time-to-market reductions compared to incumbent metal or composite technologies.

The following table identifies the principal products and examples of the primary end-uses from the Engineered Products segment:

SEGMENT	PRODUCTS	PRIMARY END-USES
ENGINEERED PRODUCTS	Composite Structures	Aircraft structures and finished aircraft components, including wing to body fairings, wing panels, flight deck panels, door liners, helicopter blades, spars and tip caps
	Engineered Honeycomb	Aircraft structural sub-components and semi-finished components used in helicopter blades, engine nacelles, and aircraft surfaces (flaps, wings, elevators and fairings)
	HexTool® Tooling	Mold tools made from carbon fiber and high temperature resistant BMI or epoxy resin. Used in the manufacture of composite aircraft structures, providing a lower weight, easier to handle alternative to traditional metal tooling.

Net sales for the Engineered Products segment to third-party customers were $376 million in 2017, $394 million in 2016, and $403 million in 2015, which represented about 19% to 22% of our net sales each year.

The Engineered Products segment has a 50% ownership interest in a Malaysian joint venture, Aerospace Composites Malaysia Sdn. Bhd. (“ACM”) with Boeing Worldwide Operations Limited. Under the terms of the joint venture agreement, Hexcel and The Boeing Company (“Boeing”) have transferred the manufacture of certain semi-finished composite components to this joint venture. Hexcel purchases certain semi-finished composite components from the joint venture, and inspects and performs additional skilled assembly work before delivering them to Boeing. The joint venture also manufactures composite components for other aircraft component manufacturers. ACM had revenue of $62 million in 2017, and $58 million and $69 million in 2016 and 2015, respectively.

The following table identifies the key customers and the major manufacturing facilities of the Engineered Products segment:

ENGINEERED PRODUCTS

KEY CUSTOMERS	MAJOR MANUFACTURING FACILITIES
The Boeing Company	Burlington, Washington
Bell	Kent, Washington
CTRM Aero Composites	Pottsville, Pennsylvania
General Electric	Welkenraedt, Belgium
GKN	Alor Setar, Malaysia (JV)
Sikorsky, a Lockheed Martin Company	Casablanca, Morocco
Spirit Aerosystems	
United Technologies	

Financial Information About Segments and Geographic Areas

Financial information and further discussion of our segments and geographic areas, including external sales and long-lived assets, are contained under the caption “Management’s Discussion and Analysis of Financial Condition and Results of Operations” and in Note 16 to the accompanying consolidated financial statements of this Annual Report on Form 10-K.

Significant Customers

Approximately 44%, 41% and 35% of our 2017, 2016 and 2015 net sales, respectively, were to Airbus and its subcontractors. Of the 44% of overall sales to Airbus and its subcontractors in 2017, 40% related to Commercial Aerospace market applications and 4% related to Space & Defense market applications. Approximately 25%, 28% and 31% of our 2017, 2016 and 2015 net sales, respectively, were to Boeing and related subcontractors. Of the 25% of overall sales to Boeing and its subcontractors in 2017, 23% related to Commercial Aerospace market applications and 2% related to Space & Defense market applications.

Markets

Our products are sold for a broad range of end-uses where durability, strength and weight are important factors to our customers. The following tables summarize our net sales to third-party customers by market and by geography for each of the three years ended December 31:

	2017		2016		2015	
Net Sales by Market						
Commercial Aerospace	72	%	71	%	69	%
Space & Defense	17		16		18	
Industrial	11		13		13	
Total	100	%	100	%	100	%
Net Sales by Geography (a)						
United States	48	%	48	%	51	%
Europe, China and Africa	52		52		49	
Total	100	%	100	%	100	%

(a) Net sales by geography based on the location in which the product sold was manufactured.

	2017		2016		2015	
Net Sales to External Customers (b)						
United States	41	%	42	%	46	%
Europe	42		41		37	
All Others	17		17		17	
Total	100	%	100	%	100	%

(b) Net sales to external customers based on the location to which the product sold was delivered

Commercial Aerospace

The Commercial Aerospace industry is our largest user of advanced composites. Commercial Aerospace represented 72% of our 2017 net sales. Approximately 89% of these revenues can be identified as sales to Airbus, Boeing and their subcontractors for the production of commercial aircraft. The remaining 11% of these revenues were for regional, and business and other commercial aircraft. The economic benefits airlines can obtain from weight savings in both fuel economy and aircraft range, combined with the design enhancement that comes from the advantages of advanced composites over traditional materials, has resulted in the aerospace industry becoming the leader in the adoption and use of these materials. While military aircraft and spacecraft have championed the development of these materials, Commercial Aerospace has had the greater production volumes and has commercialized the use of these products. Accordingly, the demand for advanced structural material products is closely correlated to the demand for new commercial aircraft.

The use of advanced composites in Commercial Aerospace is primarily in the manufacture of new commercial aircraft. The aftermarket for these products is very small as many of these materials are designed to last for the life of the aircraft. The demand for

new commercial aircraft is driven by two principal factors, the first of which is airline passenger traffic (the number of revenue passenger miles flown by the airlines) which affects the required size of airline fleets. The International Air Transport Association (IATA) estimates 2017 revenue passenger miles were 7.6% higher than 2016. Growth in passenger traffic requires growth in the size of the fleet of commercial aircraft operated by airlines worldwide.

A second factor, which is less sensitive to the general economy, is the replacement rates for existing aircraft. The rates of retirement of passenger and freight aircraft, resulting mainly from obsolescence, are determined in part by the regulatory requirements established by various civil aviation authorities worldwide as well as public concern regarding aircraft age, safety and noise. These rates may also be affected by the desire of the various airlines to improve operating costs with higher payloads and more fuel-efficient aircraft (which in turn is influenced by the price of fuel) and by reducing maintenance expense. In addition, there is expected to be increasing pressure on airlines to replace their aging fleet with more fuel efficient and quieter aircraft to be more environmentally responsible. When aircraft are retired from commercial airline fleets, they may be converted to cargo freight aircraft, used for parts or scrapped.

An additional factor that may cause airlines to defer or cancel orders is their ability to obtain financing, including leasing, for new aircraft orders. This will be dependent both upon the financial health of the airline operators, as well as the overall availability of financing in the marketplace.

Each new generation of commercial aircraft has used increasing quantities of advanced composites, replacing metals. This follows the trend previously seen in military fighter aircraft where advanced composites may now exceed 50% of the weight of the airframe. Early versions of commercial jet aircraft, such as the Boeing 707, which was developed in the early 1950's, contained almost no composite materials. One of the first commercial aircraft to use a meaningful amount of composite materials, the Boeing 767 entered into service in 1983, and was built with an airframe containing approximately 6% composite materials. The airframe of Boeing's 777 aircraft, which entered service in 1995, is approximately 11% composite. The Airbus A380, which was first delivered in 2007, has approximately 23% composite content by weight. Boeing's B787, which entered into service in 2011, has a content of more than 50% composite materials by weight. The Airbus A350 XWB ("A350") which has a composite content of 53% by weight was first delivered in December 2014. In 2011, both Airbus and Boeing announced new versions of their narrow body aircraft which will have new engines. Airbus's A320neo had its first customer delivery in January 2016, with 161 planes delivered in 2017 and 5,222 orders in backlog at December 31, 2017. Boeing's B737 MAX entered into service in 2017 with 74 planes delivered in 2017, and 4,297 orders in backlog at December 31, 2017. In 2014, Airbus announced a new version of its A330, the A330neo, which will have new engines, and Boeing announced the B777X, a new version of the B777 with composite wings and new engines. It is expected that these new aircraft will offer more opportunities for composite materials than their predecessors, as the Commercial Aerospace industry continues to utilize a greater proportion of advanced composite materials with each new generation of aircraft. We refer to this steady expansion of the use of composites in aircraft as the "secular penetration of composites" as it increases our average sales per airplane over time.

The impact on Hexcel of Airbus and Boeing's production rate changes is typically influenced by two factors: the mix of aircraft produced and the inventory supply chain effects of increases or reductions in aircraft production. We have products on all Airbus and Boeing planes. The dollar value of our materials varies by aircraft type — twin aisle aircraft use more of our materials than narrow body aircraft and newer designed aircraft use more of our materials than older generations. On average, for established programs, we deliver products into the supply chain about six months prior to aircraft delivery, with a range between one and eighteen months depending on the product. For aircraft that are in the development or ramp-up stage, such as the B737 MAX, A330neo and the B777X, we will have sales as much as several years in advance of the delivery. Increased aircraft deliveries combined with the secular penetration of composites resulted in our Commercial Aerospace revenues increasing, year over year, by approximately 11% in 2016 and 6% in 2015. The slight decline in Commercial Aerospace revenues in 2017 was as a result of older wide body

aircraft models being phased out as the new narrow body programs ramp up.

Set forth below are historical aircraft deliveries as announced by Airbus and Boeing:

	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017
Airbus	320	378	434	453	483	498	510	534	588	626	629	635	688	718
Boeing	285	290	398	441	375	481	462	477	601	648	723	762	748	763
Total	605	668	832	894	858	979	972	1,011	1,189	1,274	1,352	1,397	1,436	1,481

Approximately 89% of our Commercial Aerospace revenues can be identified as sales to Airbus, Boeing and their subcontractors for the production of commercial aircraft. Airbus and Boeing combined deliveries in 2017 were 1,481 aircraft, surpassing the previous high of 1,436 in 2016. In 2017, the combined net orders reported by Airbus and Boeing were for 2,021 planes, bringing their backlog at December 31, 2017 to 13,129 planes or about nine years based on 2017 deliveries. The balance of our Commercial Aerospace sales

is related to regional and business aircraft manufacture, and other commercial aircraft applications. These applications also exhibit increasing utilization of composite materials with each new generation of aircraft.

Space & Defense

The Space & Defense market has historically been an innovator in the use of, and source of significant demand for, advanced composites. The aggregate demand by Space & Defense customers is primarily a function of procurement of military aircraft that utilize advanced composites by the United States and certain European governments, including both commercial and military helicopters. We are currently qualified to supply materials to a broad range of helicopter, military aircraft and space programs, including the Boeing V-22 (Osprey) tilt rotor aircraft, Lockheed Martin F-35 (joint strike fighter or JSF), Airbus A400M military transport, and Sikorsky Black Hawk. No one program accounts for more than 12% of our revenues in this market. The sales that we obtain from these programs will depend upon which are funded and the extent of such funding. Space applications for advanced composites include solid rocket booster cases, fairings and payload doors for launch vehicles, and satellite buss and solar arrays for military and commercial satellites.

Another trend providing positive growth for Hexcel is the further penetration of composites in helicopter blades. Numerous new helicopter programs in development, as well as upgrade or retrofit programs, have an increased untilization of Composite Materials products such as carbon fiber, prepregs, and honeycomb core to improve blade performance. In addition, our Engineered Products segment provides specialty value added services such as machining, sub-assembly, and even full blade manufacturing.

Contracts for military and some commercial programs may contain provisions applicable to both U.S. government contracts and subcontracts. For example, a prime contractor may flow down a “termination for convenience” clause to materials suppliers such as Hexcel. According to the terms of a contract, we may be subject to U.S. government Federal Acquisition Regulations, the Department of Defense Federal Acquisition Regulations Supplement, and associated procurement regulations.

Industrial

The revenue from this market includes wind turbine blades, automotive, a wide variety of recreational products and other industrial applications. A number of these applications represent emerging opportunities for our products. In developing new applications, we seek those opportunities where advanced composites technology offers significant benefits to the end user, often applications that demand high engineering performance. Within the Industrial markets, wind energy comprises the largest submarket and our primary customer is Vestas Wind Systems A/S. The Industrial markets also include sales to major end user sub-markets, in order of size based on our 2017 sales: general industrial applications (including those sold through distributors), transportation (e.g., automobiles, mass transit and high-speed rail, and marine applications) and recreational equipment (e.g., skis and snowboards, bicycles and hockey sticks). Our participation in Industrial applications complements our commercial and military aerospace businesses, and in many instances, technology or products now used in aerospace were started in Industrial. We are committed to pursuing the utilization of advanced structural material technology where it can generate significant value and we can maintain a sustainable competitive advantage.

Further discussion of our markets, including certain risks, uncertainties and other factors with respect to “forward-looking statements” about those markets, is contained under the captions “Management’s Discussion and Analysis of Financial Condition and Results of Operations” and “Risk Factors”.

Backlog

In recent years, our customers have demanded shorter order lead times and “just-in-time” delivery performance. While we have many multi-year contracts with our major aerospace customers and our largest Industrial customer, most of these contracts specify the proportion of the customers’ requirements that will be supplied by us and the terms under which the sales will occur, not the specific quantities to be procured or the specific dates for delivery. Our Industrial customers have always desired to order their requirements on as short a lead-time as possible. As a result, twelve-month order backlog is not a meaningful trend indicator for us. As noted above, our Commercial Aerospace sales to Airbus and Boeing and their subcontractors accounted for 64% of our total 2017 sales, and their airplane backlog is nearly nine years based on 2017 deliveries.

Raw Materials and Production Activities

Our manufacturing operations are in many cases vertically integrated. We produce and internally use carbon fibers, industrial fabrics, composite materials and composite structures as well as sell these materials to third-party customers for their use in the manufacture of their products.

We manufacture high performance carbon fiber from polyacrylonitrile precursor ("PAN"). The primary raw material for PAN is acrylonitrile. All of the PAN we produce is for internal carbon fiber production. We consume more than 80% by value of the carbon fiber we produce and sell the remainder of our output to third-party customers. However, as one of the world's largest consumers of high performance carbon fiber, we also purchase significant quantities of carbon fiber from external sources for our own use. The sources of carbon fiber we can use in any product or application are generally dictated by customer qualifications or certifications. Otherwise, we select a carbon fiber based on performance, price and availability. With the increasing demand for carbon fiber, particularly in aerospace applications, in recent years we have significantly increased our PAN and carbon fiber capacity to serve the growing needs of our customers and our own downstream products. After a new production line starts operating, it can take up to a year to be certified for aerospace qualifications. However, these lines can start supplying carbon fiber for many industrial applications within a shorter time period.

We purchase glass yarn from a number of suppliers in the United States, Europe and Asia. We also purchase aramid and high strength fibers which are produced by only a few companies, and during periods of high demand, can be in short supply. In addition, epoxy and other specialty resins, aramid paper and aluminum specialty foils are used in the manufacture of composite products. A number of these products have only one or two sources qualified for use, so an interruption in their supply could disrupt our ability to meet our customer requirements. When entering into multi-year contracts with aerospace customers, we attempt to get back-to-back commitments from key raw material suppliers.

Our manufacturing activities are primarily based on "make-to-order", or "demand pull" based on customer schedules, and to a lesser extent, "make-to-forecast" production requirements. We coordinate closely with key suppliers in an effort to avoid raw material shortages and excess inventories. However, many of the key raw materials we consume are available from relatively few sources, and in many cases the cost of product qualification makes it impractical to develop multiple sources of supply. The lack of availability of these materials could under certain circumstances have a material adverse effect on our consolidated results of operations.

Research and Technology; Patents and Know-How

Research and Technology ("R&T") departments support our businesses worldwide. Through R&T activities, we maintain expertise in precursor and carbon fiber, chemical and polymer formulation and curatives, fabric forming and textile architectures, advanced composite structures, process engineering, application development, analysis and testing of composite materials, computational design, and other scientific disciplines related to our worldwide business base.

Our products rely primarily on our expertise in materials science, textiles, process engineering and polymer chemistry. Consistent with market demand, we have been placing more emphasis on higher performing products and cost effective production processes while seeking to improve the consistency of our products and our capital efficiency. Towards this end, we have entered into formal and informal alliances, as well as licensing and teaming arrangements, with several customers, suppliers, external agencies and laboratories. We believe that we possess unique capabilities to design, develop, manufacture and qualify composite materials and structures, including trade secrets and extensive internal knowledge gained from decades of experience. We have more than 1,540 patents and pending applications worldwide, and have granted technology licenses and patent rights to several third parties primarily in connection with joint ventures and joint development programs. It is our policy to actively enforce our proprietary rights. We believe that the patents and know-how rights currently owned or licensed by Hexcel are adequate for the conduct of our business. We do not believe that our business would be materially affected by the expiration of any single patent or series of related patents, or by the termination of any single license agreement or series of related license agreements.

We spent $49.4 million, $46.9 million and $44.3 million for R&T in 2017, 2016 and 2015, respectively. Our spending, on a constant currency basis, in 2017 was more than 6% higher than 2016 and in 2016 was about 10% higher than 2015. Our spending on a quarter to quarter basis fluctuates depending upon the amount of new product development and qualification activities, particularly in relation to commercial aircraft applications, that are in progress. These expenditures are expensed as incurred.

Environmental Matters

We are subject to federal, state, local and foreign laws and regulations designed to protect the environment and to regulate the discharge of materials into the environment. We believe that our policies, practices, and procedures are properly designed to prevent unreasonable risk of environmental damage and associated financial liability. To date, environmental control regulations have not had a significant adverse effect on our overall operations.

Our aggregate environmental related accruals at December 31, 2017 and 2016 were $2.8 million and $3.2 million, respectively. As of December 31, 2017 and December 31, 2016, $0.9 million and $1.4 million, respectively, were included in “Other current accrued liabilities”, with the remainder included in “Other non-current liabilities”. As related to certain of our environmental matters, our accruals were estimated at the low end of a range of possible outcomes since there was no better point within the range. If we had

accrued, for those sites where we are able to estimate our liability, at the high end of the range of possible outcomes, our accruals would have been $16 million higher at December 31, 2017 and 2016. Environmental remediation spending charged directly to our reserve balance for 2017, 2016 and 2015, was $0.5 million, $0.9 million and $2.6 million, respectively. In addition, our operating costs relating to environmental compliance were $9.9 million, $10.1 million and $10.7 million for 2017, 2016, and 2015, respectively, and were charged directly to expense. Capital expenditures for environmental matters approximated $8.4 million, $13.2 million and $7.1 million for 2017, 2016 and 2015 respectively.

These accruals can change significantly from period to period due to such factors as additional information on the nature or extent of contamination, the methods of remediation required, changes in the apportionment of costs among responsible parties and other actions by governmental agencies or private parties, as well as the impact, if any, of Hexcel being named in a new matter. A discussion of environmental matters is contained in Item 3, “Legal Proceedings,” and in Note 13 to the accompanying consolidated financial statements included in this Annual Report on Form 10-K.

Sales and Marketing

A staff of salaried marketing managers, product managers and sales personnel, sell and market our products directly to customers worldwide. We also use independent distributors and manufacturer representatives for certain products, markets and regions. In addition, we operate various sales representation offices in the Americas, Europe, Asia Pacific, Russia and Africa.

Competition

In the production and sale of advanced composites, we compete with a number of U.S. and international companies on a worldwide basis. The broad markets for composites are highly competitive, and we have focused on both specific submarkets and specialty products within markets. In addition to competing directly with companies offering similar products, we compete with producers of substitute composites such as structural foam, infusion technology, wood and metal. Depending upon the material and markets, relevant competitive factors include approvals, database of usage, technology, product performance, delivery, service, price, customer preference for sole sourcing and customer preferred processes.

Employees

As of December 31, 2017, we employed 6,259 full-time employees and contract workers, 3,368 in the United States and 2,891 in other countries. Of the 6,259 full-time employees, approximately 17% were represented by collective bargaining agreements. We believe that our relations with employees and unions are good. The number of full-time employees and contract workers as of December 31, 2016 and 2015 was 6,155 and 5,897, respectively.

Other Information

Our internet website is www.hexcel.com. We make available, free of charge through our website, our Form 10-Ks, 10-Qs and 8-Ks, and any amendments to these forms, as soon as reasonably practicable after filing with the Securities and Exchange Commission.

ITEM 1A. Risk Factors

An investment in our common stock or debt securities involves risks and uncertainties. You should consider the following risk factors carefully, in addition to the other information contained in this Annual Report on Form 10-K, before deciding to purchase any of our securities.

The markets in which we operate can be cyclical, and downturns in them may adversely affect the results of our operations.

Some of the markets in which we operate have been, to varying degrees, cyclical and have experienced downturns. A downturn in these markets could occur at any time as a result of events that are industry specific or macroeconomic and in the event of a downturn; we have no way of knowing if, when and to what extent there might be a recovery. Any deterioration in any of the cyclical markets we serve could adversely affect our financial performance and operating results.

At December 31, 2017, Airbus and Boeing had a combined backlog of 13,129 aircraft or nearly nine years of production at 2017 delivery rates. To the extent any significant deferrals, cancellations or reduction in demand results in decreased aircraft build rates, it would reduce net sales for our Commercial Aerospace products and as a result reduce our operating income. Approximately 72% of our net sales for 2017 were derived from sales to the Commercial Aerospace industry, which includes 89% from Airbus and Boeing aircraft and 11% from regional and business aircraft. Reductions in demand for commercial aircraft or a delay in deliveries could

result from many factors, including delays in the startup or ramp-up of new programs, changes in the propensity for the general public to travel by air (including as a result of terrorist events and any subsequent military response), a significant change in the cost of aviation fuel, a change in technology resulting in the use of alternative materials, consolidation and liquidation of airlines, availability of funding for new aircraft purchases or leases, inventory corrections or disruptions throughout the supply chain and slower macroeconomic growth.

Our content on the A350 is approximately $4.8 million per plane and it is our largest program. We expect sales of approximately $575 million per year when Airbus reaches its projected buildrates of 120 per year. Both Airbus and Boeing have experienced various delays in the start and ramp up of several aircraft programs, including the A380, B787, B747-8, A400M, and A350. In the past, these have delayed our expected growth or our effective utilization of capacity installed for such growth. Future delays in these or other major new customer programs could similarly impact our results.

In addition, our customers continue to emphasize the need for cost reduction or other improvements in contract terms throughout the supply chain. In response to these pressures, we may be required to accept increased risk or face the prospects of margin compression on some products in the future. Where possible, we seek to offset or mitigate the impact of such pressures through productivity and performance improvements, index clauses, currency hedging and other actions.

A significant decline in business with Airbus, Boeing, Vestas, or other large customers could materially impact our business, operating results, prospects and financial condition.

We have concentrated customers in the Commercial Aerospace and wind energy markets. In the Commercial Aerospace market, approximately 89%, and in the Space & Defense market, approximately 31%, of our 2017 net sales were made to Airbus and Boeing and their related subcontractors. For the years ended December 31, 2017 and December 31, 2016, approximately 44% and 41% of our total consolidated net sales, respectively, were to Airbus, and its related subcontractors and approximately 25% and 28% of our total consolidated net sales were to Boeing and its related subcontractors, respectively. In the wind energy market, our primary customer is Vestas. Significant changes in the demand for our customers' end products, program delays, the share of their requirements that is awarded to us or changes in the design or materials used to construct their products could result in a significant loss of business with these customers. The loss of, or significant reduction in, purchases by Airbus, Boeing or Vestas or any of our other large customers could materially impair our business, operating results, prospects and financial condition. The level of purchases by our customers is often affected by events beyond their control, including general economic conditions, demand for their products, disruptions in deliveries, business disruptions, strikes and other factors.

A decrease in supply, interruptions at key facilities or an increase in cost of raw materials could result in a material decline in our profitability.

Our profitability depends largely on the price and continuity of supply of raw materials, which may be supplied through a sole source or a limited number of sources. We purchase large volumes of raw materials, such as epoxy and phenolic resins, carbon fiber, fiberglass yarn, aluminum foil and aramid paper. Any restrictions on the supply, or an increase in the cost, of our raw materials could significantly reduce our profit margins. Efforts to mitigate restrictions on the supply or price increases of these raw materials by long-term purchase agreements, productivity improvements or by passing cost increases to our customers may not be successful.

The occurrence of material operational problems, including but not limited to failure of, or interruption to, key equipment or natural disasters, or inability to install, staff and qualify necessary capacity, achievement of planned manufacturing improvements, or inability to meet customer specifications, may have a material adverse effect on the productivity and profitability of a particular manufacturing facility. With respect to certain facilities, such events could

have a material effect on our company as a whole.

Reductions in space and defense spending could result in a decline in our net sales.

Space and defense production that has occurred in recent years may not be sustained, individual programs important to Hexcel may be cancelled, production may not continue to grow and the increased demand for composite-intensive programs may not continue. In addition, the production of military aircraft depends upon defense budgets and the related demand for defense and related equipment. Approximately 17% of our net sales in 2017 were to the Space & Defense market of which about 87% were related to military programs in the United States and other countries.

We have substantial international operations subject to uncertainties which could affect our operating results.

We believe that revenue from sales outside the U.S. will continue to account for a material portion of our total revenue for the foreseeable future. In 2017, 52% of our production and 59% of our customer sales occurred outside of the United States. Additionally, we have invested significant resources in our international operations and we intend to continue to make such investments in the

future. Our international operations are subject to numerous risks, including: (a) general economic and political conditions in the countries where we operate may have an adverse effect on our operations in those countries or not be favorable to our growth strategy; (b) the difficulty of enforcing agreements and collecting receivables through some foreign legal systems; (c) foreign customers may have longer payment cycles than customers in the U.S.; (d) cost of compliance with international trade laws of all of the countries in which we do business, including export control laws, relating to sales and purchases of goods and equipment and transfers of technology; (e) tax rates may vary and foreign earnings may be subject to withholding requirements or the imposition of tariffs, exchange controls or other restrictions; (f) governments may adopt regulations or take other actions that would have a direct or indirect adverse impact on our business and market opportunities; and (g) the potential difficulty in enforcing our intellectual property rights in some foreign countries, and the potential for the intellectual property rights of others to affect our ability to sell product in certain markets. Any one of these could adversely affect our financial condition and results of operations.

In addition, fluctuations in currency exchange rates may influence the profitability and cash flows of our business. For example, our European operations sell a portion of the products they produce in U.S. dollars, yet the labor, overhead costs and portions of material costs incurred in the manufacture of those products are primarily denominated in Euros, British pound sterling or U.S. dollars. As a result, the local currency margins of goods manufactured with costs denominated in local currency, yet sold in U.S. dollars, will vary with fluctuations in currency exchange rates, reducing when the U.S. dollar weakens against the Euro and British pound sterling. In addition, the reported U.S. dollar value of the local currency financial statements of our foreign subsidiaries will vary with fluctuations in currency exchange rates. While we enter into currency exchange and hedge agreements from time to time to mitigate these types of fluctuations, we cannot remove all fluctuations or hedge all exposures, and our earnings are impacted by changes in currency exchange rates.

We currently do not have political risk insurance in the countries in which we conduct business. While we carefully consider these risks when evaluating our international operations, we cannot provide assurance that we will not be materially adversely affected as a result of such risks.

We could be adversely affected by environmental and safety requirements.

Our operations require the handling, use, storage and disposal of certain regulated materials and wastes. As a result, we are subject to various laws and regulations pertaining to pollution and protection of the environment, health and safety. These requirements govern, among other things, emissions to air, discharge to waters and the generation, handling, storage, treatment and disposal of waste and remediation of contaminated sites. We have made, and will continue to make, capital and other expenditures in order to comply with these laws and regulations. These laws and regulations are complex, change frequently and could become more stringent in the future.

We have been named as a “potentially responsible party” under the U.S. Superfund law or similar state laws at several sites requiring clean up. These laws generally impose liability for costs to investigate and remediate contamination without regard to fault. Under certain circumstances liability may be joint and several, resulting in one responsible party being held responsible for the entire obligation. Liability may also include damages to natural resources. We have incurred and likely will continue to incur expenses to investigate and clean up certain of our existing and former facilities, for which we believe we have adequate reserves. The ongoing operation of our manufacturing plants also entails environmental risks, and we may incur material costs or liabilities in the future which could adversely affect us. Although most of our properties have been the subject of environmental site assessments, there can be no assurance that all potential instances of soil and groundwater contamination have been identified, even at those sites where assessments have been conducted. Accordingly, we may discover previously unknown environmental conditions and the cost of remediating such conditions may be material. See “Legal Proceedings” below and Note 13 to the consolidated financial statements included elsewhere in this Annual Report on Form 10-K.

In addition, we may be required to comply with evolving environmental, health and safety laws, regulations or requirements that may be adopted or imposed in the future or to address newly discovered information or conditions that require a response. In particular, climate change is receiving increased attention worldwide, which has led to significant legislative and regulatory efforts to limit greenhouse gas emissions. The U.S. Congress has considered climate change-related legislation and may retake the issue in the near future. Specific policy measures could include cap and trade provisions or a carbon tax. The European Union has instituted the Greenhouse Gas Emission Trading System (EU-ETS). Our manufacturing plants use energy, including electricity and natural gas, and some of our plants may in the future emit amounts of greenhouse gas that could be affected by these legislative and regulatory efforts. Potential consequences could include increased energy, transportation and raw material costs and may require the Company to make additional investments in its facilities and equipment or limit our ability to grow.

Acquisitions, divestitures, mergers, business combinations or joint ventures by the Company may entail certain operational and financial risks.

Over the past several years we have completed several strategic acquisitions of complementary manufacturing companies, Formax (UK) Limited, Structil SA and Oxford Performance Materials aerospace and defense business, as well as strategic investments in companies such as Carbon Conversions Incorporated. We expect to continue to explore complementary acquisitions, investments and joint ventures and may also pursue divestures of business lines that do not fit with our core strategy. We may also engage in further vertical integration. From time to time, we have evaluated, and we expect that we will continue to evaluate, possible acquisition, investment, joint venture and/or divestiture transactions. At any given time we may be engaged in discussions or negotiations with respect to these types of activities or may have entered into non-binding letters of intent. However, we may face competition for attractive targets and may not be able to source appropriate acquisition targets at prices acceptable to us, if at all. In addition, these types of transactions may require significant liquidity, which may not be available on terms favorable to us, or at all. There can be no assurance that we will realize the intended benefits from such transactions or that such transactions will not present risks that could result in increased expenditures and could materially adversely affect our revenues and profitability.

Our forward-looking statements and projections may turn out to be inaccurate.

This Form 10-K includes forward-looking statements within the meaning of the Private Securities Litigation Reform Act of 1995. These statements relate to analyses and other information that are based on forecasts of future results and estimates of amounts not yet determinable. These statements also relate to future prospects, developments and business strategies. These forward-looking statements are identified by their use of terms and phrases such as “anticipate”, “believe”, “could”, “estimate”, “expect”, “intend”, “may”, “plan”, “predict”, “project”, “should”, “would”, “will” and phrases, including references to assumptions. Such statements are based on current expectations, are inherently uncertain, and are subject to changing assumptions.

Such forward-looking statements include, but are not limited to: (a) the estimates and expectations based on aircraft production rates made publicly available by Airbus, Boeing and others; (b) the revenues we may generate from an aircraft model or program; (c) the impact of the possible push-out in deliveries of the Airbus and Boeing backlog and the impact of delays in the startup or ramp-up of new aircraft programs or the final Hexcel composite material content once the design and material selection has been completed; (d) expectations of composite content on new commercial aircraft programs and our share of those requirements; (e) expectations of growth in revenues from space and defense applications, including whether certain programs might be curtailed or discontinued; (f) expectations regarding growth in sales for wind energy, recreation, automotive and other industrial applications; (g) expectations regarding working capital trends and expenditures; (h) expectations as to the level of capital expenditures and when we will complete the construction and qualification of capacity expansions; (i) our ability to maintain and improve margins in light of the ramp-up of capacity and new facilities and the current economic environment; (j) the outcome of legal matters; (k) our projections regarding the realizability of net operating loss and tax credit carryforwards; and (l) the impact of various market risks, including fluctuations in interest rates, currency exchange rates, environmental regulations and tax codes, fluctuations in commodity prices, and fluctuations in the market price of our common stock, the impact of work stoppages or other labor disruptions and the impact of the above factors on our expectations of 2018 financial results and beyond. In addition, actual results may differ materially from the results anticipated in the forward looking statements due to a variety of factors, including but not limited to changing market conditions, increased competition, product mix, inability to achieve planned manufacturing improvements or to meet customer specifications, cost reductions and capacity additions, and conditions in the financial markets.

Such forward-looking statements involve known and unknown risks, uncertainties and other factors that may cause actual results to be materially different. Such factors include, but are not limited to, the following: changes in general

economic and business conditions; changes in current pricing and cost levels; changes in political, social and economic conditions and local regulations; foreign currency fluctuations; changes in aerospace delivery rates; reductions in sales to any significant customers, particularly Airbus, Boeing or Vestas; changes in sales mix; changes in government defense procurement budgets; changes in military aerospace programs technology; industry capacity; competition; disruptions of established supply channels, particularly where raw materials are obtained from a single or limited number of sources and cannot be substituted by unqualified alternatives; manufacturing capacity constraints; uncertainty regarding the likely exit of the U.K. from the European Union; and unforeseen vulnerability of our network and systems to interruptions or failures.

If one or more of these risks or uncertainties materialize, or if underlying assumptions prove incorrect, actual results may vary materially from those expected, estimated or projected. In addition to other factors that affect our operating results and financial position, neither past financial performance nor our expectations should be considered reliable indicators of future performance. Investors should not use historical trends to anticipate results or trends in future periods. Further, the price of our publicly traded securities are subject to volatility. Any of the factors discussed above could have an adverse impact on the price of our securities. In addition, failure of sales or income in any quarter to meet the investment community’s expectations, as well as broader market trends,

can have an adverse impact on the price of our securities. We do not undertake an obligation to update our forward-looking statements or risk factors to reflect future events or circumstances.

ITEM 1B. Unresolved Staff Comments

None.

ITEM 2. Properties

We own and lease manufacturing facilities and sales offices located throughout the United States and in other countries, as noted below. The corporate offices and principal corporate support activities are located in leased facilities in Stamford, Connecticut. Our research and technology administration and principal laboratories are located in Dublin, California; Duxford, England; Les Avenières, France; Salt Lake City, Utah and Decatur, Alabama.

The following table lists our manufacturing facilities by geographic location, related segment, and principal products manufactured. This table does not include manufacturing facilities owned by our joint venture.

Manufacturing Facilities

Facility Location	Segment	Principal Products
United States:		
Burlington, Washington	Engineered Products	Engineered Honeycomb Parts
Casa Grande, Arizona	Composite Materials	Honeycomb and Honeycomb Parts
Decatur, Alabama	Composite Materials	PAN Precursor (used to produce Carbon Fibers)
Kent, Washington	Engineered Products	Composite structures
Pottsville, Pennsylvania	Engineered Products	Engineered Honeycomb Parts
Salt Lake City, Utah	Composite Materials	Carbon Fibers; Prepregs
Seguin, Texas	Composite Materials	Industrial Fabrics; Specialty Reinforcements
South Windsor, CT	Engineered Products	3D printed parts
Windsor, Colorado	Composite Materials	Prepregs
International:		
Casablanca, Morocco	Engineered Products	Engineered Honeycomb Parts
Dagneux, France	Composite Materials	Prepregs
Duxford, England	Composite Materials	Prepregs; Adhesives; Honeycomb and Honeycomb Parts
Illescas, Spain	Composite Materials	Carbon Fibers
Leicester, England	Composite Materials	Lightweight Multiaxials Fabrics
Les Avenières, France	Composite Materials	Industrial Fabrics; Specialty Reinforcements
Nantes, France	Composite Materials	Prepregs
Neumarkt, Austria	Composite Materials	Prepregs
Parla, Spain	Composite Materials	Prepregs
Roussillon, France	Composite Materials	PAN Precursor and Carbon Fibers
Stade, Germany	Composite Materials	Prepregs
Tianjin, China	Composite Materials	Prepregs
Vert-le-Petit, France	Composite Materials	Pultruded profiles; Prepregs and Adhesives
Welkenraedt, Belgium	Engineered Products	Engineered Honeycomb Parts

The Roussillon facility is currently under construction and should be operational, with qualifications completed in 2018. We lease the land and buildings in Nantes, France, South Windsor, CT and Tianjin, China; and the land on which the Burlington, Washington facility is located. We also lease portions of the facilities located in Casa Grande, Arizona, Pottsville, Pennsylvania, Kent, Washington and Leicester, England. We own all other remaining facilities. For further information, refer to “Management’s Discussion and Analysis of Financial Condition and Results of Operations” and to Note 6 to the accompanying consolidated financial statements of this Annual Report on Form 10-K.

ITEM 3. Legal Proceedings

We are involved in litigation, investigations and claims arising out of the normal conduct of our business, including those relating to commercial transactions, environmental, employment and health and safety matters. We estimate and accrue our liabilities resulting from such matters based on a variety of factors, including the stage of the proceeding; potential settlement value; assessments by internal and external counsel; and assessments by environmental engineers and consultants of potential environmental liabilities and remediation costs. Such estimates are not discounted to reflect the time value of money due to the uncertainty in estimating the timing of the expenditures, which may extend over several years.

While it is impossible to ascertain the ultimate legal and financial liability with respect to certain contingent liabilities and claims, we believe, based upon our examination of currently available information, our experience to date, and advice from legal counsel, that the individual and aggregate liabilities resulting from the ultimate resolution of these contingent matters, after taking into

consideration our existing insurance coverage and amounts already provided for, will not have a material adverse impact on our consolidated results of operations, financial position or cash flows.

Environmental Matters

We are subject to various U.S. and international federal, state and local environmental, and health and safety laws and regulations. We are also subject to liabilities arising under the Federal Comprehensive Environmental Response, Compensation and Liability Act ("CERCLA" or "Superfund"), the Clean Air Act, the Clean Water Act, the Resource Conservation and Recovery Act, and similar state and international laws and regulations that impose responsibility for the control, remediation and abatement of air, water and soil pollutants and the manufacturing, storage, handling and disposal of hazardous substances and waste.

We have been named as a potentially responsible party ("PRP") with respect to several hazardous waste disposal sites that we do not own or control, which are included on, or proposed to be included on, the Superfund National Priority List of the U.S. Environmental Protection Agency ("EPA") or on equivalent lists of various state governments. Because CERCLA allows for joint and several liability in certain circumstances, we could be responsible for all remediation costs at such sites, even if we are one of many PRPs. We believe, based on the amount and nature of our waste, and the number of other financially viable PRPs, that our liability in connection with such matters will not be material.

Lower Passaic River Study Area

Hexcel and a group of approximately 51 other PRPs comprise the Lower Passaic Cooperating Parties Group (the "CPG"). Hexcel and the CPG are subject to a May 2007 Administrative Order on Consent ("AOC") to perform a Remedial Investigation/Feasibility Study ("RI/FS") of environmental conditions in the Lower Passaic River watershed. We were included in the CPG based on our operations at our former manufacturing site in Lodi, New Jersey.

In March 2016, the EPA issued a Record of Decision ("ROD") setting forth the EPA's selected remedy for the lower eight miles of the river. The ROD calls for capping and dredging of the lower eight miles of the Passaic River, with the placement of an engineered cap over the entire eight miles, at an expected cost ranging from $0.97 billion to $2.07 billion, according to the EPA. Because the EPA has not yet selected a remedy for the upper nine miles of the Lower Passaic River, this estimate range does not include any costs related to a future remedy for the upper portion of the river. Now that it has issued the final ROD, the EPA will seek to hold some combination of the PRPs liable to perform the work selected through the ROD. At this point, we have not yet determined our allocable share of performing the selected remedy. However, based on a review of the Company's position, and as no point within the range is a more probable outcome than any other point, the Company has determined that its accrual is sufficient at this time. The total accrued liability related to this matter was $2.0 million at December 31, 2017 and $2.1 million at December 31, 2016. Despite the issuance of the final ROD, there continue to be many uncertainties associated with the selected remedy and the Company's allocable share of the remediation and the amount of insurance coverage. Given those uncertainties, the amounts accrued may not be indicative of the amounts for which the Company is ultimately responsible and will be refined as events in the remediation process develop.

Omega Chemical Corporation Superfund Site, Whittier, California

We are a PRP at a former chemical waste site in Whittier, California. The PRPs at Omega have established a PRP Group, the "Omega PRP Group", and are currently investigating and remediating soil and groundwater at the site pursuant to a Consent Decree with the EPA. The Omega PRP Group has attributed approximately 1.07% of the waste tonnage sent to the site to Hexcel. In addition to the Omega site specifically, the EPA is investigating the scope of regional groundwater contamination in the vicinity of the Omega site and issued a Record of Decision; the Omega PRP Group members have been served notice by the EPA as PRPs who will be required to be involved in the

remediation of the regional groundwater contamination in that vicinity as well. As a member of the Omega PRP Group, Hexcel will incur costs associated with the investigation and remediation of the Omega site and the regional groundwater remedy, although our ultimate liability, if any, in connection with this matter cannot be determined at this time. The total accrued liability relating to potential liability for both the Omega site and regional groundwater remedies was $0.6 million at both December 31, 2017 and December 31, 2016.

Environmental remediation reserve activity for the three years ended December 31, 2017 was as follows:

	For the year ended December 31,		
(In millions)	2017	2016	2015
Beginning remediation accrual balance	$ 3.2	$ 2.9	$ 5.0
Current period expenses	0.1	1.2	0.5
Cash expenditures	(0.5)	(0.9)	(2.6)
Ending remediation accrual balance	$ 2.8	$ 3.2	$ 2.9
Capital expenditures for environmental matters	$ 8.4	$ 13.2	$ 7.1

Environmental Summary

Our estimate of liability as a PRP and our remaining costs associated with our responsibility to remediate the Lower Passaic River in New Jersey and other sites are accrued in the consolidated balance sheets. As of December 31, 2017 and 2016, our aggregate environmental related accruals were $2.8 million and $3.2 million, respectively. As of December 31, 2017 and 2016, $0.9 million and $1.4 million, respectively, were included in current other accrued liabilities, with the remainder included in other non-current liabilities. As related to certain environmental matters, the accruals were estimated at the low end of a range of possible outcomes since no amount within the range is a better estimate than any other amount. If we had accrued, for those sites where we are able to estimate our liability, at the high end of the range of possible outcomes, our accrual would have been $16 million higher at December 31, 2017 and 2016.

These accruals can change significantly from period to period due to such factors as additional information on the nature or extent of contamination, the methods of remediation required, changes in the apportionment of costs among responsible parties and other actions by governmental agencies or private parties, or the impact, if any, of being named in a new matter.

Environmental remediation spending charged directly to our reserve balance was $0.5 million and $0.9 million for the years ended December 31, 2017 and 2016, respectively. In addition, our operating costs relating to environmental compliance charged directly to expense were $9.9 million and $10.1 million for the years ended December 31, 2017 and 2016.

ITEM 4. Mine Safety Disclosure

Not applicable.

PART II

ITEM 5. Market for Registrant's Common Equity and Related Stockholder Matters

Hexcel common stock is traded on the New York Stock Exchange under the symbol HXL. The range of high and low sales prices of our common stock on the New York Stock Exchange is contained in Note 20 to the accompanying consolidated financial statements of this Annual Report on Form 10-K and is incorporated herein by reference.

On January 24, 2018, the Board of Directors declared a $0.125 quarterly dividend. The dividend will be payable to stockholders of record as of February 6, 2018, with a payment date of February 13, 2018. The Company announced a program to repurchase common stock of $300 million in 2017. During 2017, 2016 and 2015 the Company repurchased a total of $150 million, $111 million and $146 million of shares, respectively. There was $243 million remaining under the authorized 2017 share repurchase program at December 31, 2017.

On January 31, 2018, there were 609 holders of record of our common stock.

The following chart provides information regarding repurchases of Hexcel common stock:

Period	(a) Total Number of Shares (or Units) Purchased		(b) Average Price Paid per Share (or Unit)	(c) Total Number of Shares (or Units) Purchased as Part of Publicly Announced Plans or Programs	(d) Maximum Number (or Approximate Dollar Value) of Shares (or Units) that May Yet Be Purchased Under the Plans or Programs
October 1 — October 31, 2017	63,800		$ 61.90	63,800	$ 266,795,705
November 1 — November 30, 2017	239,100		$ 61.12	239,100	$ 252,182,817
December 1 — December 31, 2017	157,550		$ 61.41	157,550	$ 242,507,775
Total	460,450	(1)	$ 61.33	460,450	$ 242,507,775

(1)

On February 9, 2017, our Board authorized us to repurchase an additional $300 million of our outstanding common stock, of which $242.5 million was still available at December 31, 2017.

ITEM 6. Selected Financial Data

The information required by Item 6 is contained on page 25 of this Annual Report on Form 10-K under the caption "Selected Financial Data" and is incorporated herein by reference.

ITEM 7. Management's Discussion and Analysis of Financial Condition and Results of Operations

The information required by Item 7 is contained on pages 26 to 33 of this Annual Report on Form 10-K under "Management's Discussion and Analysis of Financial Condition and Results of Operations" and is incorporated herein by reference.

ITEM 7A. Quantitative and Qualitative Disclosures about Market Risk

The information required by Item 7A is contained under the heading "Market Risks" on pages 35 to 37 of this Annual Report on Form 10-K and is incorporated herein by reference.

ITEM 8. Financial Statements and Supplementary Data

The information required by Item 8 is contained on pages 44 to 78 of this Annual Report on Form 10-K under "Consolidated Financial Statements and Supplementary Data" and is incorporated herein by reference. The Reports of Independent Registered Public Accounting Firms are contained on page 41 to 43 of this Annual Report on Form 10-K under the caption "Reports of Independent Registered Public Accounting Firms" and is incorporated herein by reference.

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

None.

ITEM 9A. Controls and Procedures

Our Chief Executive Officer and Chief Financial Officer have evaluated our disclosure controls and procedures as of December 31, 2017 and have concluded that these disclosure controls and procedures are effective to ensure that information required to be disclosed by us in the reports that we file or submit under the Securities Exchange Act of 1934 is recorded, processed, summarized and reported within the time periods specified in the SEC's rules and forms. These disclosure controls and procedures include, without limitation, controls and procedures designed to ensure that information required to be disclosed by us in the reports we file or submit is accumulated and communicated to management, including the Chief Executive Officer and Chief Financial Officer, as appropriate to allow timely decisions regarding required disclosure.

Our Chief Executive Officer and Chief Financial Officer have concluded that there have not been any changes in our internal control over financial reporting during the fourth quarter that have materially affected, or are reasonably likely to materially affect, our internal control over financial reporting.

Management's report on our internal control over financial reporting is contained on page 40 of this Annual Report on Form 10-K and is incorporated herein by reference.

ITEM 9B. Other Information

None.

PART III

ITEM 10. Directors, Executive Officers and Corporate Governance

The information required by Item 10 will be contained in our definitive proxy statement for the 2018 Annual Meeting of Stockholders, which will be filed with the Securities and Exchange Commission within 120 days after the close of the fiscal year ended December 31, 2017. Such information is incorporated herein by reference.

ITEM 11. Executive Compensation

The information required by Item 11 will be contained in our definitive proxy statement for the 2018 Annual Meeting of Stockholders, which will be filed with the Securities and Exchange Commission within 120 days after the close of the fiscal year ended December 31, 2017. Such information is incorporated herein by reference.

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

The information required by Item 12 will be contained in our definitive proxy statement for the 2018 Annual Meeting of Stockholders, which will be filed with the Securities and Exchange Commission within 120 days after the close of the fiscal year ended December 31, 2017. Such information is incorporated herein by reference.

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

The information required by Item 13 will be contained in our definitive proxy statement for the 2018 Annual Meeting of Stockholders, which will be filed with the Securities and Exchange Commission within 120 days after the close of the fiscal year ended December 31, 2017. Such information is incorporated herein by reference.

ITEM 14. Principal Accountant Fees and Services

The information required by Item 14 will be contained in our definitive proxy statement for the 2018 Annual Meeting of Stockholders, which will be filed with the Securities and Exchange Commission within 120 days after the close of the fiscal year ended December 31, 2017. Such information is incorporated herein by reference.

PART IV

ITEM 15. Exhibits and Financial Statement Schedules

(a) Financial Statements, Financial Statement Schedules and Exhibits

(1) Financial Statements:

Reports of Independent Registered Public Accounting Firms

Consolidated Balance Sheets as of December 31, 2017 and 2016

Consolidated Statements of Operations for each of the three years ended December 31, 2017, 2016, and 2015

Consolidated Statements of Comprehensive Income for each of the three years ended December 31, 2017, 2016 and 2015

Consolidated Statements of Stockholders' Equity for each of the three years ended December 31, 2017, 2016 and 2015

Consolidated Statements of Cash Flows for each of the three years ended December 31, 2017, 2016 and 2015

Notes to the Consolidated Financial Statements

(2) Financial Statement Schedule for the three years ended December 31, 2017, 2016 and 2015:

Schedule II — Valuation and Qualifying Accounts

All other schedules are omitted because they are not applicable or the required information is shown in the financial statements or the notes thereto.

(3) Exhibits:

The following list of exhibits includes exhibits submitted with this Form 10-K as filed with the SEC and those incorporated by reference to other filings.

Exhibit No.	Description
3.1	Restated Certificate of Incorporation of Hexcel Corporation (incorporated herein by reference to Exhibit 1 to the Company's Registration Statement on Form 8-A dated July 9, 1996, Registration No. 1-08472).

3.2	Certificate of Amendment of the Restated Certificate of Incorporation of Hexcel Corporation (incorporated herein by reference to Exhibit 3.2 to the Company's Annual Report on Form 10-K/A for the fiscal year ended December 31, 2002, filed on March 31, 2003).
3.3	Amended and Restated Bylaws of Hexcel Corporation (incorporated by reference to Exhibit 3 to the Company's Current Report on Form 8-K dated September 23, 2014).
4.1	Form of Indenture between Hexcel Corporation and U.S. Bank National Association (incorporated by reference to Exhibit 4.1 to the Company's Registration Statement on Form S-3 dated October 21, 2014, Registration No. 333-199500)
4.2	Indenture, dated as of August 3, 2015, between Hexcel Corporation and U.S. Bank National Association, as Trustee (incorporated by reference to Exhibit 4.1 to the Company's Current Report on Form 8-K dated August 3, 2015).
4.3	First Supplemental Indenture, dated as of August 3, 2015, between Hexcel Corporation and U.S. Bank National Association, as Trustee (incorporated by reference to Exhibit 4.2 to the Company's Current Report on Form 8-K dated August 3, 2015).
4.4	Form of Note for 4.700% Senior Notes due 2025 (incorporated by reference to Exhibit 4.3 to the Company's Current Report on Form 8-K dated August 3, 2015).
4.5	Form of Note for 3.950% Senior Notes due 2027 (incorporated by reference to Exhibit 4.1 to the Company's Current Report on Form 8-K dated February 16, 2017).

10.1 Credit Agreement, dated as of June 9, 2016, by and among Hexcel Corporation, Hexcel Holdings Luxembourg S.à.r.l., and the financial institutions from time to time party thereto, Citizens Bank, National Association, as administrative agent for the lenders, Citizens Bank, National Association, Merrill Lynch, Pierce, Fenner & Smith Incorporated and Wells Fargo Securities, LLC, as joint book managers and joint lead arrangers, Bank of America, N.A. and Wells Fargo Bank,

National Association, as syndication agents, and Sumitomo Mitsui Banking Corporation, SunTrust Bank, TD Bank, N.A. and U.S. Bank, National Association, as documentation agents (incorporated by reference to Exhibit 99.1 to the Company's Current Report on Form 8-K dated June 14, 2016).

10.2* Hexcel Corporation 2013 Incentive Stock Plan (incorporated herein by reference to Exhibit 4.4 to the Company's Registration Statement on Form S-8, Registration No. 333-188292, filed on May 2, 2013).

10.3* Hexcel Corporation 2003 Incentive Stock Plan, as amended and restated as of May 7, 2009 (incorporated herein by reference to Exhibit 10.4(d) to the Company's Annual Report on Form 10-K for the fiscal year ended December 31, 2009).

10.4* Hexcel Corporation Management Incentive Compensation Plan, as Amended and Restated on December 8, 2016 (incorporated herein by reference to Exhibit 10.6 to the Company's Annual Report on Form 10-K for the fiscal year ended December 31, 2016).

10.5* Form of Employee Option Agreement (2014 - 2017) (incorporated herein by reference to Exhibit 10.8 to the Company's Annual Report on Form 10-K for the fiscal year ended December 31, 2016).

10.6* Form of Employee Option Agreement (2012 and 2013) (incorporated herein by reference to Exhibit 10.11 to the Company's Annual Report on Form 10-K for the fiscal year ended December 31, 2011).

10.7* Form of Restricted Stock Unit Agreement (2014 - 2017 (incorporated herein by reference to Exhibit 99.1 to the Company's Current Report on Form 8-K dated January 27, 2014).

10.8* Form of Performance Based Award Agreement (2017) (incorporated by reference to Exhibit 99.1 to the Company's Current Report on Form 8-K dated January 30, 2017).

10.9* Form of Performance Based Award Agreement (2015 and 2016) (incorporated by reference to Exhibit 99.1 to the Company's Current Report on Form 8-K dated January 26, 2015).

10.10* Hexcel Corporation Nonqualified Deferred Compensation Plan, Effective as of January 1, 2005, Amended and Restated as of December 31, 2008 (incorporated herein by reference to Exhibit 99.14 to The Company's Current Report on Form 8-K dated January 7, 2009).

10.11* Offer of Employment between Hexcel Corporation and Nick L. Stanage dated July 22, 2013 (incorporated herein by reference to Exhibit 10.2 to the Company's Quarterly Report on Form 10-Q for the quarter ended September 30, 2013).

10.12* Supplemental Executive Retirement Agreement dated October 28, 2009, between Nick L. Stanage and Hexcel Corporation (incorporated herein by reference to Exhibit 99.1 to the Company's Current Report on Form 8-K dated October 28, 2009).

10.13* Hexcel Corporation Executive Severance Policy (incorporated herein by reference to Exhibit 10.3 to the Company's Quarterly Report on Form 10-Q for the quarter ended September 30, 2013).

10.14* Executive Severance Agreement between Hexcel Corporation and Patrick Winterlich, dated October 2, 2017 (incorporated herein by reference to Exhibit 99.1 to the Company's Current report on Form 8-k dated October 6, 2017).

10.15* Executive Severance Agreement between Hexcel Corporation and Gail E. Lehman, dated October 2, 2017 (incorporated herein by reference to Exhibit 99.1 to the Company's Current report on Form 8-k dated October 6, 2017).

10.16* Executive Severance Agreement between Hexcel Corporation and Michael Canario, dated October 2, 2017 (incorporated herein by reference to Exhibit 99.1 to the Company's Current report on Form 8-k dated October 6, 2017).

10.17* Executive Severance Agreement between Hexcel Corporation and Timothy Swords, dated October 2, 2017 (incorporated herein by reference to Exhibit 99.1 to the Company's Current report on Form 8-k dated October 6, 2017).

10.18* Amended and Restated Executive Severance Agreement between Hexcel Corporation and Robert G. Hennemuth, dated December 31, 2008 (incorporated herein by reference to Exhibit 99.6 to the Company's Current Report on Form 8-K dated January 7, 2009).

10.19* Amended and Restated Executive Deferred Compensation Agreement between Hexcel Corporation and Robert G. Hennemuth, dated December 31, 2007 (incorporated herein by reference to Exhibit 99.4 to the Company's Current Report on Form 8-K dated January 7, 2008).

10.20*	Director Compensation Program, as adopted on May 4, 2017.
10.21*	Form of Restricted Stock Unit Agreement for Non-Employee Directors (2014-2017).
10.22*	Hexcel Corporation 2016 Employee Stock Purchase Plan (incorporated herein by reference to Annex B to the Company's Proxy Statement dated March 17, 2016).
21	Subsidiaries of the Company.
23.1	Consent of Ernst & Young LLP.
23.2	Consent of PricewaterhouseCoopers LLP.
24	Power of Attorney (included on signature page).
31.1	Certification of Chief Executive Officer, Pursuant to Section 302 of the Sarbanes-Oxley Act of 2002.
31.2	Certification of Chief Financial Officer, Pursuant to Section 302 of the Sarbanes-Oxley Act of 2002.
32	Certification of Chief Executive Officer and Chief Financial Officer Pursuant to 18 U.S.C.

	Section 1350, as Adopted Pursuant to Section 906 of the Sarbanes-Oxley Act of 2002.
101	The following materials from the Hexcel Corporation Annual Report on Form 10-K for the year ended December 31, 2017, formatted in Extensible Business Reporting Language (XBRL): (i) the Consolidated Statements of Operations, (ii) Consolidated Statements of Comprehensive Income (iii), Consolidated Balance Sheets, (iv) Consolidated Statements of Cash Flows, and (v) related notes.

* Indicates management contract or compensatory plan or arrangement.

SIGNATURES

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

Hexcel Corporation

February 7, 2018	/s/ NICK L. STANAGE
(Date)	Nick L. Stanage
	Chairman of the Board of Directors,
	Chief Executive Officer and President

KNOWN TO ALL PERSONS BY THESE PRESENTS, that each person whose signature appears below constitutes and appoints each of Nick L. Stanage, Patrick Winterlich and Gail Lehman, individually, his attorney-in-fact, with the power of substitution, for him in any and all capacities, to sign any amendments to this report, and to file the same, with exhibits thereto and other documents in connection therewith, with the Securities and Exchange Commission, hereby ratifying and confirming all that each said attorney-in-fact, or his substitute or substitutes, may do or cause to be done by virtue hereof.

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.

Signature	Title	Date
/s/ NICK L. STANAGE (Nick L. Stanage)	Chairman of the Board of Directors, Chief Executive Officer and President (Principal Executive Officer)	February 7, 2018
/s/ PATRICK WINTERLICH (Patrick Winterlich)	Executive Vice President and Chief Financial Officer (Principal Financial Officer)	February 7, 2018
/s/ KIMBERLY HENDRICKS (Kimberly Hendricks)	Senior Vice President, Corporate Controller and Chief Accounting Officer (Principal Accounting Officer)	February 7, 2018
/s/ JOEL S. BECKMAN (Joel S. Beckman)	Director	February 7, 2018
/s/ LYNN BRUBAKER (Lynn Brubaker)	Director	February 7, 2018
/s/ JEFFREY C. CAMPBELL (Jeffrey C. Campbell)	Director	February 7, 2018
/s/ CYNTHIA EGNOTOVICH (Cynthia Egnotovich)	Director	February 7, 2018

/s/ W. KIM FOSTER (W. Kim Foster)	Director	February 7, 2018
/s/ THOMAS A. GENDRON (Thomas A. Gendron)	Director	February 7, 2018
/s/ JEFFREY A. GRAVES (Jeffrey A. Graves)	Director	February 7, 2018
/s/ GUY HACHEY (Guy Hachey)	Director	February 7, 2018
/s/ DAVID L. PUGH (David L. Pugh)	Director	February 7, 2018

Selected Financial Data

The following table summarizes selected financial data as of and for the five years ended December 31:

(In millions, except per share data)	2017	2016	2015	2014	2013
Results of Operations:					
Net sales	$ 1,973.3	$ 2,004.3	$ 1,861.2	$ 1,855.5	$ 1,678.2
Cost of sales	1,421.5	1,439.7	1,328.4	1,346.7	1,224.2
Gross margin	551.8	564.6	532.8	508.8	454.0
Selling, general and administrative expenses	151.8	157.6	156.1	149.1	141.4
Research and technology expenses	49.4	46.9	44.3	47.9	41.7
Other expense (income), net	—	—	—	6.0	—
Operating income	350.6	360.1	332.4	305.8	270.9
Interest expense, net	27.4	22.1	14.2	8.0	7.3
Non-operating expense, net	—	0.4	—	0.5	1.0
Income before income taxes and equity in earnings	323.2	337.6	318.2	297.3	262.6
Provision for income taxes	42.5	90.3	83.0	89.3	76.0
Income before equity in earnings	280.7	247.3	235.2	208.0	186.6
Equity in earnings from affiliated companies	3.3	2.5	2.0	1.4	1.3
Net income	$ 284.0	$ 249.8	$ 237.2	$ 209.4	$187.9
Basic net income per common share	$ 3.13	$ 2.69	$ 2.48	$ 2.16	$ 1.88
Diluted net income per common share	$ 3.09	$ 2.65	$ 2.44	$ 2.12	$ 1.84
Weighted-average shares outstanding:					
Basic	90.6	92.8	95.8	96.8	100.0
Diluted	91.9	94.2	97.2	98.7	102.1
Financial Position:					
Total assets	$ 2,780.9	$ 2,400.6	$ 2,187.4	$ 2,036.4	$ 1,836.1
Working capital	$ 394.6	$ 335.1	$341.2	$371.1	$387.7
Long-term notes payable and capital lease obligations	$805.6	$684.4	$576.5	$ 415.0	$ 292.0
Dividends per share of common stock	$ 0.47	$0.44	$ 0.40	$—	$—
Stockholders' equity	$ 1,495.1	$ 1,244.9	$ 1,179.6	$ 1,149.9	$ 1,160.4
Other Data:					
Depreciation	$ 104.5	$93.3	$76.4	$71.2	$59.3
Accrual basis capital expenditures	$284.4	$320.2	$ 289.0	$270.2	$206.5
Shares outstanding at year-end, less treasury stock	89.6	91.4	93.5	95.5	98.9

MANAGEMENT'S DISCUSSION AND ANALYSIS OF FINANCIAL CONDITION AND RESULTS OF OPERATIONS

Business Overview

	Year Ended December 31,		
(In millions, except per share data)	2017	2016	2015
Net sales	$ 1,973.3	$ 2,004.3	$ 1,861.2
Gross margin %	28.0 %	28.2 %	28.6 %
Operating income	$350.6	$ 360.1	$332.4
Operating income %	17.8 %	18.0 %	17.9 %
Interest expense, net	$27.4	$ 22.1	$14.2
Non-operating expense	$—	$ 0.4	$—
Provision for income taxes	$ 42.5	$ 90.3	$ 83.0
Equity in earnings from investments in affiliated companies	$ 3.3	$ 2.5	$ 2.0
Net income	$ 284.0	$ 249.8	$ 237.2
Diluted net income per common share	$ 3.09	$2.65	$ 2.44

Reconciliations to adjusted income, adjusted diluted net income per share and free cash flow are provided below:

	Year Ended December 31,					
	2017		2016		2015	
(In millions)	Net Income	Tax Rate %	Net Income	Tax Rate %	Net Income	Tax Rate %
GAAP net income	$284.0	13.2	$249.8	26.8	$237.2	26.1
Non-operating expense, net of tax (1)	—		0.3		—	
Discrete tax benefits (2)	(15.6)	4.8	(6.6)	1.8	(11.6)	3.6
New tax law (3)	$(22.1)	6.8	$		$	
Adjusted net income (Non-GAAP)	$246.3	24.8	$243.5	28.6	$225.6	29.7
Adjusted diluted net income per share (Non-GAAP)	$2.68		$2.58		$2.32	

	Year Ended December 31,		
(In millions)	2017	2016	2015
Net cash provided by operating activities	$428.7	$401.4	$ 301.0
Less: Capital expenditures	(278.1)	(327.9)	(305.3)
Free cash flow (Non-GAAP)	$150.6	$73.5	$ (4.3)

(1)

Non-operating expense, net of tax, in 2016 was primarily for the accelerated amortization of deferred financing costs related to repaying the term loan and refinancing our revolving credit facility in June 2016.

(2) The year ended December 31, 2017, 2016 and 2015 included benefits of $15.6 million, $6.6 million and $11.6 million, respectively, primarily related to the release of reserves for uncertain tax positions.

(3) The three year ended December 31, 2017, includes a $22.1 million benefit related to the U.S. Tax Cuts and Jobs Act.

The Company uses non-GAAP financial measures, including sales and expenses measured in constant dollars (prior year sales and expenses measured at current year exchange rates); net income and earnings per share adjusted for items included in non-operating expenses; the effective tax rate adjusted for certain out of period items; and free cash flow. Management believes these non-GAAP measurements are meaningful to investors because they provide a view of Hexcel with respect to ongoing operating results and comparisons to prior periods. These adjustments represent significant charges or credits that are important to an understanding of Hexcel's overall operating results in the periods presented. Such non-GAAP measurements are not determined in accordance with generally accepted accounting principles and should not be viewed as an alternative to GAAP measures of performance.

Business Trends

The Company had total sales in 2017 of $1.97 billion, a 1.5% decrease as compared to 2016. Foreign exchange rates did not have a significant impact on sales in 2017 compared to 2016. Our Commercial Aerospace sales decreased 1.4%, Space & Defense sales increased 6.8% and our Industrial sales were down 13.2% from 2016. The Commercial Aerospace market represents 72% of our sales, followed by Space & Defense at 17% and Industrial at 11%.

- In 2017, our Commercial Aerospace sales decreased by 1.4%. Sales to Airbus and Boeing and their subcontractors, which comprised 89% of our Commercial Aerospace sales, were down about 1% as a decline in certain wide body sales more than offset the growth of the A350 and the new narrow bodies. Sales for the Airbus and Boeing legacy aircraft declined almost 20% driven by declines in legacy wide-body production. Almost all of our Commercial Aerospace sales are for new aircraft production as we have only nominal aftermarket sales.
- Airbus and Boeing combined deliveries in 2017 were a record 1,481 aircraft, compared to the previous record of 1,436 aircraft in 2016. The demand for new commercial aircraft is principally driven by two factors. The first is airline passenger traffic (measured by revenue passenger miles) and the second is the replacement rate for existing aircraft. The International Air Transport Association (IATA) estimates 2017 revenue passenger miles were 7.6% higher than 2016. Combined orders for Airbus and Boeing in 2017 were 2,021 planes, compared to 1,399 orders for 2016. Backlog at the end of 2017 increased to a record 13,129 planes, or nearly nine years of backlog at the 2017 delivery pace. Based on Airbus and Boeing announced projections, 2018 deliveries are estimated to be just above 2017.
- Overall the Commercial Aerospace industry continues to utilize a greater proportion of advanced composite materials with each new generation of aircraft. Hexcel has been awarded a contract to supply carbon fiber composite materials for the major primary structures for the A350 and has total content of about $4.8 million per plane. The A350 has about 53% composite content by weight. As of December 31, 2017, Airbus has 712 orders in backlog for the A350, which had its first customer delivery in December 2014. The B787 has more than 50% composite content by weight, including composite wings and fuselage, compared to the 11% composite content used in the construction of its B777 aircraft and 6% for the B767 the aircraft it is primarily replacing. The B787 entered into service in 2011and Hexcel averages about $1.4 million of content per plane. As of December 31, 2017, Boeing had a backlog of 658 orders for its B787 aircraft. Both Airbus and Boeing have announced new versions of their narrowbody planes that have new engines. Airbus's A320neo had its first customer delivery in January 2016, with 161 planes delivered in 2017 and 5,222 orders in backlog at December 31, 2017. Hexcel's content on the A320neo is approximately $450,000 per plane or about 50% higher than the prior derivative of the A320. Boeing's B737 MAX entered service in 2017 with 74 planes delivered and 4,223 planes in backlog at December 31, 2017. Hexcel's content on the B737 MAX is approximately $400,000 per aircraft or about 33% higher than the B737. In 2014, Airbus announced a new version of its A330, the A330neo, which will have new engines, and Boeing announced the B777X, a new version of the B777 with composite wings and new engines. Our content on the A330neo is estimated at $1.05 million as compared to $900,000 for the A330. Our content on the B777X is expected to be higher than the $1 million per shipset for the B777. Our sales on these new programs represent an increasing percent of our Commercial Aerospace sales.
- Other commercial aerospace includes regional business and other commercial aircraft sales, which account for 11% of Commercial Aerospace sales, were down about 4% compared to 2016, primarily from lower business jet sales.
- Our Space & Defense sales were up about 6.8% from 2016. The increase was driven largely by strong sales for the F-35 Joint Strike Fighter, V-22 Osprey and Black Hawk helicopters. Rotorcraft accounted for about 50% of our Space & Defense sales, with more than 87% coming from military programs. New or retrofit rotorcraft programs have an increased reliance on composite materials. In addition, our Engineered Products segment provides specialty value added services such as machining, sub-assembly, and even full blade manufacturing. We are on a wide range of helicopter, military aircraft and space programs, including the V-22 (Osprey) tilt rotor aircraft, F-35 (joint strike fighter or JSF), A400M military transport, and Black Hawk. No one program accounts for more than 12% of our revenues in this market.

- Our Industrial sales were down 13.2% from 2016. Industrial sales include wind energy, recreation, transportation and general industrial applications, with wind energy the largest submarket in Industrial. More than 70% of our Industrial sales are outside of the U.S. The wind energy submarket sales were down about 30% compared to 2016 reflecting a challenging year as expected. We expect wind energy sales in 2018 to exceed the 2016 levels as various legacy blades with lower composite content transition to longer, higher efficiency blades with higher composite content. The rest of Industrial sales were up about 10%, in constant currency, driven by growth in other industrial and automotive submarkets.

Results of Operations

We have two reportable segments: Composite Materials and Engineered Products. Although these segments provide customers with different products and services, they often overlap within three end business markets: Commercial Aerospace, Space & Defense and Industrial. Therefore, we also find it meaningful to evaluate the sales of our segments through the three end business markets.

Further discussion and additional financial information about our segments may be found in Note 16 to the accompanying consolidated financial statements of this Annual Report on Form 10-K.

Net Sales: Consolidated net sales of $1,973.3 million for 2017 were $31.0 million, or 1.5%, lower than the $2,004.3 million of net sales for 2016. The sales decline in 2017 was the result of reductions in some legacy wide body aircraft sales partially offset by A350 sales and sales related to the ramp up of the new narrow body programs. Consolidated net sales in 2016 increased 7.7% from the $1,861.2 million of sales in 2015. The sales increase in 2016 reflects increased volume in Commercial Aerospace driven by new aircraft programs and increased build rates, led by the ramp up of the A350 and the A320neo. Had the same U.S. dollar, British Pound sterling and Euro exchange rates applied in 2016 as in 2017 (“constant currency”), consolidated net sales for 2017 would have been 1.6% lower than 2016. In constant currency, consolidated net sales for 2016 would have been 7.9%, higher than 2015 net sales.

Composite Materials: Net sales of $1,597.1 million for 2017 decreased $12.9 million from 2016 driven by a decline in Industrial sales partially offset by a 7.8% increase in Space & Defense sales. The decline in Industrial sales was the result of 2017 being a transition year for wind energy blades, as discussed previously. The growth in in Space & Defense sales.was driven largely by strong sales for the F-35 Strike Fighter, V-22 Osprey and Black Hawk helicopter programs. Net sales of $1,610.0 million for 2016 increased $151.3 million from the $1,458.7 million for 2015 driven by an increase in Commercial Aerospace sales as a result of new programs, primarily the A350 and the A320neo. Space & Defense sales were 3.1% lower than 2015 and Industrial sales increased 8.0%. The increase in Industrial sales was driven by the Formax (UK) Limited (“Formax”) acquisition partially offset by weakness in recreation and other industrial submarkets.

Engineered Products: Net sales of $376.2 million for 2017 decreased $18.1 million from 2016. Net sales of $394.3 million for 2016 decreased $8.2 million from the $402.5 million for 2015 driven by a more than 10% decrease in Space & Defense sales. The decrease in 2017 was largely related to the decline in legacy wide body sales. The decline in Space & Defense sales in 2016 was driven by lower commercial rotorcraft sales. There are not significant sales to the Industrial market from this segment.

The following table summarizes net sales to third-party customers by segment and end market in 2017, 2016 and 2015:

(In millions)	Commercial Aerospace		Space & Defense		Industrial		Total	
2017 Net Sales								
Composite Materials	$ 1,101.1		$276.5		$219.5		$ 1,597.1	
Engineered Products	308.7		67.2		0.3		376.2	
Total	$ 1,409.8		$ 343.7		$ 219.8		$ 1,973.3	
	72	%	17	%	11	%	100	%
2016 Net Sales								
Composite Materials	$ 1,100.5		$256.4		$253.1		$ 1,610.0	
Engineered Products	328.8		65.3		0.2		394.3	
Total	$ 1,429.3		$ 321.7		$ 253.3		$ 2,004.3	
	71	%	16	%	13	%	100	%
2015 Net Sales								
Composite Materials	$959.7		$264.6		$234.4		$ 1,458.7	
Engineered Products	326.2		72.7		3.6		402.5	
Total	$ 1,285.9		$ 337.3		$ 238.0		$ 1,861.2	

	69	%	18	%	13	%	100	%

Commercial Aerospace: Net sales to the Commercial Aerospace market decreased $19.5 million or 1.4% to $1,409.8 million for 2017 as compared to net sales of $1,429.3 million for 2016; 2016 net sales increased by $143.4 million as compared to net sales of $1,285.9 million for 2015. In constant currency, net sales to the Commercial Aerospace market decreased $21.4 million or 1.5% in 2017 and increased $145.3 million or 11.3% in 2016 compared to 2015.

In 2017, sales for Airbus and Boeing legacy aircraft declined almost 20% driven by declines in certain wide body programs, which was partially offset by an increase in narrow body programs. Sales for Airbus and Boeing programs, in 2016, were up 11% with new program sales (A350, B787, A320neo and B737 MAX) increasing more than 40% and legacy aircraft related sales decreasing 8%, driven by declines in legacy wide-body production and the transition from legacy narrowbodies to new programs (A320neo and B737MAX). Sales for the regional and business aircraft market were down slightly for the full year as compared to 2015.

Space & Defense: Net sales of $343.7 million were $22.0 million higher than 2016; net sales of $321.7 million in 2016 decreased $15.6 million from 2015. The increase in 2017 was driven largely by strong sales for the F-35 Strike Fighter, V-22 Osprey and Black

Hawk helicopter programs. The decline in 2016 sales was driven by lower commercial rotorcraft sales. For all of Space & Defense sales, our top 10 programs accounted for about 59% of total Space & Defense sales. In 2017, rotorcraft accounted for just above 50% of Space & Defense sales, with about 87% coming from military sales. Hexcel participates in a wide range of programs, in the U.S., Europe and Asia, including rotorcraft, transport, fixed wing and satellite programs.

Industrial: Net sales of $219.8 million for 2017 decreased by $33.5 million, or 13.2%, compared to 2016; net sales of $253.3 in 2016 increased by $15.3 million or 6% from 2015. The wind energy submarket sales were down about 30% compared to 2016 reflecting a challenging year as expected. We expect wind energy sales in 2018 to exceed the 2016 levels as various legacy blades with lower composite content transition to longer, higher efficiency blades with higher composite content. The rest of Industrial sales were up about 10%, in constant currency, driven by growth in other industrial and automotive submarkets. Industrial sales include wind energy, recreation, transportation and general industrial applications, with wind energy being the largest submarket of the total Industrial sales. More than 70% of our Industrial sales are outside of the U.S. In 2016, the rest of Industrial sales were up about 20% in constant currency as the benefit from the Formax acquisition was partially offset by weakness in recreation and other industrial submarkets.

Gross Margin: Gross margin for 2017 was $551.8 million or 28.0% of net sales as compared to $564.6 million or 28.2% of net sales in 2016. Exchange rates had about a 30 basis point favorable impact on 2017 gross margin and a nominal impact on gross margin percentages in 2016. The 2017 gross margin reflected strong operating performance across the company while offsetting about $10 million in costs related to the startup and training for the greenfield sites in France and Morocco. Gross margin for 2015 was $532.8 million, or 28.6% of net sales.

Selling, General and Administrative (“SG&A”) Expenses: SG&A expenses were $151.8 million or 7.7% of net sales for 2017, $157.6 million or 7.9% of net sales for 2016 and $156.1 million or 8.4% of net sales for 2015. The decline across all three years was the result of maintaining tight control of discretionary spend.

Research and Technology (“R&T”) Expenses: R&T expenses for 2017 were $49.4 million or 2.5% of net sales, in 2016 were $46.9 million or 2.3% of net sales and $44.3 million or 2.4% of net sales in 2015. On a constant currency basis, the expenses in 2017 were more than 6% above 2016. We continued to invest in new products and technology to support our growth and productivity initiatives.

Operating Income: Operating income for 2017 was $350.6 million compared with operating income of $360.1 million for 2016, and $332.4 million for 2015. Operating income as a percent of sales was 17.8%, 18.0% and 17.9% in 2017, 2016, and 2015, respectively.

Almost all of the Company’s sales and costs are either in U.S. dollars, Euros or British Pound sterling, with approximately one-quarter of our sales in Euros or British Pound sterling. In addition, much of our European Commercial Aerospace business has sales denominated in dollars and costs denominated in all three currencies. The net impact is that as the dollar strengthens against the Euro and the British Pound sterling, sales will decrease while operating income will increase. We have an active hedging program to minimize the impact on operating income, but our operating income as a percentage of net sales is affected. Foreign exchange had approximately a 40 basis point favorable impact on both 2017 and 2016 operating margins.

Operating income for the Composite Materials segment decreased $8.9 million to $359.4 million from $368.3 million in 2016. Operating income for Composite Materials was $336.2 million in 2015. In 2017, strong operating performance was partially offset by about $10 million in costs related to the startup and training for the greenfield sites in France and Morocco. The overall decline in 2017 operating income was primarily related to lower volume as certain legacy wide body production has declined. The growth in 2016 operating income for the Composite Materials

segment was driven primarily by higher commercial aerospace sales volume. Operating income for the year ended December 31, 2017 for the Engineered Products segment decreased $1.3 million to $48.7 million. Operating income for the Engineered Products segment in 2016 decreased by $5.8 million compared with 2015 to $50.0 million. The decline in profitability in 2016 was driven by the decline in sales, primarily rotorcraft. Also, there is a learning curve in this segment for new programs as they either start-up or ramp-up, so margins in Engineered Products will be unfavorably impacted as we transition through programs and work our way up the learning curve in making new parts and structures. Operating income margins for Engineered Products will be less than Composite Materials as it is not nearly as capital intensive. Accordingly, operating income margins in the 12% –14% range for Engineered Products will produce very good returns on invested capital.

We did not allocate corporate net operating expenses of $57.5 million, $58.2 million and $59.6 million to segments in 2017, 2016, and 2015, respectively.

Interest Expense: Interest expense was $27.4 million for 2017, $22.1 million for 2016 and $14.2 million for 2015. Interest expense increased in both periods due to a higher average interest rate on debt outstanding as a result of the Company issuing, in

February 2017 and in August 2015, Senior Unsecured Notes. In addition, debt continued to increase as we completed $150 million of share buybacks, invested $76 million in business acquisitions and paid a total of $43 million of dividends in 2017.

Non-operating Expense: As a result of the refinancing of the Senior Credit Facility in 2016, we accelerated the unamortized deferred financing costs related to the previous borrowings, incurring a cost of $0.4 million ($0.3 million after tax).

Provision for Income Taxes: Our 2017, 2016 and 2015 tax provision was $42.5 million, $90.3 million and $83.0 million for an effective tax rate of 13.2%, 26.8% and 26.1%, respectively. The 2017 effective tax rate included a $22.1 million benefit related to the U.S. Tax Cuts and Jobs Act enacted in 2017. The 2017 effective tax rate also included $15.6 million of benefits primarily related to the release of a valuation allowance in a foreign jurisdiction and the release of reserves for certain tax positions. The 2016 and 2015 effective tax rates also included benefits of $6.6 million and a $11.6 million primarily related to the release of reserves for uncertain tax positions as well as other benefits recorded during the year, respectively. Excluding the impact of these discrete items, the 2017, 2016 and 2015 effective tax rates were 24.8%, 30.0% and 30.9%, respectively. We believe the adjusted effective tax rate, which is a non-GAAP measure, is meaningful since it provides insight to the tax rate of ongoing operations.

Equity in Earnings from Affiliated Companies: Equity in earnings represents our portion of the earnings from our joint venture in Malaysia.

Net Income: Net income was $284.0 million or $3.09 per diluted share for the year ended December 31, 2017 compared to $249.8 million, or $2.65 per diluted share, for the year ended December 31, 2016 and $237.2 million, or $2.44 per diluted common share for 2015. Net income and diluted earnings per share benefitted from the new U.S. Tax law in 2017 by $22.1 million or $0.24 per diluted share. The three years also benefited from the other discrete tax benefits of $15.6 million, $6.6 million and $11.6 million. Good cost control led to the growth in earnings in 2017. Strong sales volume, particularly in the Commercial Aerospace market, coupled with good cost control led the growth in earnings in 2016 and 2015. Also see the table on page 26 for a reconciliation of GAAP net income from continuing operations to our adjusted “Non-GAAP” measure.

Significant Customers

Approximately 44%, 41% and 35% of our 2017, 2016 and 2015 net sales, respectively, were to Airbus and its subcontractors. Of the 44% of overall sales to Airbus and its subcontractors in 2017, 40% related to Commercial Aerospace market applications and 4% related to Space & Defense market applications. Approximately 25%, 28% and 31% of our 2017, 2016 and 2015 net sales, respectively, were to Boeing and related subcontractors. Of the 25% of overall sales to Boeing and its subcontractors in 2017, 23% related to Commercial Aerospace market applications and 2% related to Space & Defense market applications.

Financial Condition

In 2017, we ended the year with total debt, net of cash, of $749.8 million and generated $428.7 million operating cash resulting in $150.6 million of free cash flow (cash provided by operating activities less cash paid for capital expenditures). For 2018, we expect our capital spending to be in the range of $170 million to $190 million as we expand capacity in line with our outlook, resulting in additional positive free cash flow. We expect our typical use of cash in the first half of 2018, which will be funded by our available borrowings under our Senior Unsecured Revolving Facility (the “Facility”).

We have a portfolio of derivatives related to currencies and interest rates. We monitor our counterparties and we only use those rated A- or better.

Liquidity

Our cash on hand at December 31, 2017 was $60.1 million and we had $650.0 million borrowings available under our credit facility. Our total debt as of December 31, 2017 was $809.9 million, an increase of $121.2 million from the December 31, 2016 balance. The increase in debt primarily reflects $150 million of stock repurchases, $43 million of dividend payments and $76 million of business acquisitions, partially offset by the free cash flow generated.

The level of available borrowing capacity fluctuates during the course of the year due to factors including capital expenditures, share repurchases and dividend payments, interest and variable compensation payments, changes to working capital, as well as timing of receipts and disbursements within the normal course of business.

In February 2017, the Company issued $400 million in aggregate principal amount of 3.95% Senior Unsecured Notes due in 2027. In August 2015, the Company issued $300 million in aggregate principal amount of 4.7% Senior Unsecured Notes due in 2025. The interest rate on these senior notes may be increased by 0.25% each time a credit rating applicable to the notes is downgraded. The

maximum rate is 5.95% and 6.7%, respectively. The effective interest rates at December 31, 2017 were 4.1% and 4.8%. The net proceeds of these issuances were initially used to repay, in part, our Facility, as well as for general purposes including share repurchases.

Short-term liquidity requirements consist primarily of normal recurring operating expenses and working capital needs, capital expenditures, dividend payments and debt service requirements. We expect to meet our short-term liquidity requirements through net cash from operating activities, cash on hand and, if necessary, our revolving credit facility. As of December 31, 2017, long-term liquidity requirements consist primarily of obligations under our long-term debt obligations. We do not have any significant required debt repayments until June 2021 when the Facility expires.

Credit Facilities: The Company has a $700 million Facility, which expires in June 2021. The interest rate for this Facility at year-end was LIBOR +1.25%. The interest rate ranges from LIBOR +0.875% to a maximum of LIBOR +1.875%, depending upon the Company's leverage ratio. At December 31, 2017, total borrowings under the Facility were $50 million. The Facility permits us to issue letters of credit up to an aggregate amount of $40 million. Outstanding letters of credit reduce the amount available for borrowing under our revolving loan. As of December 31, 2017, we had no letters of credit outstanding under the Facility resulting in undrawn availability under the Facility as of December 31, 2017 of $650.0 million.

The Facility contains financial and other covenants, including, but not limited to, restrictions on the incurrence of debt and the granting of liens, as well as the maintenance of an interest coverage ratio and a leverage ratio. In accordance with the terms of the Facility, we are required to maintain a minimum interest coverage ratio of 3.50 (based on the ratio of EBITDA, as defined in the credit agreement, to interest expense) and may not exceed a maximum leverage ratio of 3.50 (based on the ratio of total debt to EBITDA) throughout the term of the Facility. In addition, the Facility contains other terms and conditions such as customary representations and warranties, additional covenants and customary events of default. The conditions and covenants related to the senior notes are less restrictive than those of our Facility. As of December 31, 2017, we were in compliance with all debt covenants and expect to remain in compliance.

In June 2016, we also entered into a €60 million ($67.4 million) term loan ("Euro loan"). The loan has two tranches of which the first tranche for €25 million, has a rate of +1.2% Euribor and a final maturity date of June 30, 2023. The second tranche for €35 million has a rate of Euribor +1.25% and a final maturity date of June 30, 2024. There is a zero percent floor on the Euribor. The loans are payable in annual installments, the first began on June 30, 2017 and the second tranche will begin on June 30, 2019. We had $67.6 million (€56.4 million) outstanding under this loan at December 31, 2017.

We have a $10.0 million borrowing facility for working capital needs of our Chinese entity with no outstanding balance at December 31, 2017. These funds can only be used locally and, accordingly, we do not include this facility in our borrowing capacity disclosures. The facility is guaranteed by Hexcel Corporation but is uncommitted and can be cancelled at any time.

Operating Activities: We generated $428.7 million in cash from operating activities during 2017, an increase of $27.3 million from 2016 primarily reflecting an improvement in accounts receivable through strong cash collections . Cash generated from operating activities during 2016 was $401.4 million, a increase of $100.4 million from 2015 reflecting higher earnings and lower working capital usage.

Investing Activities: Cash used for investing activities, primarily for capital expenditures, was $354.1 million in 2017 compared to $366.5 million in 2016 and $305.3 million in 2015. 2017 includes $76 million primarily for the acquisition of the Structil and OPM aerospace and defense businesses, as discussed below. 2016 also includes $30 million of investments in affiliates and $8.6 million for the Formax acquisition as discussed below.

In 2017, we acquired Structil SA (“Structil”) to enhance our technology portfolio with adhesive, prepreg and pultrusion technologies. We also acquired an additional interest in Oxford Performance Materials (“OPM”), and purchased assets related to their Commercial Aerospace and Space & Defense applications business. We also made an additional investment in Carbon Conversions Incorporated (“CCI”). CCI is a leader in carbon fiber recycling and repurposing. We account for this investment in CCI using the cost method.

In 2016, we spent $30 million on investments including an interest in Oxford Performance Materials (“OPM”). We issued an 8% convertible secured promissory note to Luminati Aerospace LLC (“Luminati”). Luminati is an aerospace technology company focusing on research, development, testing, and manufacturing of next generation solar-electric unmanned aerial vehicles (“UAV”), or UAVs. The note matures in 2023 and the principal and interest are convertible into Luminati stock. The note will convert upon Luminati achieving certain milestones or at Hexcel’s discretion. We also made an initial investment in CCI.

In January 2016, the Company acquired the remaining 50% ownership of Formax (UK) Limited ("Formax"). The Company previously acquired a 50% interest in the privately-owned company in December 2014. Located in Leicester, U.K., Formax is a leading manufacturer of composite reinforcements, specializing in the production of lightweight carbon multi-axials and highly engineered glass fiber and aramid fiber fabrics.

The Company is coming to the end of a major program to expand capacity over a multi-year period, primarily for the manufacture of carbon fiber and prepregs to support aerospace growth. These capital projects require large expenditures and long lead times, some taking more than two years to complete. This program includes construction of a $250 million facility in Roussillon, France that is expected to be completed and qualified in 2018. The majority of the $322 million in construction in progress as of December 31, 2017 represents spending on expansion projects primarily at our Roussillon, France; Salt Lake City, Utah; and Duxford England facilities. We expect a majority of these projects to be placed in service during 2018.

Financing Activities: Financing activities were a use of cash of $58.3 million in 2017 as compared to $46.8 million in 2016 and $10.9 million in 2015. In 2017, we issued $400 million of Unsecured Senior Notes of which $315 million was used to repay the Facility. In 2016, we had borrowings, net of repayments, from our Facility of $85 million. In 2015, we had Facility repayments, net of borrowings, of $135.0 million. We also had $33 million and $26 million of borrowings net of repayments from our Euro loan in 2017 and 2016. We paid $43 million, $40 million and $38 million in dividends in 2017, 2016 and 2015.

In February 2017, the Company issued $400 million aggregate principal amount of 3.95% Senior Unsecured Notes due in 2027. In August 2015, the Company issued $300 million aggregate principal amount of 4.7% Senior Unsecured Notes due in 2025. The interest rate on these senior notes may be increased by 0.25% each time a credit rating applicable to the notes is downgraded. The maximum rate is 5.95% and 6.7%, respectively. The net proceeds were initially used to repay, in part, our Facility. The Company also repurchased stock as described below.

In February 2017, our Board authorized the repurchase of an additional $300 million of the Company's stock ("2017 Repurchase Plan"). In October 2015, our Board authorized the repurchase of $250 million of the Company's stock ("2015 Repurchase Plan"). During 2017, 2016 and 2015, the Company spent $150.3 million, $111.1 million and $146.1 million to repurchase common stock. This included $100 million to complete a 2014 repurchase plan and $250 million to complete the 2015 Repurchase Plan. At December 31, 2017, we have $243 million remaining under the 2017 Repurchase Plan.

Financial Obligations and Commitments: We had $4.3 million of current debt maturities as of December 31, 2017. The next significant scheduled debt maturity will not occur until 2021, the year the Facility matures. In addition, certain sales and administrative offices, data processing equipment and manufacturing equipment and facilities are leased under operating leases.

Total letters of credit issued and outstanding were $1.8 million as of December 31, 2017.

The following table summarizes the scheduled maturities as of December 31, 2017 of financial obligations and expiration dates of commitments for the years ended 2017 through 2021 and thereafter.

(In millions)	2018	2019	2020	2021	2022	Thereafter	Total
Senior unsecured credit facility due 2021	$—	$—	$—	$ 50.0	$—	$ —	$ 50.0
4.7% senior notes due 2025	—	—	—	—	—	300.0	300.0
3.95% senior notes due 2027	—	—	—	—	—	400.0	400.0

Euro term loan	4.3	9.5	9.5	9.5	9.5	25.3	67.6
Subtotal	4.3	9.5	9.5	59.5	9.5	725.3	817.6
Operating leases	10.6	8.9	6.9	6.0	1.8	2.4	36.6
Total financial obligations	$14.9	$18.4	$16.4	$65.5	$11.3	$ 727.7	$854.2
Letters of credit	1.8	—	—	—	—	—	1.8
Interest payments	33.2	33.1	33.0	31.6	30.3	103.2	264.4
Estimated benefit plan contributions	10.1	6.6	8.3	8.8	5.5	31.1	70.4
Other (a)	0.4	0.4	0.4	0.4	0.2	1.0	2.8
Total commitments	$60.4	$58.5	$58.1	$106.3	$47.3	$ 863.0	$ 1,193.6

(a) Other represents estimated spending for environmental matters at known sites.

As of December 31, 2017, we had $12.3 million of unrecognized tax benefits. This represents tax benefits associated with various tax positions taken, or expected to be taken, on domestic and international tax returns that have not been recognized in our financial statements due to uncertainty regarding their resolution. The resolution or settlement of these tax positions with the taxing authorities

is at various stages. Additionally, included at December 31, 2017 is $21.2 million in liabilities associated with the deemed repatriation transition tax as a result of the Tax Cuts and Jobs Act ("the Act"). The Act permits the Company to pay the net tax liability interest free over a period of up to eight years.

For further information regarding our financial obligations and commitments, see Notes 5, 6, 7, 12 and 13 to the accompanying consolidated financial statements of this Annual Report on Form 10-K.

Critical Accounting Policies and Estimates

Our consolidated financial statements are prepared based upon the selection and application of accounting principles generally accepted in the United States of America, which require us to make estimates and assumptions about future events that affect amounts reported in our financial statements and accompanying notes. Future events and their effects cannot be determined with absolute certainty. Therefore, the determination of estimates requires the exercise of judgment. Actual results could differ from those estimates, and any such differences may be significant to the financial statements. The accounting policies below are those we believe are the most critical to the preparation of our financial statements and require the most difficult, subjective and complex judgments. Our other accounting policies are described in the accompanying notes to the consolidated financial statements of this Annual Report on Form 10-K.

Deferred Tax Assets and Liabilities

As of December 31, 2017, we had $114.4 million in net deferred tax liabilities consisting of deferred tax assets of $97.2 million offset by deferred tax liabilities of $156.7 million and a valuation allowance of $54.9 million. As of December 31, 2016, we had $113.7 million in net deferred tax liabilities consisting of deferred tax assets of $119.1 million offset by deferred tax liabilities of $173.9 million and a valuation allowance of $58.9 million.

The valuation allowance as of December 31, 2017 relates primarily to certain net operating loss carryforwards of our foreign subsidiaries for which we have determined, based upon historical results and projected future book and taxable income levels, that a valuation allowance should continue to be maintained.

The determination of the required valuation allowance and the amount, if any, of deferred tax assets to be recognized involves significant estimates regarding the timing and amount of reversal of taxable temporary differences, future taxable income and the implementation of tax planning strategies. In particular, we are required to weigh both positive and negative evidence in determining whether a valuation allowance is required. Positive evidence would include, for example, a strong earnings history, an event that will increase our taxable income through a continuing reduction in expenses, and tax planning strategies indicating an ability to realize deferred tax assets. Negative evidence would include, for example, a history of operating losses and losses expected in future years.

Uncertain Tax Positions

We had unrecognized tax benefits of $12.3 million at December 31, 2017, of which $11.3 million, that if recognized, would impact our annual effective tax rate. In addition, we recognize interest accrued related to unrecognized tax benefits as a component of interest expense and penalties as a component of income tax expense in the consolidated statements of operations. The Company recognized $0.3 million, $1.1 million, $0.6 million of interest expense and penalties related to the above unrecognized tax benefits in 2017, 2016 and 2015, respectively. The Company had accrued interest of approximately $0.8 million and $2.1 million as of December 31, 2017 and 2016, respectively. During 2017 we reversed $1.8 million of interest related to unrecognized tax benefits.

We are subject to taxation in the U.S. and various states and foreign jurisdictions. Foreign and U.S. state jurisdictions have statutes of limitations generally ranging from 3 to 5 years. Years in major jurisdictions that remain open to

examination are the U.S. (2014 onward), Austria (2016 onward), Belgium (2014 onward), France (2014 onward), Spain (2013 onward) and the U.K. (2014 onward). We are currently under examination in the U.S. and certain foreign tax jurisdictions.

As of December 31, 2017, we had uncertain tax positions for which it is reasonably possible that amounts of unrecognized tax benefits could significantly change over the next year. These uncertain tax positions relate to our tax returns from 2010 onward, some of which are currently under examination by certain U.S. and European tax authorities. The Company believes it is reasonably possible that the total amount of unrecognized tax benefits as of December 31, 2017 may decrease approximately $2 to $3 million in the fiscal year ending December 31, 2018. Such possible decrease relates primarily to audit settlements and the expiration of statutes of limitation.

Retirement and Other Postretirement Benefit Plans

We maintain qualified defined benefit retirement plans covering certain current and former European employees, as well as nonqualified defined benefit retirement plans and retirement savings plans covering certain eligible U.S. and European employees, and participate in a union sponsored multi-employer pension plan covering certain U.S. employees with union affiliations. In addition, we provide certain postretirement health care and life insurance benefits to eligible U.S. retirees.

Under the retirement savings plans, eligible U.S. employees can contribute up to 75% of their compensation to an individual 401(k) retirement savings account. We make matching contributions equal to 50% of employee contributions, not to exceed 3% of employee compensation.

We have defined benefit retirement plans in the United Kingdom, Belgium, France and Austria covering certain employees of our subsidiaries in those countries. The defined benefit plan in the United Kingdom (the "U.K. Plan"), the largest of the European plans, was terminated in 2011. As of December 31, 2017, 28% of the total assets in the U.K. Plan were invested in equities and 24% of the total assets were invested in diversified growth funds. Equity investments are made with the objective of achieving a return on plan assets consistent with the funding requirements of the plan, maximizing portfolio return and minimizing the impact of market fluctuations on the fair value of the plan assets. As a result of an annual review of historical returns and market trends, the expected long-term weighted average rate of return for the U.K. Plan for the 2018 plan year will be 4.75% and for the other European plans as a group will be 3.0%.

We use actuarial models to account for our pension and postretirement plans, which require the use of certain assumptions, such as the expected long-term rate of return, discount rate, rate of compensation increase, healthcare cost trend rates, and retirement and mortality rates, to determine the net periodic costs of such plans. These assumptions are reviewed and set annually at the beginning of each year. In addition, these models use an "attribution approach" that generally spreads individual events, such as plan amendments and changes in actuarial assumptions, over the service lives of the employees in the plan. That is, employees render service over their service lives on a relatively smooth basis and therefore, the income statement effects of retirement and postretirement benefit plans are earned in, and should follow, the same pattern.

We use our actual return experience, future expectations of long-term investment returns, and our actual and targeted asset allocations to develop our expected rate of return assumptions used in the net periodic cost calculations of our funded European defined benefit retirement plans. Due to the difficulty involved in predicting the market performance of certain assets, there will almost always be a difference in any given year between our expected return on plan assets and the actual return. Following the attribution approach, each year's difference is amortized over a number of future years. Over time, the expected long-term returns are designed to approximate the actual long-term returns and therefore result in a pattern of income and expense recognition that more closely matches the pattern of the services provided by the employees.

We annually set our discount rate assumption for retirement-related benefits accounting to reflect the rates available on high-quality, fixed-income debt instruments. The discount rate assumption used to calculate net periodic retirement related costs for the European funded plans was 2.73% for 2017, 3.63% for 2016, and 3.45% in 2015. The rate of compensation increase, which is another significant assumption used in the actuarial model for pension accounting, is determined by us based upon our long-term plans for such increases and assumed inflation. For the postretirement health care and life insurance benefits plan, we review external data and its historical trends for health care costs to determine the health care cost trend rates. Retirement and mortality rates are based primarily on actual plan experience.

Actual results that differ from our assumptions are accumulated and amortized over future periods and, therefore, generally affect the net periodic costs and recorded obligations in such future periods. While we believe that the assumptions used are appropriate, significant changes in economic or other conditions, employee demographics, retirement and mortality rates, and investment performance may materially impact such costs and obligations.

For more information regarding our pension and other postretirement benefit plans, see Note 7 to the accompanying consolidated financial statements of this Annual Report on Form 10-K.

Long-Lived Assets and Goodwill

We have significant long-lived assets. We review these assets for impairment whenever events or changes in circumstances indicate that the carrying amount of an asset may not be recoverable. The assessment of possible impairment is based upon our ability to recover the carrying value of the assets from the estimated undiscounted future net cash flows, before interest and taxes, of the related operations. If these cash flows are less than the carrying value of such assets, an impairment loss is recognized for the difference between estimated fair value and carrying value. The measurement of impairment requires estimates of these cash flows

and fair value. The calculation of fair value is determined based on discounted cash flows. In determining fair value, a considerable amount of judgment is required to determine discount rates, market premiums, financial forecasts, and asset lives.

In addition, we review goodwill for impairment at the reporting unit level at least annually, and whenever events or changes in circumstances indicate that goodwill might be impaired. We have four reporting units within the Composite Materials segment, each of which are components that constitute a business for which discrete financial information is available and for which appropriate management regularly reviews the operating results. Within the Engineered Products segment, the reporting unit is the segment as it comprises only a single component. In 2017, the Company performed a qualitative assessment and determined that it was more likely than not that the fair values of our reporting units were not less than their carrying values and it was not necessary to perform the currently prescribed two-step goodwill impairment test.

Commitments and Contingencies

We are involved in litigation, investigations and claims arising out of the normal conduct of our business, including those relating to commercial transactions, environmental, employment and health and safety matters. We estimate and accrue our liabilities resulting from such matters based upon a variety of factors, including the stage of the proceeding; potential settlement value; assessments by internal and external counsel; and assessments by environmental engineers and consultants of potential environmental liabilities and remediation costs. We believe we have adequately accrued for these potential liabilities; however, facts and circumstances may change, such as new developments, or a change in approach, including a change in settlement strategy or in an environmental remediation plan, that could cause the actual liability to exceed the estimates, or may require adjustments to the recorded liability balances in the future.

Our estimate of liability as a potentially responsible party (“PRP”) and our remaining costs associated with our responsibility to remediate the Lower Passaic River in New Jersey and other sites, are accrued in the consolidated balance sheets. As of December 31, 2017 and 2016, our aggregate environmental related accruals were $2.8 million and $3.2 million, respectively. As of December 31, 2017 and 2016, $0.9 million and $1.4 million, respectively, were included in current other accrued liabilities, with the remainder included in other non-current liabilities. As related to certain environmental matters, the accruals were estimated at the low end of a range of possible outcomes since no amount within the range is a better estimate than any other amount. If we had accrued, for those sites where we are able to estimate our liability, at the high end of the range of possible outcomes, our accrual would have been $16 million higher at December 31, 2017 and 2016.

These accruals can change significantly from period to period due to such factors as additional information on the nature or extent of contamination, the methods of remediation required, changes in the apportionment of costs among responsible parties and other actions by governmental agencies or private parties, or the impact, if any, of being named in a new matter.

Environmental remediation reserve activity for the three years ended December 31, 2017 was as follows:

	For the year ended December 31,		
(In millions)	2017	2016	2015
Beginning remediation accrual balance	$ 3.2	$ 2.9	$ 5.0
Current period expenses	0.1	1.2	0.5
Cash expenditures	(0.5)	(0.9)	(2.6)
Ending remediation accrual balance	$ 2.8	$ 3.2	$ 2.9

Capital expenditures for environmental matters	$ 8.4	$ 13.2	$ 7.1

Market Risks

As a result of our global operating and financing activities, we are exposed to various market risks that may affect our consolidated results of operations and financial position. These market risks include, but are not limited to, fluctuations in currency exchange rates, which impact the U.S. dollar value of transactions, assets and liabilities denominated in foreign currencies and fluctuations in interest rates, which impact the amount of interest we must pay on certain debt instruments. Our primary currency exposures are in Europe, where we have significant business activities. To a lesser extent, we are also exposed to fluctuations in the prices of certain commodities, such as electricity, natural gas, aluminum, acrylonitrile and certain chemicals. In addition, we have several contracts with both suppliers and customers that contain pricing adjustments based on the price of oil outside of a specified band.

We attempt to net individual exposures, when feasible, taking advantage of natural offsets. In addition, we employ or may employ interest rate swap agreements, treasury rate lock agreements, cross-currency swap agreements and foreign currency forward exchange

contracts for the purpose of hedging certain specifically identified interest rates and net currency exposures. The use of these financial instruments is intended to mitigate some of the risks associated with fluctuations in interest rates and currency exchange rates, but does not eliminate such risks. We do not use financial instruments for trading or speculative purposes.

Interest Rate Risks

A portion of our long-term debt bears interest at variable rates. From time to time we have entered into interest rate swap agreements to change the underlying mix of variable and fixed interest rate debt. These interest rate swap agreements have modified the percentage of total debt that is exposed to changes in market interest rates. Assuming a 10% favorable and a 10% unfavorable change in the underlying weighted average interest rates of our variable rate debt and swap agreements, interest expense for 2017 of $27.4 million would have decreased to $27.0 million and increased to $27.5 million, respectively.

Interest Rate Swaps

At December 31, 2017, we have approximately $50 million of interest rate swaps that swap the USD LIBOR on our bank loan for a fixed rate at a weighted average rate of 1.09%, and €56 million of interest rate swaps that swap the EURIBOR on our French Term Loan for a fixed rate at a weighted average of 0.5%. These interest rate swaps are designated as cash flow hedges to floating rate bank loans. The U.S. dollar swaps will expire in September 2019, and the Euro swaps will have a final maturity between June 2023 and June 2024. The fair value of interest rate swap agreements is recorded in other assets or other non-current liabilities with a corresponding amount to Other Comprehensive Income.

The Company had $250 million of interest rate treasury lock agreements to protect against unfavorable movements in the benchmark treasury rate related to the issuance of the Senior Unsecured Notes. The debt was issued in February 2017, and we received $10.0 million in cash in settlement of the treasury lock agreement. We accounted for this interest rate treasury locks as cash flow hedge so any change in fair value was recorded into other comprehensive income and then amortized into interest expense over the life of the debt.

Foreign Currency Exchange Risks

We operate fourteen manufacturing facilities in Europe, Asia and Africa which generated approximately 52% of our 2017 consolidated net sales. Our European business activities primarily involve three major currencies — the U.S. dollar, the British pound sterling, and the Euro. We also conduct business and sell products to customers throughout the world. Most of the sales in these countries are denominated in U.S. dollars and they have local currency expenses. Currency risk for the Asia and Africa locations is not considered material.

In 2017, our European subsidiaries had third-party sales of $1,016 million of which approximately 69% were denominated in U.S. dollars, 29% were denominated in Euros and 1% were denominated in British pounds sterling. While we seek to reduce the exposure of our European subsidiaries to their sales in non-functional currencies through the purchase of raw materials in the same currency as that of the product sale, the net contribution of these sales to cover the costs of the subsidiary in its functional currency will vary with changes in foreign exchange rates, and as a result, so will vary the European subsidiaries' percentage margins and profitability. For revenues denominated in the functional currency of the subsidiary, changes in foreign currency exchange rates increase or decrease the value of these revenues in U.S. dollars but do not affect the profitability of the subsidiary in its functional currency. The value of our investments in these countries could be impacted by changes in currency exchange rates over time, and could impact our ability to profitably compete in international markets.

We attempt to net individual functional currency positions of our various European subsidiaries, to take advantage of natural offsets and reduce the need to employ foreign currency forward exchange contracts. We attempt to hedge some, but not necessarily all, of the net exposures of our European subsidiaries resulting from sales they make in non-functional currencies. The benefit of such hedges varies with time and the foreign exchange rates at which the hedges are set. For example, when the Euro strengthened against the U.S. dollar, the benefit of new hedges placed was much less than the value of hedges they replaced that were entered into when the U.S. dollar was stronger. We seek to place additional foreign currency hedges when the dollar strengthens against the Euro or British pound. We do not seek to hedge the value of our European subsidiaries' functional currency sales and profitability in U.S. dollars. We also enter into short-term foreign currency forward exchange contracts, usually with a term of ninety days or less, to hedge net currency exposures resulting from specifically identified transactions. Consistent with the nature of the economic hedge provided by such contracts, any unrealized gain or loss would be offset by corresponding decreases or increases, respectively, of the underlying transaction being hedged.

We have performed a sensitivity analysis as of December 31, 2017 using a modeling technique that measures the changes in the fair values arising from a hypothetical 10% adverse movement in the levels of foreign currency exchange rates relative to the U.S. dollar with all other variables held constant. The analysis covers all of our foreign currency hedge contracts. The sensitivity analysis

indicated that a hypothetical 10% adverse movement in foreign currency exchange rates would have about a $0.7 million impact on our 2017 operating income. However, it should be noted that over time as the adverse movement (in our case a weaker dollar as compared to the Euro or the British pound sterling) continues and new hedges are layered in at the adverse rate, the impact would be more significant. For example, had we not had any hedges in place for 2017, a 10% adverse movement would have reduced our operating income by about $22.2 million.

Foreign Currency Forward Exchange Contracts

A number of our European subsidiaries are exposed to the impact of exchange rate volatility between the U.S. dollar and the subsidiaries' functional currencies, being either the Euro or the British pound sterling. We entered into contracts to exchange U.S. dollars for Euros and British pound sterling through June 2020. The aggregate notional amount of these contracts was $285.4 million and $423.8 million at December 31, 2017 and 2016, respectively. The purpose of these contracts is to hedge a portion of the forecasted transactions of European subsidiaries under long-term sales contracts with certain customers. These contracts are expected to provide us with a more balanced matching of future cash receipts and expenditures by currency, thereby reducing our exposure to fluctuations in currency exchange rates. For the three years ended December 31, 2017, hedge ineffectiveness was immaterial. Cash flows associated with these contracts are classified within net cash provided by operating activities of continuing operations.

The activity, net of tax, in "accumulated other comprehensive loss" related to foreign currency forward exchange contracts for the years ended December 31, 2017, 2016 and 2015 was as follows:

(In millions)	2017	2016	2015
Unrealized (losses) gains at beginning of period	$ (25.9)	$ (15.0)	$ (9.2)
Losses (gains) reclassified to net sales	8.9	14.4	11.8
Increase (decrease) in fair value	25.6	(25.3)	(17.6)
Unrealized gains (losses) at end of period	$ 8.6	$ (25.9)	$ (15.0)

Unrealized gains of $3.5 million recorded in "accumulated other comprehensive income," net of tax of $1.7 million, as of December 31, 2017 are expected to be reclassified into earnings over the next twelve months as the hedged sales are recorded. The impact of credit risk adjustments was immaterial for the three years.

In addition, non-designated foreign exchange forward contracts are used to hedge balance sheet exposures. The notional amounts outstanding at December 31, 2017 were U.S. $117.0 million against Euro and British pound sterling 6.0 million against Euro and at December 31, 2016 were U.S. $157.0 million against Euro. Changes in the fair value of these forward contracts are recorded in the consolidated statements of operations and were gains of $17.1 million, and losses of $0.9 million and $14.9 million in 2017, 2016, and 2015 respectively.

Utility Price Risks

We have exposure to utility price risks as a result of volatility in the cost and supply of energy, including electricity and natural gas. To minimize the risk, from time to time we enter into fixed price contracts at certain of our manufacturing locations for a portion of our energy usage and natural gas. Although these contracts reduce the risk to us during the contract period, future volatility in the supply and pricing of energy and natural gas could have an impact on our future consolidated results of operations.

Recently Issued Accounting Standards

New Accounting Pronouncements

In May 2014, the Financial Accounting Standards Board (“FASB”) issued Accounting Standard Update No. 2014-09 (ASU 2014-09), “Revenue from Contracts with Customers”. The update clarifies the principles for recognizing revenue and develops a common revenue standard for all industries.The new standard is effective for the first quarter of 2018. Our implementation efforts included the identification of revenue within the scope of the standard, the evaluation of revenue contracts under the guidance and assessing the qualitative and quantitative impacts of the new standard on our financial statements. We have identified certain contracts under which we produce products with no alternative use and for which we have an enforceable right to payment during the production cycle. As a result, we will be required to record revenue for these contracts over time as opposed to at the time of shipment as we do today. We are adopting the provisions of this new standard using the modified retrospective method which allows companies to record a one time adjustment to opening retained earnings for the cumulative effect the standard will have on open contracts at the time of adoption. Upon adoption, we expect to accelerate approximately $40 million of revenue resulting in a less than $4 million adjustment to our 2018 opening retained earnings.

In July 2015, the FASB issued Accounting Standards Update No.2015-11 (“ASU 2015-11”), Simplifying the Measurement of Inventory. The update requires that inventory within the scope of the guidance be measured at the lower of cost and net realizable value. The Company adopted this ASU in the first quarter of 2017 with no material impact on our consolidated balance sheets, results of operations and financial condition.

In February 2016, the FASB issued Accounting Standards Update No. 2016-02 (ASU 2016-02), Leases. This ASU requires lessees to recognize a right of use asset and lease liability on the balance sheet for all leases, with the exception of short-term leases. The Company will adopt this ASU on January 1, 2019. We are currently evaluating the impact of adopting this guidance on our consolidated balance sheets, results of operations and financial condition.

In August of 2016, the FASB issued Accounting Standards Update No. 2016-15 (ASU 2016-15) "Classification of Certain Cash Receipts and Cash Payments” which clarifies the classification of certain types of cash flows. The standard is effective for financial statements issued for fiscal years beginning after December 15, 2017 with retrospective application as required. The Company does not expect this ASU to have a material impact on the Company’s Consolidated Statements of Cash Flows.

In January 2017, the FASB issued Accounting Standards Update No. 2017-04 (ASU 2017-04), Simplifying the test for Goodwill Impairment, which removes the requirement to compare the implied fair value of goodwill with its carrying amount as part of step 2 of the goodwill impairment test. As a result, under the ASU, an entity should perform its annual, or interim, goodwill impairment test by comparing the fair value of a reporting unit with its carrying amount and should recognize an impairment charge for the amount by which the carrying amount exceeds the reporting unit’s fair value; however, the loss recognized should not exceed the total amount of goodwill allocated to that reporting unit. The Company early adopted ASU 2017-04 during 2017, which made the provisions available for use in its fourth quarter annual goodwill impairment testing.

In March 2017, the FASB issued Accounting Standards Update No. 2017-07 (ASU 2017-07), Compensation-Retirement Benefits, that amends the presentation of net periodic pension cost and net periodic postretirement benefit cost. This amendment will require an entity to disaggregate the service cost component from the other components of net periodic benefit cost, to report the service cost component in the same line item as other compensation costs and to report the other components of net periodic benefit cost separately as a line item below operating income on our statement of operations. In addition, capitalization of net periodic benefit cost in assets will be limited to the service cost component. This amendment is effective on January 1, 2018. This amendment is required to be adopted (i) retrospectively with respect to the disaggregation of the service cost component from the other components of net periodic benefit cost and the separate reporting of the other components of net periodic benefit cost outside of operating income and (ii) prospectively with respect to the capitalization in assets of the service cost component. We do not expect the adoption of this amendment to have a material impact to our financial statements and disclosures.

In August 2017, the FASB issued Accounting Standards Update No. 2017-12 (ASU 2017-12), Targeted Improvement to Accounting for Hedging Activities, which better align hedge accounting with an organization’s risk management activities in the financial statements. In addition, the ASU simplifies the application of hedge accounting guidance in areas where practice issues exist. The ASU is effective for fiscal years beginning after December 15, 2018, and interim periods within those fiscal years. Early adoption is permitted, including interim periods within those years. We will adopt the provision of this ASU in the first quarter of 2018, and do not expect the impact to our consolidated balance sheets, results of operations and financial condition to be material.

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Consolidated Financial Statements and Supplementary Data

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Management's Responsibility for Consolidated Financial Statements

Hexcel management has prepared and is responsible for the consolidated financial statements and the related financial data contained in this report. These financial statements, which include estimates, were prepared in accordance with accounting principles generally accepted in the United States of America. Management uses its best judgment to ensure that such statements reflect fairly the consolidated financial position, results of operations and cash flows of the Company.

The Audit Committee of the Board of Directors reviews and monitors the consolidated financial statements and accounting policies of Hexcel. These financial statements and policies are reviewed regularly by management and such financial statements are audited by our independent registered public accounting firm, Ernst & Young LLP. The Audit Committee, composed solely of outside directors, meets periodically, separately and jointly, with management and the independent registered public accounting firm.

Management's Report on Internal Control Over Financial Reporting

Hexcel management is responsible for establishing and maintaining adequate internal control over financial reporting. Internal control over financial reporting is defined in Rules 13a-15(f) and 15d-15(f) under the Securities Exchange Act of 1934, as amended, as a process designed by, or under the supervision of, the company's principal executive and principal financial officers and effected by the company's board of directors, management and other personnel 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 and includes those policies and procedures that:

- pertain to the maintenance of records that in reasonable detail accurately and fairly reflect the transactions and dispositions of the assets of the company;
- 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
- provide reasonable assurance regarding prevention or timely detection of unauthorized acquisition, use or disposition of the company's assets that could have a material effect on the financial statements.

Hexcel management has assessed the effectiveness of our internal control over financial reporting as of December 31, 2017. In making this assessment, management used the criteria set forth by the Committee of Sponsoring Organizations of the Treadway Commission (COSO) in Internal Control-Integrated Framework (2013). Based on our assessment, management concluded that, as of December 31, 2017, our internal control over financial reporting was effective.

The effectiveness of Hexcel's internal control over financial reporting, as of December 31, 2017, has been audited by Ernst & Young LLP, an independent registered public accounting firm, as stated in their report that appears on page 43.

Report of Independent Registered Public Accounting Firm

The Board of Directors and Stockholders of Hexcel Corporation

Opinion on the Financial Statements

We have audited the accompanying consolidated balance sheets of Hexcel Corporation and subsidiaries (the "Company") as of December 31, 2017 and 2016, the related consolidated statements of operations, comprehensive income, stockholders' equity, and cash flows for each of the two years in the period ended December 31, 2017, and the related notes and financial statement schedule listed in the Index at Item 15(a)(2) (collectively referred to as the "financial statements"). In our opinion, the financial statements present fairly, in all material respects, the consolidated financial position of the Company at December 31, 2017 and 2016, and the consolidated results of its operations and its cash flows for each of the two years in the period ended December 31, 2017, in conformity with U.S. generally accepted accounting principles.

We also have audited, in accordance with the standards of the Public Company Accounting Oversight Board (United States) ("PCAOB"), Hexcel Corporation's internal control over financial reporting as of December 31, 2017 based on criteria established in Internal Control-Integrated Framework issued by the Committee of Sponsoring Organizations of the Treadway Commission (2013 framework) and our report dated February 7, 2018 expressed an unqualified opinion thereon.

Basis for Opinion

These financial statements are the responsibility of the Company's management. Our responsibility is to express an opinion on the Company's financial statements based on our audits. We are a public accounting firm registered with the 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 audit to obtain reasonable assurance about whether the financial statements are free of material misstatement, whether due to error or fraud. Our audits included performing procedures to assess the risks of material misstatement of the financial statements, whether due to error or fraud, and performing procedures that respond to those risks. Such procedures include 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. We believe that our audits provide a reasonable basis for our opinion.

/s/ Ernst & Young LLP

We have served as the Company’s auditor since 2016.

Stamford, Connecticut

February 7, 2018

Report of Independent Registered Public Accounting Firm

The Board of Directors and Stockholders of Hexcel Corporation

Opinion on Internal Control over Financial Reporting

We have audited Hexcel Corporation and subsidiaries (the "Company") internal control over financial reporting as of December 31, 2017, based on criteria established in Internal Control— Integrated Framework issued by the Committee of Sponsoring Organizations of the Treadway Commission (2013 framework) (the "COSO criteria"). In our opinion, the Company maintained, in all material respects, effective internal control over financial reporting as of December 31, 2017, based on the COSO criteria.

We also have audited, in accordance with the standards of the Public Company Accounting Oversight Board (United States) ("PCAOB"), the consolidated balance sheets of Hexcel Corporation and subsidiaries (the "Company") as of December 31, 2017 and 2016, the related consolidated statements of operations, comprehensive income, stockholders' equity, and cash flows for each of the two years in the period ended December 31, 2017, and the related notes and financial statement schedule listed in the Index at Items 15(a)(2) (collectively referred to as the "financial statements") of the Company and our report dated February 7, 2018 expressed an unqualified opinion thereon.

Basis for Opinion

The Company's management is responsible for maintaining effective internal control over financial reporting and for its assessment of the effectiveness of internal control over financial reporting included in the accompanying Management's Report on Internal Control over Financial Reporting. Our responsibility is to express an opinion on the Company's internal control over financial reporting based on our audit. We are a public accounting firm registered with the 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 audit in accordance with the standards of the PCAOB. Those standards require that we plan and perform the audit to obtain reasonable assurance about whether effective internal control over financial reporting was maintained in all material respects.

Our audit included obtaining an understanding of internal control over financial reporting, assessing the risk that a material weakness exists, testing and evaluating the design and operating effectiveness of internal control based on the assessed risk, and performing such other procedures as we considered necessary in the circumstances. We believe that our audit provides a reasonable basis for our opinion.

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 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/ Ernst & Young LLP

Stamford, Connecticut

February 7, 2018

Report of Independent Registered Public Accounting Firm

To the Board of Directors and

Stockholders of Hexcel Corporation

In our opinion, the consolidated statements of operations, of comprehensive income, of stockholders' equity and of cash flows for the year ended December 31, 2015 present fairly, in all material respects, the results of operations and cash flows of Hexcel Corporation and its subsidiaries for the year ended December 31, 2015, in conformity with accounting principles generally accepted in the United States of America. In addition, in our opinion, the financial statement schedule for the year ended December 31, 2015 presents fairly, in all material respects, the information set forth therein when read in conjunction with the related consolidated financial statements. These financial statements and financial statement schedule are the responsibility of the Company's management. Our responsibility is to express an opinion on these financial statements and financial statement schedule based on our audit. We conducted our audit of these financial statements in accordance with the standards of the Public Company Accounting Oversight Board (United States). Those standards require that we plan and perform the audit to obtain reasonable assurance about whether the financial statements are free of material misstatement. An audit includes examining, on a test basis, evidence supporting the amounts and disclosures in the financial statements, assessing the accounting principles used and significant estimates made by management, and evaluating the overall financial statement presentation. We believe that our audit provides a reasonable basis for our opinion.

/s/ PricewaterhouseCoopers LLP

Stamford, Connecticut

February 4, 2016

Hexcel Corporation and Subsidiaries

Condensed Balance Sheets

As of December 31,

(In millions)	2017	2016
Assets		
Current assets:		
Cash and cash equivalents	$ 60.1	$ 35.2
Accounts receivable, net	248.7	245.6
Inventories	314.0	291.0
Prepaid expenses and other current assets	33.9	35.2
Total current assets	656.7	607.0
Property, plant and equipment	2,743.9	2,378.4
Less accumulated depreciation	(877.6)	(752.8)
Property, plant and equipment, net	1,866.3	1,625.6
Goodwill and other intangible assets	148.7	72.2
Investments in affiliated companies	47.7	53.1
Other assets	61.5	42.7
Total assets	$ 2,780.9	$ 2,400.6
Liabilities and Stockholders' Equity		
Current liabilities:		
Short-term borrowings	$ 4.3	$ 4.3
Accounts payable	144.1	137.3
Accrued compensation and benefits	73.0	66.8
Accrued liabilities	40.7	63.5
Total current liabilities	262.1	271.9
Commitments and contingencies (see Note 13)		
Long-term debt	805.6	684.4
Retirement obligations	45.4	40.0
Other non-current liabilities	172.7	159.4
Total liabilities	1,285.8	1,155.7
Stockholders' equity:		
Common stock, $0.01 par value, 200.0 shares authorized, 107.8 shares and 106.7 shares issued at December 31, 2017 and 2016, respectively	1.1	1.1
Additional paid-in capital	774.3	738.8
Retained earnings	1,496.1	1,254.7
Accumulated other comprehensive loss	$ (45.0)	$ (174.4)
	2,226.5	1,820.2
Less – Treasury stock, at cost, 18.2 shares and 15.3 shares	(731.4)	(575.3)

at December 31, 2017 and 2016, respectively		
Total stockholders' equity	1,495.1	1,244.9
Total liabilities and stockholders' equity	$ 2,780.9	$ 2,400.6

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

Hexcel Corporation and Subsidiaries

Consolidated Statements of Operations

For the Years Ended December 31,

(In millions, except per share data)	2017	2016	2015
Net sales	$1,973.3	$2,004.3	$1,861.2
Cost of sales	1,421.5	1,439.7	1,328.4
Gross margin	551.8	564.6	532.8
Selling, general and administrative expenses	151.8	157.6	156.1
Research and technology expenses	49.4	46.9	44.3
Operating income	350.6	360.1	332.4
Interest expense, net	27.4	22.1	14.2
Non-operating expense	—	0.4	—
Income before income taxes, and equity in earnings of affiliated companies	323.2	337.6	318.2
Provision for income taxes	42.5	90.3	83.0
Income before equity in earnings of affiliated companies	280.7	247.3	235.2
Equity in earnings from affiliated companies	3.3	2.5	2.0
Net income	$284.0	$249.8	$237.2
Basic net income per common share:	$3.13	$2.69	$2.48
Diluted net income per common share:	$3.09	$2.65	$2.44
Weighted-average common shares:			
Basic	90.6	92.8	95.8
Diluted	91.9	94.2	97.2

Hexcel Corporation and Subsidiaries

Consolidated Statements of Comprehensive Income

For the Years Ended December 31,

(In millions)	2017	2016	2015
Net Income	$284.0	$249.8	$237.2
Currency translation adjustments	99.8	(54.5)	(53.8)
Net unrealized pension and other benefit actuarial (losses) gains and prior service credits (net of tax)	(3.9)	8.1	4.9
Net unrealized gains (losses) on financial instruments (net of tax)	33.5	(4.1)	(5.3)

Total other comprehensive income (loss)	129.4	(50.5)	(54.2)
Comprehensive income	$413.4	$199.3	$183.0

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

Hexcel Corporation and Subsidiaries

Consolidated Statements of Stockholders' Equity

For the Years Ended December 31, 2017, 2016 and 2015

(In millions)	Common Stock Par	Additional Paid-In Capital	Accumulated Retained Earnings	Accumulated Other Comprehensive Income (Loss)	Treasury Stock	Total Stockholders' Equity
Balance, December 31, 2014	$ 1.0	$ 678.5	$ 845.5	$ (69.7)	$ (305.4)	$ 1,149.9
Net income			237.2			237.2
Dividends paid on common stock			(38.3)			(38.3)
Change in other comprehensive income – net of tax				(54.2)		(54.2)
Stock based compensation	0.1	37.3				37.4
Acquisition of treasury stock					(152.4)	(152.4)
Balance, December 31, 2015	$ 1.1	$ 715.8	$ 1,044.4	$ (123.9)	$ (457.8)	$ 1,179.6
Net income			249.8			249.8
Dividends paid on common stock			(39.8)			(39.8)
Change in other comprehensive income – net of tax				(50.5)		(50.5)
Stock based compensation		23.0				23.0
Adoption of ASU 2016-09			0.3			0.3
Acquisition of treasury stock					(117.5)	(117.5)
Balance, December 31, 2016	$ 1.1	$ 738.8	$ 1,254.7	$ (174.4)	$ (575.3)	$ 1,244.9
Net income			284.0			284.0
Dividends paid on common stock			(42.6)			(42.6)
Change in other comprehensive income – net of tax				129.4		129.4
Stock based compensation		35.5				35.5
Acquisition of treasury stock					(156.1)	(156.1)
Balance, December 31, 2017	$ 1.1	$ 774.3	$ 1,496.1	$ (45.0)	$ (731.4)	$ 1,495.1

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

Hexcel Corporation and Subsidiaries

Consolidated Statements of Cash Flows

For the Years Ended December 31,

(In millions)	2017	2016	2015
Cash flows from operating activities			
Net income	$284.0	$249.8	$237.2
Reconciliation to net cash provided by operating activities:			
Depreciation and amortization	104.5	93.3	76.4
Amortization of deferred financing costs and debt discount	0.7	1.7	1.1
Deferred income taxes	3.8	62.8	53.2
Stock-based compensation	17.6	16.1	17.9
Equity in earnings from affiliated companies	(3.3)	(2.5)	(2.0)
Excess tax benefits on stock-based compensation	—	—	(9.2)
Changes in assets and liabilities:			
Decrease (increase) in accounts receivable	20.2	(17.4)	(18.4)
(Increase) decrease in inventories	2.3	10.8	(25.0)
Increase in prepaid expenses and other current assets	(0.1)	(4.1)	(2.9)
Increase in other non-current assets	(8.0)	(13.7)	(11.6)
Decrease in accounts payable/accrued liabilities	(2.1)	(7.9)	(10.4)
Increase in other non-current liabilities	—	8.1	4.3
Other – net	9.1	4.4	(9.6)
Net cash provided by operating activities	428.7	401.4	301.0
Cash flows from investing activities			
Capital expenditures	(278.1)	(327.9)	(305.3)
Acquisitions and investments in affiliated companies	(76.0)	(38.6)	—
Net cash used for investing activities	(354.1)	(366.5)	(305.3)
Cash flows from financing activities			
Proceeds from issuance of senior notes	398.3	—	300.0
Issuance costs related to senior notes	(3.7)	—	—
Proceeds from settlements of treasury locks	10.0	—	—
Proceeds from Euro term loan	37.4	26.4	—
Repayments of Euro term loan	(4.1)	—	—
Borrowing from senior unsecured credit facility	—	78.0	—
Repayment of senior unsecured credit facility	(315.0)	—	(135.0)
Proceeds (repayment) of other debt, net	(0.5)	1.1	(1.2)
Deferred financing costs and discount related to long-term debt	—	(1.7)	(3.6)
Dividends paid	(42.6)	(39.8)	(38.3)
Repurchase of stock	(150.3)	(111.1)	(146.1)
Activity under stock plans	12.2	0.3	13.3
Net cash used for financing activities	(58.3)	(46.8)	(10.9)
Effect of exchange rate changes on cash and cash equivalents	8.6	(4.7)	(3.9)

Net increase (decrease) in cash and cash equivalents	24.9	(16.6)	(19.1)
Cash and cash equivalents at beginning of period	35.2	51.8	70.9
Cash and cash equivalents at end of period	$60.1	$35.2	$51.8
Supplemental data:			
Accrual basis additions to property, plant and equipment	$284.4	$320.2	$289.0

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

NOTES TO THE CONSOLIDATED FINANCIAL STATEMENTS

Note 1 — Significant Accounting Policies

Nature of Operations

Hexcel Corporation and its subsidiaries (herein referred to as “Hexcel”, “the Company”, “we”, “us”, or “our”), is a leading advanced composites company. We develop, manufacture, and market lightweight, high-performance structural materials, including carbon fibers, specialty reinforcements, prepregs and other fiber-reinforced matrix materials, honeycomb, adhesives, engineered honeycomb and composite structures, for use in Commercial Aerospace, Space & Defense and Industrial Applications. Our products are used in a wide variety of end applications, such as commercial and military aircraft, space launch vehicles and satellites, wind turbine blades, automotive, a wide variety of recreational products and other industrial applications.

We serve international markets through manufacturing facilities, sales offices and representatives located in the Americas, Europe, Asia Pacific, and Africa. We are also a partner in a joint venture in Malaysia, Aerospace Composites Malaysia Sdn. Bhd. (“ACM”), which manufactures composite structures for commercial aerospace applications.

Principles of Consolidation

The accompanying consolidated financial statements include the accounts of Hexcel Corporation and its subsidiaries after elimination of all intercompany accounts, transactions and profits. At December 31, 2017, we had a 50% equity ownership investment in the joint venture described above, which we accounted for using the equity method of accounting.

Use of Estimates

Preparation of the accompanying consolidated financial statements and related disclosures 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, disclosure of contingent assets and liabilities at the date of the financial statements and the reported amounts of revenues and expenses during the reporting period. Actual results could differ from those estimates.

Cash and Cash Equivalents

Cash and cash equivalents include cash on hand and all highly liquid investments with an original maturity of three months or less when purchased. Our cash equivalents are held in prime money market investments with strong sponsor organizations which are monitored on a continuous basis.

Inventories

Inventories are stated at the lower of cost or net realizable value, with cost determined using the average cost methods. Inventory is reported at its estimated net realizable value based upon our historical experience with inventory becoming obsolete due to age, changes in technology and other factors.

Property, Plant and Equipment

Property, plant and equipment, including capitalized interest applicable to major project expenditures, is recorded at cost. Asset and accumulated depreciation accounts are eliminated for dispositions, with resulting gains or losses reflected in earnings. Depreciation of plant and equipment is provided using the straight-line method over the estimated useful lives of the various assets. The estimated useful lives range from 10 to 40 years for buildings and improvements and from 3 to 25 years for machinery and equipment. Repairs and maintenance are expensed as incurred, while major replacements and betterments are capitalized and depreciated over the remaining useful life of the related asset.

Goodwill and Other Intangible Assets

Goodwill represents the excess of the purchase price over the fair value of the identifiable net assets of an acquired business. Goodwill is tested for impairment at the reporting unit level annually, or when events or changes in circumstances indicate that goodwill might be impaired. The Company’s annual test for goodwill impairment was performed in the fourth quarter of 2017. The Company performed a qualitative assessment (“Step Zero”) and determined that it was more likely than not that the fair values of our reporting units were not less than their carrying values and it was not necessary to perform a quantitative (“Step 1”) goodwill impairment test.

We amortize the cost of other intangibles over their estimated useful lives unless such lives are deemed indefinite. We have indefinite lived intangible assets which are not amortized but are tested annually for impairment during the fourth quarter of each year, or when events or changes in circumstances indicate the potential for impairment. If the carrying amount of the indefinite lived intangible exceeds the fair value, it is written down to its fair value, which is calculated using a discounted cash flow model ("DCF").

Impairment of Long-Lived Assets

The Company reviews long-lived assets, including property, plant and equipment and definite-lived intangible assets, for impairment whenever changes in circumstances or events may indicate that the carrying amounts are not recoverable. These indicators include, but are not limited to: a significant decrease in the market price of a long-lived asset, a significant change in the extent or manner in which a long-lived asset is used or its physical condition, a significant adverse change in legal factors or business climate that could affect the value of a long-lived asset, an accumulation of costs significantly in excess of the amount expected for the acquisition or construction of a long-lived asset, a current period operating or cash flow loss combined with a history of losses associated with a long-lived asset and a current expectation that, more likely than not, a long-lived asset will be sold or otherwise disposed of significantly before the end of its previously estimated life.

Software Development Costs

Costs incurred to develop software for internal-use are accounted for under ASC 350-40, "Internal-Use Software." All costs relating to the preliminary project stage and the post-implementation/operation stage are expensed as incurred. Costs incurred during the application development stage are capitalized and amortized over the useful life of the software, which ranges from three to ten years. The amortization of capitalized costs commences after the software has been tested and is placed into operations.

Debt Financing Costs

Debt financing costs are deferred and amortized to interest expense over the life of the related debt. We capitalize financing fees related to our revolving credit facility and record them as a non-current asset in our consolidated balance sheets. Financing fees related to our bonds and notes are capitalized and recorded as a non-current liability (contra liability) in our consolidated balance sheets. At December 31, 2017 and 2016, deferred financing costs, recorded as a non-current asset were $3.1 million and $4.0 million, respectively, and net deferred financing costs recorded as non-current liability were $5.5 million, and $2.5 million, respectively.

Share-Based Compensation

The fair value of Restricted Stock Units ("RSUs") is equal to the market price of our stock at date of grant and is amortized to expense ratably over the vesting period. Performance restricted stock units ("PRSUs") are a form of RSUs in which the number of shares ultimately received depends on the extent to which we achieve a specified performance target. The fair value of the PRSU is based on the closing market price of the Company's common stock on the date of grant and is amortized straight-line over the total vesting period. A change in the performance measure expected to be achieved is recorded as an adjustment in the period in which the change occurs. We use the Black-Scholes model to calculate the fair value for all stock option grants, based on the inputs relevant on the date granted, such as the market value of our shares, prevailing risk-free interest rate, etc. The value of the portion of the award, after considering potential forfeitures, that is ultimately expected to vest is recognized as expense in our consolidated statements of operations on a straight-line basis over the requisite service periods. The value of RSU's, PRSU's and non-qualifying options awards for retirement eligible employees is expensed on the grant date as they are fully vested.

Currency Translation

The assets and liabilities of international subsidiaries are translated into U.S. dollars at year-end exchange rates, and revenues and expenses are translated at average exchange rates during the year. Cumulative currency translation adjustments are included in “accumulated other comprehensive loss” in the Stockholders’ Equity section of the consolidated balance sheets.

Revenue Recognition

Our revenue is predominately derived from sales of inventory, and is recognized when persuasive evidence of an arrangement exists, title and risk of loss passes to the customer, the sales price is fixed or determinable, and collectability is reasonably assured. However, from time to time we enter into contractual arrangements for which other specific revenue recognition guidance is applied.

Revenues derived from design and installation services are recognized when the service is provided. Revenues derived from long-term construction-type contracts are accounted for using the percentage-of-completion method, and progress is measured on a cost-to-cost basis. If at any time expected costs exceed the value of the contract, the loss is recognized immediately.

Shipping and handling fees and costs incurred in connection with products sold are recorded in cost of sales in our Consolidated Statements of Operations.

Product Warranty

We provide for an estimated amount of product warranty at the point a claim is probable and estimable. This estimated amount is provided by product and based on current facts, circumstances and historical warranty experience.

Research and Technology

Significant costs are incurred each year in connection with research and technology ("R&T") programs that are expected to contribute to future earnings. Such costs are related to the development and, in certain instances, the qualification and certification of new and improved products and their uses. R&T costs are expensed as incurred.

Income Taxes

We provide for income taxes using the asset and liability approach. Under this approach, deferred income tax assets and liabilities reflect tax net operating loss and credit carryforwards and the tax effects of temporary differences between the carrying amounts of assets and liabilities for financial reporting and income tax purposes. Deferred tax assets require a valuation allowance when it is not more likely than not, based on the evaluation of positive and negative evidence, that the deferred tax assets will be realized. The realization of deferred tax assets is dependent upon the timing and magnitude of future taxable income prior to the expiration of the deferred tax assets' attributes. When events and circumstances so dictate, we evaluate the realizability of our deferred tax assets and the need for a valuation allowance by forecasting future taxable income. Investment tax credits are recorded on a flow-through basis, which reflects the credit in net income as a reduction of the provision for income taxes in the same period as the credit is realized for federal income tax purposes. In addition, we recognize interest accrued related to unrecognized tax benefits as a component of interest expense and penalties as a component of income tax expense in the consolidated statements of operations.

Concentration of Credit Risk

Financial instruments that potentially subject us to significant concentrations of credit risk consist primarily of trade accounts receivable. Two customers and their related subcontractors accounted for approximately 69% our annual net sales in 2017, 69% in 2016, and 66% in 2015. Refer to Note 16 for further information on significant customers. We perform ongoing credit evaluations of our customers' financial condition but generally do not require collateral or other security to support customer receivables. We establish an allowance for doubtful accounts based on factors surrounding the credit risk of specific customers, historical trends and other financial information. As of December 31, 2017 and 2016, the allowance for doubtful accounts was $0.3 million and $0.4 million, respectively. Bad debt expense was immaterial for all years presented.

Derivative Financial Instruments

We use various financial instruments, including foreign currency forward exchange contracts and interest rate agreements, to manage our exposure to market fluctuations by generating cash flows that offset, in relation to their amount and timing, the cash flows of certain foreign currency denominated transactions or underlying debt instruments. We mark our foreign exchange forward contracts to fair value. When the derivatives qualify, we designate our foreign currency forward exchange contracts as cash flow hedges against forecasted foreign currency denominated transactions and report the effective portions of changes in fair value of the instruments in "accumulated other comprehensive loss" until the underlying hedged transactions affect income. We designate our interest rate

agreements as fair value or cash flow hedges against specific debt instruments and recognize interest differentials as adjustments to interest expense as the differentials may occur; the fair value of the interest rate swaps is recorded in other assets or other long-term liabilities with a corresponding amount to “accumulated other comprehensive loss”. We do not use financial instruments for trading or speculative purposes.

In accordance with accounting guidance, we recognize all derivatives as either assets or liabilities on our balance sheet and measure those instruments at fair value.

Self-insurance

We are self-insured up to specific levels for certain medical and health insurance and workers’ compensation plans. Accruals are established based on actuarial assumptions and historical claim experience, and include estimated amounts for incurred but not reported claims.

New Accounting Pronouncements

In May 2014, the Financial Accounting Standards Board ("FASB") issued Accounting Standard Update No. 2014-09 (ASU 2014-09), "Revenue from Contracts with Customers". The update clarifies the principles for recognizing revenue and develops a common revenue standard for all industries. The new standard is effective for the first quarter of 2018. Our implementation efforts included the identification of revenue within the scope of the standard, the evaluation of revenue contracts under the guidance and assessing the qualitative and quantitative impacts of the new standard on our financial statements. We have identified certain contracts under which we produce products with no alternative use and for which we have an enforceable right to payment during the production cycle. As a result, we will be required to record revenue for these contracts over time as opposed to at the time of shipment as we do today. We are adopting the provisions of this new standard using the modified retrospective method which allows companies to record a one time adjustment to opening retained earnings for the cumulative effect the standard will have on open contracts at the time of adoption. Upon adoption, we expect to accelerate approximately $40 million of revenue resulting in a less than $4 million adjustment to our 2018 opening retained earnings.

In July 2015, the FASB issued Accounting Standards Update No.2015-11 ("ASU 2015-11"), Simplifying the Measurement of Inventory. The update requires that inventory within the scope of the guidance be measured at the lower of cost and net realizable value. The Company adopted this ASU in the first quarter of 2017 with no material impact on our consolidated balance sheets, results of operations and financial condition.

In February 2016, the FASB issued Accounting Standards Update No. 2016-02 (ASU 2016-02), Leases. This ASU requires lessees to recognize a right of use asset and lease liability on the balance sheet for all leases, with the exception of short-term leases. The Company will adopt this ASU on January 1, 2019. We are currently evaluating the impact of adopting this guidance on our consolidated balance sheets, results of operations and financial condition.

In August of 2016, the FASB issued Accounting Standards Update No. 2016-15 (ASU 2016-15) "Classification of Certain Cash Receipts and Cash Payments" which clarifies the classification of certain types of cash flows. The standard is effective for financial statements issued for fiscal years beginning after December 15, 2017 with retrospective application as required. The Company does not expect this ASU to have a material impact on the Company's Consolidated Statements of Cash Flows.

In January 2017, the FASB issued Accounting Standards Update No. 2017-04 (ASU 2017-04), Simplifying the test for Goodwill Impairment, which removes the requirement to compare the implied fair value of goodwill with its carrying amount as part of step 2 of the goodwill impairment test. As a result, under the ASU, an entity should perform its annual, or interim, goodwill impairment test by comparing the fair value of a reporting unit with its carrying amount and should recognize an impairment charge for the amount by which the carrying amount exceeds the reporting unit's fair value; however, the loss recognized should not exceed the total amount of goodwill allocated to that reporting unit. The Company early adopted ASU 2017-04 during 2017, which made the provisions available for use in its fourth quarter annual goodwill impairment testing.

In March 2017, the FASB issued Accounting Standards Update No. 2017-07 (ASU 2017-07), Compensation-Retirement Benefits, that amends the presentation of net periodic pension cost and net periodic postretirement benefit cost. This amendment will require an entity to disaggregate the service cost component from the other components of net periodic benefit cost, to report the service cost component in the same line item as other compensation costs and to report the other components of net periodic benefit cost separately as a line item below operating income on our statement of operations. In addition, capitalization of net periodic benefit cost in assets will be limited to the service cost component. This amendment is effective on January 1, 2018. This amendment is required to be adopted (i) retrospectively with respect to the disaggregation of the service cost component from the other components of net periodic benefit cost and the separate reporting of the other components of net periodic

benefit cost outside of operating income and (ii) prospectively with respect to the capitalization in assets of the service cost component. We do not expect the adoption of this amendment to have a material impact to our financial statements and disclosures.

In August 2017, the FASB issued Accounting Standards Update No. 2017-12 (ASU 2017-12), Targeted Improvement to Accounting for Hedging Activities, which better align hedge accounting with an organization's risk management activities in the financial statements. In addition, the ASU simplifies the application of hedge accounting guidance in areas where practice issues exist. The ASU is effective for fiscal years beginning after December 15, 2018, and interim periods within those fiscal years. Early adoption is permitted, including interim periods within those years. We will adopt the provision of this ASU in the first quarter of 2018, and do not expect the impact to our consolidated balance sheets, results of operations and financial condition to be material.

Note 2 — Inventories

	December 31,	
(In millions)	2017	2016
Raw materials	$126.7	$120.6
Work in progress	52.1	53.7
Finished goods	135.2	116.7
Total inventory	$314.0	$291.0

Note 3 — Net Property, Plant and Equipment

	December 31,	
(In millions)	2017	2016
Land	$ 96.7	$ 63.8
Buildings	624.2	523.2
Equipment	1,698.5	1,336.9
Construction in progress	322.0	454.4
Capital lease	2.5	0.1
Property, plant and equipment	2,743.9	2,378.4
Less accumulated depreciation	(877.6)	(752.8)
Net property, plant and equipment	$ 1,866.3	$ 1,625.6

Depreciation expense related to property, plant and equipment for the years ended December 31, 2017, 2016 and 2015, was $103.5 million, $93.3 million and $76.4 million, respectively. Capitalized interest of $3.1 million and $1.9 million for 2017 and 2016, respectively, was included in construction in progress and is associated with our carbon fiber expansion programs. Capitalized costs associated with software developed for internal use were not material for 2017 and 2016.

Note 4 — Goodwill and Purchased Intangible Assets

Changes in the carrying amount of gross goodwill and other purchased intangibles for the years ended December 31, 2017 and 2016, by segment, are as follows

(In millions)	Composite Materials	Engineered Products	Total
Balance as of December 31, 2015	$ 42.8	$ 16.1	$58.9
Amortization expense	(0.3)	—	(0.3)
Additions	18.1	—	18.1

Currency translation adjustments and other	(4.5)	—	(4.5)
Balance as of December 31, 2016	$ 56.1	$ 16.1	$72.2
Amortization expense	(1.0)	—	(1.0)
Additions	41.2	28.9	70.1
Currency translation adjustments and other	7.4	—	7.4
Balance as of December 31, 2017	$ 103.7	$ 45.0	$148.7

We performed our annual impairment review of goodwill as of November 30, 2017 and determined that it was more likely than not that the fair values of our reporting units are above their carrying values. The goodwill and intangible asset balances as of December 31, 2017 include $5.1 million of indefinite-lived intangible assets, $33.5 million of a definite-lived intangible asset and $110.1 million of goodwill. The increase in goodwill is due to the Structil and OPM acquisitions discussed in the acquisitions note. Of the $110.1 million of goodwill, $76.9 million is allocated to the Composite Materials segment and $33.2 million to the Engineered Products segment.

Amortization related to the definite lived intangible assets for the next five years and thereafter is as follows: $2.7 million for 2018 through 2022, and $20.2 million thereafter.

Note 5 - Debt

(In millions)	December 31, 2017	December 31, 2016
Current portion of capital lease	$ —	$ 0.5
Current portion of Euro term loan	4.3	3.8
Current portion of debt	4.3	4.3
Senior unsecured credit facility — due 2021	50.0	365.0
	63.3	
Euro term loan		22.6
4.7% senior notes — due 2025	300.0	300.0
3.95% senior notes — due 2027	400.0	—
Senior notes – original issue discount	(2.3)	(0.7)
Senior notes – deferred financing costs	(5.5)	(2.5)
Other debt	0.1	—
Long-term debt	805.6	684.4
Total debt	$ 809.9	$ 688.7

3.95% Senior Notes

In February 2017, the Company issued $400 million in aggregate principal amount of 3.95% Senior Unsecured Notes due in 2027. The interest rate on these senior notes may be increased by 0.25% each time a credit rating applicable to the notes is downgraded. The maximum rate is 5.95%. The net proceeds of approximately $394.6 million were initially used to repay, in part, $350 million of our Senior Unsecured Revolving Credit Facility (the “Facility”) and the remainder was used for general purposes including share repurchases. The effective interest rate for 2017 was 3.87% inclusive of approximately a 0.25% benefit of treasury locks. The fair value of the senior notes due in 2027 based on quoted prices utilizing Level 2 inputs was $410.0 million at December 31, 2017.

Senior Unsecured Credit Facility

In June 2016, the Company amended and extended its $700 million Facility. The maturity of the Facility was extended from September 2019 to June 2021. The amendment provided for a modest reduction in interest costs, as well as less restrictive covenants. The interest rate for the revolver at December 31, 2017 is LIBOR + 1.25%. The interest rate ranges from LIBOR + 0.875% to a maximum of LIBOR + 1.875%, depending upon the Company’s leverage ratio.

The Facility contains financial and other covenants, including, but not limited to, restrictions on the incurrence of debt and the granting of liens, as well as the maintenance of an interest coverage ratio and a leverage ratio. In accordance with the terms of the Facility, we are required to maintain a minimum interest coverage ratio of 3.50 (based on the ratio of EBITDA, as defined in the Credit Agreement, to interest expense) and may not exceed a maximum leverage

ratio of 3.50 (based on the ratio of total debt to EBITDA) throughout the term of the Facility. In addition, the Facility contains other terms and conditions such as customary representations and warranties, additional covenants and customary events of default.

As of December 31, 2017, total borrowings under our $700 million Facility were $50.0 million, which approximates fair value using Level 2 inputs. The Facility permits us to issue letters of credit up to an aggregate amount of $40 million. Outstanding letters of credit reduce the amount available for borrowing under our revolving loan. As of December 31, 2017, there were no outstanding letters of credit under the Facility, resulting in undrawn availability under the Facility as of December 31, 2017 of $650.0 million. During 2017, the Company utilized its Facility at various borrowing levels with $451 million representing the largest amount outstanding during the year. The weighted average interest rate for the revolver was 2.42% during 2017.

4.7% Senior Notes

In 2015, the Company issued $300 million in aggregate principal amount of 4.7% Senior Unsecured Notes due in 2025. The interest rate on these senior notes may be increased by 0.25% each time a credit rating applicable to the notes is downgraded. The maximum rate is 6.7% and the rate at December 31, 2017 remained at 4.7%. The net proceeds of approximately $296.4 million were initially used to repay, in part, our Facility. The conditions and covenants related to the senior notes are less restrictive than those of our Facility. The effective interest rate for 2017 was 4.84%. The fair value of the senior notes based on quoted prices utilizing level 2

inputs was $321.0 million at December 31, 2017. The balance for unamortized deferred financing costs and debt discount related to the senior notes was $2.8 million at December 31, 2017 and $3.2 million at December 31, 2016.

Other Credit Facilities

In June 2016, we also entered into a $67.4 million European term loan. The loan has two tranches of which the first tranche for €25 million has a six-month availability period at a rate of Euribor +1.2% and a final maturity date of June 30, 2023. The second tranche for €35 million has a one-year availability period at a rate of Euribor +1.25% and a final maturity date of June 30, 2024. There is a zero percent floor on the Euribor. The loans are payable in annual installments, that began on June 30, 2017 and beginning on June 30, 2019, respectively. We had $67.6 million outstanding under this loan at December 31, 2017, which approximates fair value using level 2 inputs under the market approach. The facility is guaranteed by Hexcel Corporation. Required scheduled payments are required through maturity. Required payments for the next five years and thereafter are as follows: $4.3 million for 2018, $9.5 million for 2019 through 2022, and $25.3 million thereafter.

We have a $10.0 million revolving credit line for working capital needs of our Chinese entity with no outstanding balance at December 31, 2017. These funds can only be used locally. The facility is guaranteed by Hexcel Corporation, but is uncommitted and cancellable by the lender at any time.

Note 6 — Leasing Arrangements

Certain sales and administrative offices, data processing equipment and manufacturing facilities are leased under operating leases. We recognize rental expense on operating leases straight-line over the term of a lease. Total rental expense was $12.0 million in 2017, $11.4 million in 2016 and $10.2 million in 2015.

Scheduled future minimum lease payments as of December 31, 2017 were:

(In millions)	
Payable during the years ending December 31:	Operating Leases
2018	$ 10.6
2019	8.9
2020	6.9
2021	6.0
2022	1.8
Thereafter	2.4
Total minimum lease payments	$ 36.6

Note 7 — Retirement and Other Postretirement Benefit Plans

We maintain qualified defined benefit retirement plans covering certain current and former European employees, as well as nonqualified defined benefit retirement plans and retirement savings plans covering certain eligible U.S. and European employees, and participate in a union sponsored multi-employer pension plan covering certain U.S. employees with union affiliations. In addition, we provide certain postretirement health care and life insurance benefits to eligible U.S. retirees.

Accounting standards require the use of certain assumptions, such as the expected long-term rate of return, discount rate, rate of compensation increase, healthcare cost trend rates, and retirement and mortality rates, to determine the net periodic costs of such plans. These assumptions are reviewed and set annually at the beginning of each year. In addition, these models use an “attribution approach” that generally spreads individual events, such as plan amendments and changes in actuarial assumptions, over the service lives of the employees in the plan. That is, employees render service over their service lives on a relatively smooth basis and therefore, the income statement effects of retirement and postretirement benefit plans are earned in, and should follow, the same pattern.

We use our actual return experience, future expectations of long-term investment returns, and our actual and targeted asset allocations to develop our expected rate of return assumption used in the net periodic cost calculations of our funded European defined benefit retirement plans. Due to the difficulty involved in predicting the market performance of certain assets, there will be a difference in any given year between our expected return on plan assets and the actual return. Following the attribution approach, each year’s difference is amortized over a number of future years. Over time, the expected long-term returns are designed to approximate the actual long-term returns and therefore result in a pattern of income and expense recognition that more closely matches the pattern of the services provided by the employees.

We annually set our discount rate assumption for retirement-related benefits accounting to reflect the rates available on high-quality, fixed-income debt instruments. The rate of compensation increase for nonqualified pension plans, which is another significant assumption used in the actuarial model for pension accounting, is determined by us based upon our long-term plans for such increases and assumed inflation. For the postretirement health care and life insurance benefits plan, we review external data and its historical trends for health care costs to determine the health care cost trend rates. Retirement and termination rates are based primarily on actual plan experience. The mortality table used for the U.S. plans is based on the RP-2014 White Collar Healthy Annuitant Mortality Table with Improvement Scale MP-2016 and for the U.K. Plan the S2PXA base table with future improvements in line with the CMI 2014 projection model with a long term trend rate of 1.5% p.a.

Actual results that differ from our assumptions are accumulated and amortized over future periods and, therefore, generally affect the net periodic costs and recorded obligations in such future periods. While we believe that the assumptions used are appropriate, significant changes in economic or other conditions, employee demographics, retirement and mortality rates, and investment performance may materially impact such costs and obligations.

U.S. Defined Benefit Retirement Plans

We have nonqualified defined benefit retirement plans covering certain current and former U.S. employees that are funded as benefits are incurred. Under the provisions of these plans, we expect to contribute approximately $4.6 million in 2018 to cover unfunded benefits.

Multi-Employer Plan

The Company is party to a multi-employer pension plan covering certain U.S. employees with union affiliations. The plan is the Western Metal Industry Pension Fund, (“the Plan”). The Plan’s employer identification number is 91-6033499; the Plan number is 001. In 2017, 2016 and 2015 the Plan reported Hexcel Corporation as being an employer that contributed greater than 5% of the Plan’s total contributions. The expiration date of the collective bargaining agreement is September 30, 2020. The Plan has been listed in “critical status” and has been operating in accordance with a Rehabilitation Plan since 2010. The Plan, as amended under the Rehabilitation Plan, reduced the adjustable benefits of the participants and levied a surcharge on employer contributions. The Company contributed $1.9 million in 2017, $2.1 million in 2016 and approximately $2.2 million in 2015. We expect the Company’s contribution to be about $2.1 million in 2018 and remain at that level over the next few years.

U.S. Retirement Savings Plan

Under the retirement savings plan, eligible U.S. employees can contribute up to 75% of their annual compensation to an individual 401(k) retirement savings account. The Company makes matching contributions equal to 50% of employee contributions, not to exceed 3% of employee compensation each year. We also contribute an additional 2% to 4% of each eligible U.S. employee’s salary to an individual 401(k) retirement savings account. This increases the maximum contribution to individual U.S. employee savings accounts to between 5% and 7% per year, before any profit sharing contributions that are made when we meet or exceed certain performance targets that are set annually. These profit sharing contributions are made at the Company’s discretion and are targeted at 3% of an eligible U.S. employee’s pay, with a maximum of 4.5%.

U.S. Postretirement Plans

In addition to defined benefit and retirement savings plan benefits, we also provide certain postretirement health care and life insurance benefits to eligible U.S. retirees. Depending upon the plan, benefits are available to eligible employees who retire after meeting certain age and service requirements and were employed by Hexcel as of

February 1996. Our funding policy for the postretirement health care and life insurance benefit plans is generally to pay covered expenses as they are incurred. Under the provisions of these plans, we expect to contribute approximately $0.5 million in 2018 to cover unfunded benefits.

European Defined Benefit Retirement Plans

We have defined benefit retirement plans in the United Kingdom, Belgium, France and Austria covering certain employees of our subsidiaries in those countries. The defined benefit plan in the United Kingdom (the “U.K. Plan”), the largest of the European plans, was terminated in 2011 and replaced with a defined contribution plan. As of December 31, 2017, 28% of the total assets in the U.K. Plan were invested in equities and 24% of the total assets were invested in diversified growth funds and 19% were invested in liability driven investments. Equity investments and growth fund investments are made with the objective of achieving a return on plan assets consistent with the funding requirements of the plan, maximizing portfolio return and minimizing the impact of market fluctuations on the fair value of the plan assets. Liability driven investments are made to reduce balance sheet volatility. As a result of

an annual review of historical returns and market trends, the expected long-term weighted average rate of return for the U.K. Plan for the 2017 plan year will be 4.75% and 3.0% for the other European plans as a group.

U.K. Defined Contribution Pension Plan

Under the Defined Contribution Section, eligible U.K. employees can belong to the Deferred Contribution Plan on a non-participatory basis or can elect to contribute 3%, 5% or 7% of their pensionable salary. The Company will contribute 5%, 9% and 13% respectively. The plan also provides life insurance and disability insurance benefits for members.

Retirement and Other Postretirement Plans - France

The employees of our French subsidiaries are entitled to receive a lump-sum payment upon retirement subject to certain service conditions under the provisions of the national chemicals and textile workers collective bargaining agreements. The amounts attributable to the French plans have been included within the total expense and obligation amounts noted for the European plans.

Net Periodic Pension Expense

Net periodic expense for our U.S. and European qualified and nonqualified defined benefit pension plans and our retirement savings plans for the three years ended December 31, 2017 is detailed in the table below.

(In millions)	2017	2016	2015
Defined benefit retirement plans	$ 0.6	$1.6	$2.7
Union sponsored multi-employer pension plan	1.9	2.1	2.2
Retirement savings plans-matching contributions	9.7	7.9	4.2
Retirement savings plans-profit sharing contributions	9.2	10.6	9.7
Net periodic expense	$21.4	$22.2	$ 18.8

Defined Benefit Retirement and Postretirement Plans

Net periodic cost of our defined benefit retirement and postretirement plans for the three years ended December 31, 2017, were:

(In millions)	U.S. Plans			European Plans		
Defined Benefit Retirement Plans	2017	2016	2015	2017	2016	2015
Service cost	$1.3	$1.2	$1.1	$1.0	$0.8	$0.8
Interest cost	0.6	0.6	0.5	4.6	5.4	6.1
Expected return on plan assets	—	—	—	(8.4)	(7.6)	(8.4)
Net amortization	0.4	0.3	1.0	0.3	0.6	0.8
Termination benefits and settlement losses	0.7	0.2	0.8	0.1	0.1	—
Net periodic pension cost (income)	$3.0	$2.3	$3.4	$(2.4)	$(0.7)	$(0.7)

(In millions)			
U.S. Postretirement Plans	2017	2016	2015
Interest cost	$0.1	$0.2	$0.2
Net amortization and deferral	0.1	(0.7)	(0.6)
Net periodic postretirement benefit loss (income)	$0.2	$(0.5)	$(0.4)

	Defined Benefit Retirement Plans					
	U.S. Plans		European Plans		Postretirement Plans	
(In millions)	2017	2016	2017	2016	2017	2016
Other Changes in Plan Assets and Benefit Obligations Recognized in Other Comprehensive Income						
Net loss (gain)	$0.1	$0.1	$2.3	$(5.0)	$—	$(0.9)
Amortization of actuarial (losses) gains	(0.8)	(0.3)	(0.4)	(0.7)	1.1	0.7
Effect of foreign exchange	—	—	2.5	(4.0)	—	—
Total recognized in other comprehensive income (pre-tax)	$(0.7)	$(0.2)	$4.4	$(9.7)	$1.1	$(0.2)

The Company expects to recognize $0.2 million of net actuarial loss and an immaterial net prior service cost as a component of net periodic pension cost in 2018 for its defined benefit plans. The amount of net actuarial gain recognized as a component of net periodic postretirement benefit cost in 2018 is expected to be $1.0 million.

The benefit obligation, fair value of plan assets, funded status, and amounts recognized in the consolidated financial statements for our defined benefit retirement plans and postretirement plans, as of and for the years ended December 31, 2017 and 2016, were:

	Defined Benefit Retirement Plans					
	U.S. Plans		European Plans		Postretirement Plans	
(In millions)	2017	2016	2017	2016	2017	2016
Change in benefit obligation:						
Benefit obligation - beginning of year	$19.7	$17.7	$164.1	$162.8	$ 4.4	$ 5.3
Service cost	1.3	1.2	1.0	0.8	—	—
Interest cost	0.6	0.6	4.6	5.4	0.1	0.2
Plan participants' contributions	—	—	—	—	0.2	0.1
Actuarial loss (gain)	0.1	0.2	6.8	27.7	—	(1.0)
Acquisitions	—	—	1.0	—	—	—
Termination benefits and settlements	0.2	0.2	(0.6)	(0.2)	—	—
Benefits and expenses paid	(0.5)	(0.2)	(4.6)	(5.1)	(0.6)	(0.2)
Currency translation adjustments	—	—	17.2	(27.3)	—	—
Benefit obligation - end of year	$21.4	$19.7	$189.5	$164.1	$ 4.1	$ 4.4
Change in plan assets:						
Fair value of plan assets - beginning of year	$—	$—	$171.4	$160.4	$ —	$ —
Actual return on plan assets	—	—	12.9	40.3	—	—
Employer contributions	0.5	0.2	5.3	6.3	0.5	0.1
Plan participants' contributions	—	—	—	—	0.2	0.1
Benefits and expenses paid	(0.5)	(0.2)	(4.6)	(5.1)	(0.7)	(0.2)
Termination benefits and settlements	—	—	(0.6)	(0.2)	—	—
Currency translation adjustments	—	—	17.4	(30.3)	—	—
Fair value of plan assets - end of year	$—	$—	$201.8	$171.4	$ —	$ —
Amounts recognized in Consolidated Balance Sheets:						
Noncurrent Assets	$—	$—	$32.2	$23.9	$ —	$ —
	$4.5	$1.1	$0.3	$0.4	$ 0.5	$ 0.5
Non-current liabilities	16.9	18.6	19.6	16.2	3.6	3.9
Total Liabilities	$21.4	$19.7	$19.9	$16.6	$ 4.1	$ 4.4
Amounts recognized in Accumulated Other Comprehensive Loss:						
Actuarial net (loss) gain	$ (3.1)	$ (3.8)	$ (26.6)	$ (22.1)	$ 3.3	$ 4.3
Prior service cost	—	—	(0.1)	(0.1)	—	—
Total amounts recognized in accumulated other comprehensive loss	$ (3.1)	$ (3.8)	$ (26.7)	$ (22.2)	$ 3.3	$ 4.3

The measurement date used to determine the benefit obligations and plan assets of the defined benefit retirement and postretirement plans was December 31, 2017.

The total accumulated benefit obligation ("ABO") for the U.S. defined benefit retirement plans was $21.0 million and $17.9 million as of December 31, 2017 and 2016, respectively. Excluding the U.K. Plan, the European plans' ABO exceeded plan assets as of December 31, 2017 and 2016, by $14.3 million and $12.0 million, respectively. These plans' ABO was $20.9 million and $17.7 million as of December 31, 2017 and 2016, respectively. The U.K. Plan is overfunded; the ABO of this plan was $163.1 million and $141.8 million at December 31, 2017 and 2016,

respectively. The fair value of the U.K. Plan assets was $195.3 million and $165.7 million at December 31, 2017 and 2016, respectively.

As of December 31, 2017 and 2016, the accrued benefit costs for the defined benefit retirement plans and postretirement benefit plans included within “accrued compensation and benefits” was $5.3 million and $2.0 million, respectively, and within “other non-current liabilities” was $40.1 million and $38.8 million, respectively, in the accompanying consolidated balance sheets.

Benefit payments for the plans are expected to be as follows:

(In millions)	U.S. Plans	European Plans	Postretirement Plans
2018	$4.6	$ 4.7	$ 0.5
2019	1.0	4.9	0.5
2020	2.7	5.2	0.5
2021	2.9	7.2	0.5
2022	1.2	6.6	0.5
2023-2027	14.4	41.0	1.5
	$26.8	$ 69.6	$ 4.0

Fair Values of Pension Assets

The following table presents pension assets measured at fair value at December 31, 2017 and 2016 utilizing the fair value hierarchy discussed in Note 19:

(In millions) Description	December 31, 2017	Fair Value Measurements at December 31, 2017 Level 1	Level 2	Level 3
Equity funds	$ 56.3	$ —	$ 56.3	$ —
Diversified growth funds	48.0	—	48.0	—
Insurance contracts	4.2	—	—	4.2
Liability driven investments	38.7	—	38.7	—
Index linked gilts	52.1	—	52.1	—
Diversified investment funds	2.3	—	—	2.3
Cash and cash equivalents	0.2	0.2	—	—
Total assets	$ 201.8	$ 0.2	$ 195.1	$ 6.5

Description	December 31, 2016	Fair Value Measurements at December 31, 2016 Level 1	Level 2	Level 3
Equity funds	$ 53.8	$ —	$ 53.8	$ —
Diversified growth funds	41.2	—	41.2	—
Index linked gilts	36.1	—	36.1	—
Liability driven investments	34.4	—	34.4	—
Insurance contracts	3.6	—	—	3.6
Diversified investment funds	2.1	—	—	2.1
Cash and cash equivalents	0.2	0.2	—	—
Total assets	$ 171.4	$ 0.2	$ 165.5	$ 5.7

The pooled fund that the U.K. plan invests in is structured as unit-linked life assurance vehicles which are not exchange listed. As the prices for these are not quoted in an active market at the reporting date, the investment managers advised they believe these funds cannot be classified as Level I investments. The investment managers have deemed its pooled funds as being most suitably classified as Level 2 given its valuation methodology and pricing.

(In millions) Reconciliation of Level 3 Assets	Balance at January 1, 2017	Actual return on plan assets	Purchases, sales and settlements	Changes due to exchange rates	Balance at December 31, 2017
Diversified investment funds	$ 2.1	$ 0.1	$ (0.2)	$ 0.3	$ 2.3
Insurance contracts	3.6	0.2	(0.1)	0.5	4.2
Total level 3 assets	$ 5.7	$ 0.3	$ (0.3)	$ 0.8	$ 6.5

Reconciliation of Level 3 Assets	Balance at January 1, 2016	Actual return on plan assets	Purchases, sales and settlements	Changes due to exchange rates	Balance at December 31, 2016
Diversified investment funds	$ 2.1	$ 0.1	$ —	$ (0.1)	$ 2.1
Insurance contracts	3.5	0.2	—	(0.1)	3.6
Total level 3 assets	$ 5.6	$ 0.3	$ —	$ (0.2)	$ 5.7

Plan assets are invested in a number of unit linked pooled funds by an independent asset management group. Equity funds are split 40/60 between U.K. and overseas equity funds (North America, Japan, Asia Pacific and Emerging Markets). The asset management firm uses quoted prices in active markets to value the assets.

Diversified growth funds are invested in a broad spectrum of return seeking asset classes with reduced dependency on any particular asset class. This approach targets growth asset returns with lower risk resulting from the diversification across different asset classes.

The index-linked gilt allocation provides a partial interest rate and inflation rate hedge against the valuation of the liabilities.

The liability driven investments' allocation aims to hedge against the exposure to interest rate risk through the use of interest rate swaps.

The Bond Allocation is invested in a number of Active Corporate Bond funds which are pooled funds. The Corporate Bond funds primarily invest in corporate fixed income securities denominated in British pounds sterling with credit ratings of BBB- and above. We use quoted prices in active markets to value the assets.

Insurance contracts contain a minimum guaranteed return. The fair value of the assets is equal to the total amount of all individual technical reserves plus the non-allocated employer's financing fund reserves at the valuation date. The individual technical and financing fund reserves are equal to the accumulated paid contributions taking into account the insurance tarification and any allocated profit sharing return.

The diversified investment funds represent plan assets invested in a Pensionskasse (an Austrian multi-employer pension fund). The main holdings consist of equity, bonds, real estate and bank deposits.

The actual allocations for the pension assets at December 31, 2017 and 2016, and target allocations by asset class, are as follows:

Asset Class	Percentage Of Plan Assets 2017	Target Allocations 2017	Percentage Of Plan Assets 2016	Target Allocations 2016
Diversified growth funds	23.8 %	28.1 %	24.1 %	29.0 %
Index linked gilts	25.8	12.6	21.1	13.0
Liability driven investments	19.2	23.2	20.1	24.0

All Other Regions Equity Fund	16.6	19.6	18.7	34.0
U.K. Equity Fund	11.2	13.3	12.6	—
Diversified Investment Funds	1.2	1.2	1.2	—
Insurance Contracts	2.1	2.0	2.1	—
Cash and cash equivalents	0.1	—	0.1	—
Total	100 %	100 %	100 %	100 %

Assumptions

The assumed discount rate for pension plans reflects the market rates for high-quality fixed income debt instruments currently available. A third party provided standard Yield Curve was used for the U.S. non-qualified and postretirement plans. For the U.K. plan, cash flows were not available and therefore we considered the derived yield to market on a representative bond of suitable duration taken from the third party provider’s synthetic bond yield curve. We believe that the timing and amount of cash flows related to these instruments is expected to match the estimated defined benefit payment streams of our plans. The assumed discount rate for the U.S. non-qualified plans uses individual discount rates for each plan based on their associated cash flows.

Salary increase assumptions are based on historical experience and anticipated future management actions. For the postretirement health care and life insurance benefit plans, we review external data and our historical trends for health care costs to determine the health care cost trend rates. Retirement rates are based primarily on actual plan experience and on rates from previously mentioned mortality tables. Actual results that differ from our assumptions are accumulated and amortized over future periods and, therefore, generally affect the net periodic costs and recorded obligations in such future periods. While we believe that the assumptions used are appropriate, significant changes in economic or other conditions, employee demographics, retirement and mortality rates, and investment performance may materially impact such costs and obligations.

Assumptions used to estimate the actuarial present value of benefit obligations at December 31, 2017, 2016 and 2015 are shown in the following table. These year-end values are the basis for determining net periodic costs for the following year.

	2017	2016	2015
U.S. defined benefit retirement plans:			
Discount rates	2.8% - 3.2%	3.1% - 3.6%	3.2% - 3.7%
Rate of increase in compensation	3.0%	3.0%	3.0%
Expected long-term rate of return on plan assets	N/A	N/A	N/A
European defined benefit retirement plans:			
Discount rates	1.20% - 2.55%	1.25% - 2.95%	1.8% - 3.9%
Rates of increase in compensation	2.75% - 3.0%	2.75% - 3.0%	2.8% - 3.0%
Expected long-term rates of return on plan assets	2.0% – 4.75%	3.0% – 4.75%	3.0% – 5.25%
Postretirement benefit plans:			
Discount rates	3.0%	3.3%	3.4%

The following table presents the impact that a one-percentage-point increase and a one-percentage-point decrease in the expected long-term rate of return and discount rate would have on the 2017 pension expense, and the impact on our retirement obligation as of December 31, 2017 for a one-percentage-point change in the discount rate:

(In millions)	Non-Qualified Pension Plans	Retiree Plans	U.K. Plan
Periodic pension expense			
One-percentage-point increase:			
Expected long-term rate of return	$ N/A	$ N/A	$ (1.7)
Discount rate	$ (0.1)	—	0.5
One-percentage-point decrease:			
Expected long-term rate of return	$ N/A	$ N/A	$ 1.7
Discount rate	$ 0.2	$ —	$ 0.2
Retirement obligation			
One-percentage-point increase in discount rate	$ (1.1)	$ (0.2)	$ (22.3)
One-percentage-point decrease in discount rate	$ 1.2	$ 0.3	$ 28.5

The annual rate of increase in the per capita cost of covered health care benefits is assumed to be 7.0% for medical and 5.0% for dental and vision for 2017. The medical rates are assumed to gradually decline to 4.75% by 2028, whereas dental and vision rates are assumed to remain constant at 5.0%. A one-percentage-point increase and a one-percentage-point decrease in the assumed health care cost trend would have an insignificant impact on the total of service and interest cost components, and would have an immaterial impact on the postretirement benefit obligation for both 2017 and 2016.

Note 8 — Income Taxes

Income before income taxes and the provision for income taxes, for the three years ended December 31, 2017, were as follows:

(In millions)	2017	2016	2015
Income before income taxes:			
U.S.	$ 155.5	$ 149.1	$ 164.3
International	167.7	188.5	153.9
Total income before income taxes	$ 323.2	$ 337.6	$ 318.2
Provision for income taxes:			
Current:			
U.S.	$ 18.9	$ (9.5)	$ (0.3)
International	20.3	37.1	30.1
Current provision for income taxes	39.2	27.6	29.8
Deferred:			
U.S.	(1.9)	54.3	48.6
International	5.2	8.4	4.6
Deferred provision for income taxes	3.3	62.7	53.2
Total provision for income taxes	$ 42.5	$ 90.3	$ 83.0

A reconciliation of the provision for income taxes at the U.S. federal statutory income tax rate of 35% to the effective income tax rate, for the three years ended December 31, 2017, is as follows:

(In millions)	2017	2016	2015
Provision for taxes at U.S. federal statutory rate	$ 113.1	$ 118.2	$ 111.4
State and local taxes, net of federal benefit	0.2	3.1	2.5
Foreign effective rate differential	(14.4)	(26.8)	(22.6)
Tax credits	(16.0)	(10.1)	(3.1)
Change in Valuation Allowance	(9.1)	10.4	3.1
Remeasurement of deferred taxes	(67.8)	—	—
Transition Tax on undistributed foreign earnings	45.7	—	—
Excess Tax Benefits of Stock Based Compensation	(7.6)	(2.8)	—
Other	4.9	4.9	3.3
Release of reserves for uncertain tax positions	(6.5)	(6.6)	(11.6)
Total provision for income taxes	$ 42.5	$ 90.3	$ 83.0

The Tax Cuts and Jobs Act (the “Act”) was enacted on December 22, 2017. The Act reduces the US federal corporate tax rate from 35% to 21% in 2018, requires companies to pay a one-time transition tax on earnings of certain foreign subsidiaries that were previously tax deferred and creates new taxes on certain foreign-sourced earnings. At December 31, 2017, we have not fully completed our accounting for the tax effects of enactment of the Act; however, in certain cases, as described below, we have made a reasonable estimate of the effects on our existing deferred tax balances and the one-time transition tax based on the latest Act guidance that currently exists. For the items for which we were able

to determine a reasonable estimate, we recognized a provisional tax benefit of $22.1 million, which is included as a component of income tax expense from continuing operations. These adjustments of the Tax Cuts and Jobs Act reduced our effective tax rate for 2017 by 6.8%.

Deferred tax assets and liabilities: We remeasured all U.S. deferred tax assets and liabilities based on the rates at which they are expected to reverse in the future, which is generally 21%. However, we are still analyzing certain aspects of the Act and refining our calculations, which could potentially affect the measurement of these balances or potentially give rise to new deferred tax amounts. The provisional amount recorded related to the remeasurement of our deferred tax balance resulted in a tax benefit of $67.8 million. The one-time transition tax is based on our total post-1986 earnings and profits (E&P) which was not previously subject to US income taxes. We recorded a provisional amount for our one-time transition tax liability for all of our controlled foreign corporations, resulting in an increase in income tax expense of $45.7 million, net of foreign tax credits. The tax due on unremitted earnings will be paid over 8 years, as permitted by the Act. The transition tax is based in part on the total post 1986 foreign E&P and the amount of those earnings held in cash and other specified assets. The transition tax may change when we finalize the calculation of post-1986 foreign E&P, which was not previously subject to US federal taxation and as we finalize the amounts held in cash or other specified assets. No additional income or withholding taxes have been provided for any undistributed foreign earnings, including those subject

to the transition tax nor have any taxes been provided for outside basis difference inherent in these entities as these amounts continue to be indefinitely reinvested in foreign operations. Additionally, due to withholding tax, basis computations, and other related tax considerations, it is not practicable to estimate any taxes to be provided on outside basis differences at this time. The ultimate tax impact related to the Act may differ, possibly materially, due to further refinement of our calculations, changes in interpretation and assumptions, or issuance of additional guidance issued by the relevant tax authorities.

Deferred Income Taxes

Deferred income taxes result from tax attributes including foreign tax credits, net operating loss carryforwards and temporary differences between the recognition of items for income tax purposes and financial reporting purposes. Principal components of deferred income taxes as of December 31, 2017 and 2016 are:

(In millions)	2017	2016
Assets		
Net operating loss carryforwards	$65.1	$58.9
Unfunded pension liability and other postretirement obligations	0.5	5.6
Tax credit carryforwards	10.8	13.0
Stock based compensation	7.1	16.2
Other comprehensive income	0.2	4.6
Reserves and other	13.5	20.8
Subtotal	97.2	119.1
Valuation allowance	(54.9)	(58.9)
Total assets	$ 42.3	$60.2
Liabilities		
Accelerated depreciation	(144.1)	(160.6)
Accelerated amortization	(11.3)	(12.9)
Other	(1.3)	(0.4)
Total liabilities	$ (156.7)	$ (173.9)
Net deferred tax liabilities	$ (114.4)	$ (113.7)

Deferred tax assets and deferred tax liabilities as presented in the consolidated balance sheets as of December 31, 2017 and 2016 are as follows and are recorded in prepaid expenses and other current assets, deferred tax assets, other accrued liabilities and other non-current liabilities in the consolidated balance sheets:

(In millions)	2017	2016
Long-term deferred tax assets, net	14.3	8.9
Long-term deferred tax liability, net	(128.7)	(122.6)
Net deferred tax liabilities	$ (114.4)	$ (113.7)

The deferred tax assets for the respective periods were assessed for recoverability and, where applicable, a valuation allowance was recorded to reduce the total deferred tax asset to an amount that will, more likely than not, be realized in the future. The valuation allowance as of December 31, 2017 and 2016 relates primarily to net operating loss carryforwards of our foreign subsidiaries for which we have determined, based upon historical results and projected future book and taxable income levels, that a valuation allowance should continue to be maintained. The net change in the total valuation allowance for the years ended December 31, 2017 and 2016 was a decrease of $4.0 million and an increase of $1.1 million, respectively.

Although realization is not assured, we have concluded that it is more-likely-than-not that the deferred tax assets, for which a valuation allowance was determined to be unnecessary, will be realized in the ordinary course of operations based on the available positive and negative evidence, including scheduling of deferred tax liabilities and projected income from operating activities. The amount of the net deferred tax assets considered realizable, however, could be reduced in the near term if actual future income or income tax rates are lower than estimated, or if there are differences in the timing or amount of future reversals of existing taxable or deductible temporary differences.

Net Operating Loss & Tax Credit Carryforwards

At December 31, 2017, we had tax credit carryforwards for U.S. tax purposes of $10.8 million available to offset future income taxes. These credits will begin to expire if not utilized in 2018.

We also had net operating loss carryforwards for U.S. state and foreign income tax purposes of $25.6 million and $242.0 million, respectively, for which there were foreign valuation allowances of $202.9 million as of December 31, 2017. Our foreign net operating losses can be carried forward without limitation in Belgium, Luxembourg, Spain and the U.K. The carryforward period in China is limited to 5 years. We have a full valuation allowance against certain foreign net operating losses for which the Company believes it is not more likely than not that the net operating losses will be utilized.

Uncertain Tax Positions

Our unrecognized tax benefits at December 31, 2017, relate to various Foreign and U.S. jurisdictions.

The following table summarizes the activity related to our unrecognized tax benefits.

(In millions)	2017	2016	2015
Balance as of January 1,	$16.7	$25.3	$43.1
Additions based on tax positions related to the current year	5.3	7.3	1.7
(Reductions) additions for tax positions of prior years	(6.1)	(11.1)	(16.6)
Expiration of the statute of limitations for the assessment of taxes	(4.8)	(4.2)	(0.6)
Other, including currency translation	1.2	(0.6)	(2.3)
Balance as of December 31,	$12.3	$16.7	$25.3

Included in the unrecognized tax benefits of $12.3 million at December 31, 2017 was $11.3 million of tax benefits that, if recognized, would impact our annual effective tax rate. In addition, we recognize interest accrued related to unrecognized tax benefits as a component of interest expense and penalties as a component of income tax expense in the consolidated statements of operations. The Company recognized $0.3 million, $1.1 million, $0.6 million of interest expense and penalties related to the above unrecognized tax benefits in 2017, 2016 and 2015, respectively. The Company had accrued interest of approximately $0.8 million and $2.1 million as of December 31, 2017 and 2016, respectively. During 2017, we reversed $1.8 million of interest related to unrecognized tax benefits.

We are subject to taxation in the U.S. and various states and foreign jurisdictions. The U.S. tax returns have been audited through 2013. Foreign and U.S. state jurisdictions have statutes of limitations generally ranging from 3 to 5 years. Years that are still open to examination in our major jurisdictions include the U.S. (2014 onward), Austria (2016 onward), Belgium (2014 onward), France (2014 onward), Spain (2013 onward) and the U.K. (2014 onward). We are currently under examination in the U.S. and certain foreign jurisdictions.

As of December 31, 2017, we had uncertain tax positions for which it is reasonably possible that amounts of unrecognized tax benefits could significantly change over the next year. These uncertain tax positions relate to our tax returns from 2004 onward, some of which are currently under examination by certain U.S. and European tax authorities. The Company believes it is reasonably possible that the total amount of unrecognized tax benefits disclosed as of December 31, 2017 may decrease approximately $2 to $3 million in the fiscal year ending December 31, 2018. Such possible decrease primarily relates to audit settlements and the expiration of statutes of limitation.

Note 9 — Capital Stock

Common Stock Outstanding

Common stock outstanding as of December 31, 2017, 2016 and 2015 was as follows:

(Number of shares in millions)	2017	2016	2015
Common stock:			
Balance, beginning of year	106.7	106.0	104.8
Activity under stock plans	1.1	0.7	1.2
Balance, end of year	107.8	106.7	106.0
Treasury stock:			
Balance, beginning of year	15.3	12.5	9.3
Repurchased	2.9	2.8	3.2
Balance, end of year	18.2	15.3	12.5
Common stock outstanding	89.6	91.4	93.5

In June 2014, our Board authorized a plan to repurchase $150 million of our outstanding common stock ("2014 Repurchase Plan"). In October 2015, our Board authorized the repurchase of $250 million of the Company's common stock. During February of 2017, the Board authorized the repurchase on an additional $300 million of the Company's common stock of which $242.5 million is still available at December 31, 2017. During 2017, 2016 and 2015, the Company spent $150.3 million, $111.1 million, and $146.1 million to repurchase common stock under its repurchase programs.

During 2017 the Company paid $42.6 million in dividends on its common stock. Dividends per share of common stock for 2017, 2016, and 2015, were $0.47, $0.44, and $0.40, respectively.

Note 10 — Stock-Based Compensation

The following table details the stock-based compensation expense by type of award for the years ended December 31, 2017, 2016 and 2015:

	Year Ended December 31,		
(In millions, except per share data)	2017	2016	2015
Non-qualified stock options	$4.0	$3.6	$3.3
Restricted stock, service based ("RSUs")	6.4	5.8	6.4
Restricted stock, performance based ("PRSUs")	6.7	6.3	7.9
Employee stock purchase plan	0.4	0.4	0.3
Stock-based compensation expense	$ 17.5	$16.1	$17.9
Tax benefit from stock exercised and converted during the period	$7.6	$2.8	$9.2

Non-Qualified Stock Options

Non-qualified stock options ("NQOs") have been granted to our employees and directors under our stock compensation plan. Options granted generally vest over three years and expire ten years from the date of grant.

A summary of option activity under the plan for the three years ended December 31, 2017 is as follows:

	Number of Options (In millions)	Weighted-Average Exercise Price	Weighted-Average Remaining Contractual Life (in years)
Outstanding at December 31, 2014	2.8	$ 19.12	4.95
Options granted	0.2	$ 43.96	
Options exercised	(0.7)	$ 12.77	
Outstanding at December 31, 2015	2.3	$ 23.75	5.39
Options granted	0.3	$ 41.71	
Options exercised	(0.3)	$ 20.17	

Outstanding at December 31, 2016	2.3	$	26.08	5.20
Options granted	0.2	$	50.50	
Options exercised	(0.8)	$	22.34	
Outstanding at December 31, 2017	1.7	$	31.18	5.19

	Year Ended December 31,	
(In millions, except weighted average exercise price)	2017	2016
Aggregate intrinsic value of outstanding options	$53.1	$57.2
Aggregate intrinsic value of exercisable options	$45.8	$53.2
Total intrinsic value of options exercised	$25.6	$6.7
Total number of options exercisable	1.3	1.8
Weighted average exercise price of options exercisable	$25.27	$21.99
Total unrecognized compensation cost on nonvested options (a)	$1.2	$1.1

(a) Unrecognized compensation cost relates to nonvested stock options and is expected to be recognized over the remaining vesting period ranging from one year to three years.

Valuation Assumptions in Estimating Fair Value

We estimated the fair value of stock options at the grant date using the Black-Scholes option pricing model with the following assumptions for the years ended December 31, 2017, 2016 and 2015:

	2017	2016	2015
Risk-free interest rate	2.41%	1.62%	1.56%
Expected option life (in years) Executive	6.68	6.77	6.84
Expected option life (in years) Non-Executive	4.76	4.72	6.09
Dividend yield	0.9%	1.0%	1.0%
Volatility	34.74%	38.41%	35.59%
Weighted-average fair value per option granted	$16.93	$14.65	$14.95

We determine the expected option life for each grant based on ten years of historical option activity for two separate groups of employees (executive and non-executive). The weighted-average expected life ("WAEL") is derived from the average midpoint between the vesting and the contractual term and considers the effect of both the inclusion and exclusion of post-vesting cancellations during the ten-year period. Expected volatility is calculated based on a blend of both historic volatility of our common stock and implied volatility of our traded options. We weigh both volatility inputs equally and utilize the average as the volatility input for the Black-Scholes calculation. The risk-free interest rate for the expected term is based on the U.S. Treasury yield curve in effect at the time of grant and corresponding to the expected term.

Restricted Stock Units — Service Based

As of December 31, 2017, a total of 490,739 shares of service based restricted stock ("RSUs") were outstanding, which vest based on years of service under the 2003 and 2013 incentive stock plans. RSUs are granted to key employees, executives and directors of the Company. The fair value of the RSU is based on the closing market price of the Company's common stock on the date of grant and is amortized on a straight line basis over the requisite service period. The stock-based compensation expense recognized is based on an estimate of shares ultimately expected to vest, and therefore it has been reduced for estimated forfeitures. The total compensation expense related to awards granted to retirement-eligible employees is recognized on the grant date.

The table presented below provides a summary of the Company's RSU activity for the years ended December 31, 2017, 2016 and 2015:

	Number of RSUs (In millions)	Weighted-Average Grant Date Fair Value
Outstanding at December 31, 2014	0.5	$ 27.76
RSUs granted	0.1	$ 43.96
RSUs issued	(0.1)	$ 28.95
Outstanding at December 31, 2015	0.5	$ 31.73
RSUs granted	0.1	$ 42.05

RSUs issued	(0.1	)	$ 37.01
Outstanding at December 31, 2016	0.5		$ 33.72
RSUs granted	0.1		$ 50.97
RSUs issued	(0.1	)	$ 38.17
Outstanding at December 31, 2017	0.5		$ 36.75

As of December 31, 2017, there was total unrecognized compensation cost related to nonvested RSUs of $7.2 million, which is to be recognized over the remaining vesting period ranging from one year to three years.

Restricted Stock Units — Performance Based

As of December 31, 2017, a total of 367,760 shares of performance based restricted stock (“PRSUs”) were outstanding under the 2003 and 2013 incentive stock plans. The total amount of PRSUs that will ultimately vest is based on the achievement of various financial performance targets set forth by the Company’s Compensation Committee on the date of grant. PRSUs are based on a three-year performance period. The stock based compensation expense related to awards granted to retirement-eligible employees is expensed on the grant date and is trued up as projections change. The fair value of the PRSU is based on the closing market price of

the Company's common stock on the date of grant and is amortized straight-line over the total three- year period. A change in the performance measure expected to be achieved is recorded as an adjustment in the period in which the change occurs.

The table presented below provides a summary, of the Company's PRSU activity, at original grant amounts, for the years ended December 31, 2017, 2016 and 2015:

	Number of PRSUs (In millions)	Weighted-Average Grant Date Fair Value
Outstanding at December 31, 2014	0.4	$ 31.68
PRSUs granted	0.1	$ 43.96
PRSUs additional performance shares	0.1	$ 42.23
PRSUs issued	(0.2)	$ 24.95
Outstanding at December 31, 2015	0.4	$ 36.59
PRSUs granted	0.2	$ 43.96
PRSUs additional performance shares	0.1	$ 28.09
PRSUs issued	(0.3)	$ 28.15
Outstanding at December 31, 2016	0.4	$ 42.66
PRSUs granted	0.2	$ 50.50
PRSUs issued	(0.2)	$ 42.57
Outstanding at December 31, 2017	0.4	$ 45.35

As of December 31, 2017, there was total unrecognized compensation cost related to nonvested PRSUs of $2.0 million, which is to be recognized over the remaining vesting period ranging from one year to three years. The final amount of compensation cost to be recognized is dependent upon our financial performance.

Stock-Based Compensation Cash Activity

During 2017, cash received from stock option exercises and from employee stock purchases was $16.2 million. We used $5.7 million in cash related to the shares withheld to satisfy employee tax obligations for RSUs and PRSUs converted during the year ended December 31, 2017.

We classify the cash flows resulting from these tax benefits as financing cash flows. We either issue new shares of our common stock or utilize treasury shares upon the exercise of stock options or the conversion of stock units.

Shares Authorized for Grant

As of December 31, 2017, an aggregate of 1.6 million shares were authorized for future grant under our stock plan, which covers stock options, RSUs, PRSUs and at the discretion of Hexcel, could result in the issuance of other types of stock-based awards.

Employee Stock Purchase Plan ("ESPP")

The Company offers an ESPP, which allows for eligible employees to contribute up to 10% of their base earnings, to a maximum of $25,000 in a calendar year, toward the quarterly purchase of our common stock at a purchase price equal to 85% of the fair market value of the common stock. There were 52,824 and 47,952 ESPP shares purchased in 2017 and 2016, respectively.

Note 11 — Net Income Per Common Share

Computations of basic and diluted net income per common share for the years ended December 31, 2017, 2016 and 2015, are as follows:

(In millions, except per share data)	2017	2016	2015
Basic net income per common share:			
Net income	$284.0	$249.8	$237.2
Weighted average common shares outstanding	90.6	92.8	95.8
Basic net income per common share	$3.13	$2.69	$2.48
Diluted net income per common share:			
Weighted average common shares outstanding — Basic	90.6	92.8	95.8
Plus incremental shares from assumed conversions:			
Restricted stock units	0.4	0.4	0.5
Stock options	0.9	1.0	0.9
Weighted average common shares outstanding — Dilutive	91.9	94.2	97.2
Dilutive net income per common share	$3.09	$2.65	$2.44
Anti-dilutive shares outstanding, excluded from computation	0.2	0.4	—

Note 12 — Derivative Financial Instruments

Interest Rate Swap Agreements

As of December 31, 2017, the Company had approximately $50 million of interest rate swaps that swap floating rate obligations for fixed rate obligations at an average of 1.09% against LIBOR in U.S. dollars. The swap matures in September 2019. The swap was accounted for as a cash flow hedge of our floating rate bank loan. To ensure the swap was highly effective, all of the principal terms of the swap matched the term of the bank loan. The fair value of the interest rate swap was an asset of $0.8 million and $0.7 million at December 31, 2017 and December 31, 2016, respectively.

At December 31 2017, we had two interest swaps related to European debt obligations which had a combined notional value of approximately €56.4 million. These derivatives swapped floating rate obligations for fixed rates at a weighted average rate of 0.5% against EURIBOR in Euros. The swaps amortize through the final maturities of the obligations on June 30, 2023 and June 30, 2024, in annual installments. The derivatives are accounted for as cash flow hedges of the floating rate French term loans. To ensure the swaps are highly effective, all of the principal terms of the swap matched the terms of the bank loans. The fair value of the interest rate swaps was a liability of $0.4 million and $0.1 million at December 31, 2017 and December 31, 2016, respectively.

The Company had treasury lock agreements to protect against unfavorable movements in the benchmark treasury rate related to the issuance of our Senior Unsecured Notes. These hedges were designated as cash flow hedges for hedge accounting purposes thus any change in fair value was recorded as a component of other comprehensive income. As part of the issuance of our senior notes, we net settled these derivatives for $10 million in cash. As a result of settling these derivatives the previously deferred gains recorded in other comprehensive income will be released to interest expense over the life of the senior notes. The effect of these settled treasury locks will reduce the effective interest rate on the senior notes by approximately 0.25%.

Foreign Currency Forward Exchange Contracts

A number of our European subsidiaries are exposed to the impact of exchange rate volatility between the U.S. dollar and the subsidiaries' functional currencies, being either the Euro or the British pound sterling. We entered into contracts to exchange U.S. dollars for Euros and British pound sterling through June 2020. The aggregate notional amount of these contracts was $285.4 million at December 31, 2017 and $423.8 million at December 31, 2016. The purpose of these contracts is to hedge a portion of the forecasted transactions of European subsidiaries under long-term sales contracts with certain customers. These contracts are expected to provide us with a more balanced matching of future cash receipts and expenditures by currency, thereby reducing our exposure to fluctuations in currency exchange rates. The effective portion of the hedges was a gain of $34.6 million and losses of $32.2 million and $26.7 million, for the years ended December 31, 2017, 2016 and 2015, respectively, and are recorded in other comprehensive

income. At December 31, 2017, $14.7 million of the carrying amount of these contracts was classified in other assets and $2.8 million in other liabilities on the consolidated balance sheets and $33.9 million classified in other liabilities at December 31, 2016. During the years ended December 31, 2017, 2016 and 2015, we recognized net losses of $11.3 million, $19.4 million and $17.8 million, respectively, recorded in sales. For the three years ended December 31, 2017, 2016 and 2015, hedge ineffectiveness was immaterial.

In addition, we enter into foreign exchange forward contracts which are not designated as hedges. These are used to provide an offset to transactional gains or losses arising from the remeasurement of non-functional monetary assets and liabilities such as accounts receivable. The change in the fair value of the derivatives is recorded in the statement of operations. There are no credit contingency features in these derivatives. During the years ended December 31, 2017, 2016 and 2015, we recognized net foreign exchange gains of $17.1 million and losses of $0.9 million, and $14.9 million, respectively, in the consolidated statements of operations. The carrying amount of the contracts for asset and liability derivatives not designated as hedging instruments was $1.3 million classified in other assets and $0.1 million in other liabilities on our consolidated balance sheets.

The activity, net of tax, in accumulated other comprehensive loss related to foreign currency forward exchange contracts for the years ended December 31, 2017, 2016 and 2015 was as follows:

(In millions)	2017	2016	2015
Unrealized losses at beginning of period, net of tax	$ (25.9)	$ (15.0)	$ (9.2)
Losses reclassified to net sales	8.9	14.4	11.8
Increase (decrease) in fair value	25.6	(25.3)	(17.6)
Unrealized gains (losses) at end of period, net of taxes	$ 8.6	$ (25.9)	$ (15.0)

Unrealized gains of $3.5 million recorded in accumulated other comprehensive loss, net of tax of $1.7 million, as of December 31, 2017 are expected to be reclassified into earnings over the next twelve months as the hedged sales are recorded. The impact of credit risk adjustments was immaterial for the three years.

Note 13 — Commitments and Contingencies

We are involved in litigation, investigations and claims arising out of the normal conduct of our business, including those relating to commercial transactions, environmental, employment and health and safety matters. We estimate and accrue our liabilities resulting from such matters based on a variety of factors, including the stage of the proceeding; potential settlement value; assessments by internal and external counsel; and assessments by environmental engineers and consultants of potential environmental liabilities and remediation costs. Such estimates are not discounted to reflect the time value of money due to the uncertainty in estimating the timing of the expenditures, which may extend over several years.

While it is impossible to ascertain the ultimate legal and financial liability with respect to certain contingent liabilities and claims, we believe, based upon our examination of currently available information, our experience to date, and

advice from legal counsel, that the individual and aggregate liabilities resulting from the ultimate resolution of these contingent matters, after taking into consideration our existing insurance coverage and amounts already provided for, will not have a material adverse impact on our consolidated results of operations, financial position or cash flows.

Environmental Matters

We are subject to various U.S. and international federal, state and local environmental, and health and safety laws and regulations. We are also subject to liabilities arising under the Federal Comprehensive Environmental Response, Compensation and Liability Act ("CERCLA" or "Superfund"), the Clean Air Act, the Clean Water Act, the Resource Conservation and Recovery Act, and similar state and international laws and regulations that impose responsibility for the control, remediation and abatement of air, water and soil pollutants and the manufacturing, storage, handling and disposal of hazardous substances and waste.

We have been named as a potentially responsible party ("PRP") with respect to several hazardous waste disposal sites that we do not own or possess, which are included on, or proposed to be included on, the Superfund National Priority List of the U.S. Environmental Protection Agency ("EPA") or on equivalent lists of various state governments. Because CERCLA allows for joint and several liability in certain circumstances, we could be responsible for all remediation costs at such sites, even if we are one of many PRPs. We believe, based on the amount and nature of our waste, and the number of other financially viable PRPs, that our liability in connection with such matters will not be material.

Lower Passaic River Study Area

Hexcel and a group of approximately 51 other PRPs comprise the Lower Passaic Cooperating Parties Group (the "CPG"). Hexcel and the CPG are subject to a May 2007 Administrative Order on Consent ("AOC") to perform a Remedial Investigation/Feasibility Study ("RI/FS") of environmental conditions in the Lower Passaic River watershed. We were included in the CPG based on our operations at our former manufacturing site in Lodi, New Jersey.

In March 2016, the EPA issued a Record of Decision ("ROD") setting forth the EPA's selected remedy for the lower eight miles of the river in addition to a "no action" option. The ROD calls for capping and dredging of the lower eight miles of the Passaic River, with the placement of an engineered cap over the entire eight miles, at an expected cost ranging from $0.97 billion to $2.07 billion, according to the EPA. Because the EPA has not yet selected a remedy for the upper nine miles of the Lower Passaic River, this estimate range does not include any costs related to a future remedy for the upper portion of the river. Now that it has issued the final ROD, the EPA will seek to hold some combination of the PRPs liable to perform the work selected through the ROD. At this point, we have not yet determined our allocable share of performing the selected remedy. However, based on a review of the Company's position, and as no point within the range is a more probable outcome than any other point, the Company has determined that its accrual is sufficient at this time. The total accrued liability related to this matter was $2.0 million at December 31, 2017 and $2.1 million at December 31, 2016. Despite the issuance of the final ROD, there continue to be many uncertainties associated with the selected remedy and the Company's allocable share of the remediation. Given those uncertainties, the amounts accrued may not be indicative of the amounts for which the Company is ultimately responsible and will be refined as events in the remediation process develop.

Omega Chemical Corporation Superfund Site, Whittier, California

We are a PRP at a former chemical waste site in Whittier, California. The PRPs at Omega have established a PRP Group, the "Omega PRP Group," and are currently investigating and remediating soil and groundwater at the site pursuant to a Consent Decree with the EPA. The Omega PRP Group has attributed approximately 1.07% of the waste tonnage sent to the site to Hexcel. In addition to the Omega site specifically, the EPA is investigating the scope of regional groundwater contamination in the vicinity of the Omega site and issued a Record of Decision; the Omega PRP Group members have been noticed by the EPA as PRPs who will be required to be involved in the remediation of the regional groundwater contamination in that vicinity as well. As a member of the Omega PRP Group, Hexcel will incur costs associated with the investigation and remediation of the Omega site and the regional groundwater remedy, although our ultimate liability, if any, in connection with this matter cannot be determined at this time. The total accrued liability relating to potential liability for both the Omega site and regional groundwater remedies was $0.6 million at December 31, 2017 and December 31, 2016.

Environmental remediation reserve activity for the three years ended December 31, 2017 was as follows:

	For the year ended December 31,		
(In millions)	2017	2016	2015
Beginning remediation accrual balance	$ 3.2	$ 2.9	$ 5.0
Current period expenses	0.1	1.2	0.5
Cash expenditures	(0.5)	(0.9)	(2.6)
Ending remediation accrual balance	$ 2.8	$ 3.2	$ 2.9

Environmental Summary

Our estimate of liability as a PRP and our remaining costs associated with our responsibility to remediate the Lower Passaic River, New Jersey and other sites are accrued in the consolidated balance sheets. As of December 31, 2017 and 2016, our aggregate environmental related accruals were $2.8 million and $3.2 million, respectively. As of December 31, 2017 and 2016, $0.9 million and $1.4 million, respectively, were included in current other accrued liabilities with the remainder included in other non-current liabilities. As related to certain environmental matters, the accruals were estimated at the low end of a range of possible outcomes since no amount within the range is a better estimate than any other amount. If we had accrued, for those sites where we are able to estimate our liability, at the high end of the range of possible outcomes, our accrual would have been $16 million higher at December 31, 2017 and 2016.

These accruals can change significantly from period to period due to such factors as additional information on the nature or extent of contamination, the methods of remediation required, changes in the apportionment of costs among responsible parties and other actions by governmental agencies or private parties, or the impact, if any, of being named in a new matter.

Environmental remediation spending charged directly to our reserve balance was $0.5 million and $0.8 million for the years ended December 31, 2017 and 2016, respectively. In addition, our operating costs relating to environmental compliance charged directly to expense were $9.9 million and $10.1 million for the years ended December 31, 2017 and 2016.

Product Warranty

Warranty expense for the years ended December 31, 2017, 2016 and 2015, and accrued warranty cost, included in "other accrued liabilities" in the consolidated balance sheets were as follows:

(In millions)	Product Warranties
Balance as of December 31, 2014	$ 11.3
Warranty expense	3.5
Deductions and other	(8.7)
Balance as of December 31, 2015	$ 6.1
Warranty expense	5.1
Deductions and other	(5.7)
Balance as of December 31, 2016	$ 5.5
Warranty expense	3.0
Deductions and other	(4.9)
Balance as of December 31, 2017	$ 3.6

Note 14 — Supplemental Cash Flow

Supplemental cash flow information, for the years ended December 31, 2017, 2016 and 2015, consisted of the following:

(In millions)	2017	2016	2015
Cash paid for:			
Interest	$22.6	$23.2	$9.8
Taxes	$22.4	$31.7	$40.8

Note 15 — Accumulated Other Comprehensive Loss

Comprehensive income represents net income and other gains and losses affecting stockholders' equity that are not reflected in the consolidated statements of operations. The components of accumulated other comprehensive loss as of December 31, 2017 and 2016 were as follows:

(In millions)	Unrecognized Net Defined	Change in Fair Value of Derivatives	Foreign Currency Translation	Total
Balance at December 31, 2016	$ (14.6)	$ (18.7)	$ (141.1)	$ (174.4)
Other comprehensive income (loss) before reclassifications	(2.9)	25.0	99.8	121.9
Amounts reclassified from accumulated other comprehensive loss	(1.0)	8.5	—	7.5
Other comprehensive income (loss)	(3.9)	33.5	99.8	129.4
Balance at December 31, 2017	$ (18.5)	$ 14.8	$ (41.3)	$ (45.0)

The amounts reclassified to earnings from the unrecognized net defined benefit plan costs component of accumulated other comprehensive loss for the year ended December 31, 2017 were net gains of $1.2 million less taxes of $0.2 million primarily due to the amortization of net actuarial losses. The amounts reclassified to earnings from the change in fair value of the derivatives component of accumulated other comprehensive loss for the year ended December 31, 2017 were net gains of $11.3 million less taxes of $2.3 million related to foreign currency forward exchange contracts and $0.8 million less taxes of $0.3 million related to interest swaps. The currency translation adjustments are not currently adjusted for income taxes as they relate to indefinite investments in non-U.S. subsidiaries.

Note 16 — Segment Information

The financial results for our segments are prepared using a management approach, which is consistent with the basis and manner in which we internally segregate financial information for the purpose of assisting in making internal operating decisions. We evaluate the performance of our segments based on operating income, and generally account for intersegment sales based on arm's length prices. We report two segments, Composite Materials and Engineered Products. Corporate and certain other expenses are not allocated to the segments, except to the extent that the expense can be directly attributable to the segment. Corporate & Other is shown to reconcile to Hexcel's consolidated results.

In addition to the product line-based segmentation of our business, we also monitor sales into our principal end markets as a means to understanding demand for our products. Therefore, for each segment, we have also reported disaggregated sales by end market.

The following table presents financial information on our segments as of December 31, 2017, 2016 and 2015, and for the years then ended.

(In millions)	Composite Materials	Engineered Products	Corporate & Other	Total
Third-Party Sales				
2017	$ 1,597.1	$ 376.2	$ —	$ 1,973.3
2016	1,610.0	394.3	—	2,004.3
2015	1,458.7	402.5	—	1,861.2
Intersegment sales				
2017	$ 63.6	$ 0.4	$ (64.0)	$ —
2016	67.6	0.1	(67.7)	—
2015	70.4	8.5	(78.9)	—
Operating income (loss)				
2017	$ 359.4	$ 48.7	$ (57.5)	$ 350.6
2016	368.3	50.0	(58.2)	360.1
2015	336.2	55.8	(59.6)	332.4
Depreciation and amortization				
2017	$ 96.8	$ 7.5	$ 0.2	$ 104.5
2016	86.0	7.2	0.1	93.3
2015	70.0	6.1	0.3	76.4
Equity in earnings from affiliated companies				
2017	$ —	$ 3.3	$ —	$ 3.3
2016	—	2.5	—	2.5
2015	0.2	1.8	—	2.0
Segment assets				
2017	$ 2,415.5	$ 279.1	$ 86.3	$ 2,780.9
2016	2,127.2	220.7	52.7	2,400.6
2015	1,892.0	239.4	56.0	2,187.4
Investments in affiliated companies				
2017	$ —	$ 26.5	$ 21.2	$ 47.7
2016	—	23.1	30.0	53.1

2015	10.1	20.3	—	30.4
Accrual basis additions to property, plant and equipment				
2017	$270.3	$ 14.1	$ —	$284.4
2016	305.2	14.9	0.1	320.2
2015	276.0	13.0	—	289.0

Geographic Data

Net sales and long-lived assets, by geographic area, consisted of the following for the three years ended December 31, 2017, 2016 and 2015:

Spain	2017	2016	2015
Net sales by Geography (a):			
United States	$937.3	$957.8	$955.4
International			
France	335.7	335.2	320.6
Spain	187.0	219.7	217.8
Germany	206.0	169.5	83.2
United Kingdom	160.4	154.2	125.1
Austria	86.1	92.8	93.1
Other	60.8	75.1	66.0
Total international	1,036.0	1,046.5	905.8
Total consolidated net sales	$ 1,973.3	$ 2,004.3	$ 1,861.2
Net Sales to External Customers (b):			
United States	$806.6	$833.1	$850.1
International			
Germany	217.7	210.5	163.7
Spain	199.4	204.4	149.7
France	161.5	153.8	140.3
United Kingdom	80.1	95.5	84.2
Other	508.0	507.0	473.2
Total international	1,166.7	1,171.2	1,011.1
Total	$ 1,973.3	$ 2,004.3	$ 1,861.2
Long-lived assets (c):			
United States	$ 1,304.4	$ 1,213.8	$ 1,109.9
International			
France	402.7	217.2	112.1
United Kingdom	151.6	130.8	133.4
Spain	61.7	56.2	59.8
Other	94.6	79.8	69.3
Total international	710.6	484.0	374.6
Total consolidated long-lived assets	$ 2,015.0	$ 1,697.8	$ 1,484.5

(a) Net sales by geography based on the location in which the product sold was manufactured.
(b) Net sales to external customers based on the location to which the product sold was delivered.
(c) Long-lived assets primarily consist of property, plant and equipment, net and goodwill.

Significant Customers and Suppliers

Approximately 44%, 41% and 35% of our 2017, 2016 and 2015 net sales, respectively, were to Airbus and its subcontractors. Of the 44% of overall sales to Airbus and its subcontractors in 2017, 40 % related to Commercial Aerospace market applications and 4% related to Space & Defense market applications. Approximately 25%, 28% and 31% of our 2017, 2016 and 2015 net sales, respectively, were to Boeing and related subcontractors. Of the 25% of

overall sales to Boeing and its subcontractors in 2017, 23% related to Commercial Aerospace market applications and 2% related to Space & Defense market applications. In the Composite Materials segment approximately 16%, 17% and 21% of sales for 2017, 2016 and 2015, respectively, were to Boeing and its subcontractors. Approximately 50%, 48% and 42 % of sales for 2017, 2016 and 2015, respectively were to Airbus and its subcontractors. In the Engineered Products segment approximately 64%, 69% and 71% of sales for 2017, 2016 and 2015, respectively were to Boeing and its subcontractors.

A significant decline in business with Airbus or Boeing could materially impact our business, operating results, prospects and financial condition.

Certain key raw materials we consume are available from relatively few sources, and in many cases the cost of product qualification makes it impractical to develop multiple sources of supply. The lack of availability of these materials could under certain circumstances materially impact our consolidated results of operations.

Note 17 — Acquisitions

During 2017, we completed two acquisitions, which were accounted for as business combinations in accordance with ASC 805, Business Combinations. We acquired all of the outstanding shares of Structil SA, ("Structil"), which further enhances our technology portfolio with new adhesives prepreg and putrusion technology. We also acquired the aerospace and defense business of Oxford Performance Materials ("OPM"), bringing thermoplastic, carbon fiber reinforced 3D printed parts to our product portfolio.

In connection with the acquisitions, the Company paid $64.1 million in cash, and returned shares previously purchased approximately valued at $20.0 million. In addition, the Company recognized a $2.9 million liability for contingent consideration, which represents the present value of certain earn-out payment obligations tied to future results. These transactions combined resulted in the recognition of approximately $38 million of goodwill, and approximately $32 million of intangible assets, as well as certain assets and liabilities.

We also made an additional investment in Carbon Conversions Incorporated ("CCI"). CCI is a leader in carbon fiber recycling and repurposing.

In 2016, we acquired an interest in Oxford Performance Materials ("OPM") for $15 million. We issued an 8% convertible secured promissory note to Luminati Aerospace LLC ("Luminati"), in the amount of $10 million. Luminati is an aerospace technology company focusing on research, development, testing, and manufacturing of next generation solar-electric unmanned aerial vehicles, or UAVs. The note matures in 2023 and the principal and interest are convertible into Luminati stock. The note will convert upon Luminati achieving certain milestones or at Hexcel's discretion.

On January 5, 2016, we completed our acquisition of Formax UK Limited ("Formax") by purchasing the remaining 50% at a price of $12 million, of which $9 million was paid on closing and the remaining will be paid in installments over the next four years. We previously acquired a 50% interest in the privately-owned company in December 2014. Formax is a leading manufacturer of composite reinforcements, specializing in the production of lightweight carbon fiber multi-axials and highly engineered glass fiber, carbon fiber and aramid fiber fabrics

Located in Leicester, U.K., Formax is a leading manufacturer of composite reinforcements, specializing in the production of lightweight carbon multi-axials and highly engineered glass fiber and aramid fiber fabrics. The total purchase price, net of cash acquired and including the 50% interest acquired in December 2014, was $22 million and the assumption of long-term debt of $8.2 million.

The step acquisition was accounted for under the acquisition method of accounting with the Company treated as the acquiring entity. Accordingly, the consideration paid by the Company to complete the acquisition has been recorded

to the assets acquired and liabilities assumed based upon their estimated fair values as of the date of acquisition. The Company engaged a third party to assist with the valuation of assets including property plant and equipment and intangible assets. The fair value of the property, plant and equipment was based upon the assessed value of the land, which was determined to approximate fair value, as well as the income approach in determining the fair value of building improvements and equipment. The carrying values for current assets and liabilities were deemed to approximate their fair values due to the short-term nature of these assets and liabilities. The excess of the purchase price over the estimated fair value of the net assets acquired, including identifiable intangible assets, of $10.2 million was allocated to goodwill. The goodwill recognized is attributable to expected revenue synergies generated by the integration of our products and technologies with those of Formax, costs synergies resulting from the consolidation or elimination of certain functions, and intangible assets that do not qualify for separate recognition, such as the assembled workforce of Formax.

Note 18 — Non-operating Expense

In June 2016, the Company amended and extended our $700 million senior unsecured revolving credit facility that now matures in June 2021. As a result of this amendment, we accelerated certain unamortized costs of the credit facility being replaced incurring a pretax charge of $0.4 million.

Note 19 — Fair Value Measurements

The fair values of our financial instruments are classified into one of the following categories:

- Level 1: Quoted prices (unadjusted) in active markets that are accessible at the measurement date for identical assets or liabilities. The fair value hierarchy gives the highest priority to Level 1 inputs.
- Level 2: Observable inputs other than quoted prices in active markets, but corroborated by market data.
- Level 3: Unobservable inputs are used when little or no market data is available. The fair value hierarchy gives the lowest priority to Level 3 inputs.

In determining fair value, we utilize valuation techniques that maximize the use of observable inputs and minimize the use of unobservable inputs to the extent possible as well as consider our own and counterparty credit risk. At December 31, 2017, we had one liability which utilized level 3 inputs. At 2016, we did not have any assets or liabilities that utilize Level 3 inputs.

For derivative assets and liabilities that utilize Level 2 inputs, we prepare estimates of future cash flows of our derivatives, which are discounted to a net present value. The estimated cash flows and the discount factors used in the valuation model are based on observable inputs, and incorporate non-performance risk (the credit standing of the counterparty when the derivative is in a net asset position, and the credit standing of Hexcel when the derivative is in a net liability position). The fair value of these assets and liabilities was approximately $16.7 million and $3.3 million, and approximately $12.0 million and $34.3 million respectively at December 31, 2017 and 2016. In addition, the fair value of these derivative contracts, which are subject to a master netting arrangement under certain circumstances, is presented on a gross basis in the consolidated balance sheet.

Below is a summary of valuation techniques for all Level 2 financial assets and liabilities:

- Interest rate swap — valued using LIBOR yield curves at the reporting date. The fair value of assets and liabilities was $0.8 million and $0.4 million at December 31, 2017.
- Foreign exchange derivative assets and liabilities — valued using quoted forward foreign exchange prices at the reporting date. The fair value of assets and liabilities at December 31, 2017 was $16.0 million and $2.9 million, respectively.

Counterparties to the above contracts are highly rated financial institutions, none of which experienced any significant downgrades in 2017 that would reduce the receivable amount owed, if any, to the Company.

Liabilities classified as Level 3- during the year we recorded a liability related to our OPM acquisition for $2.9 million, which represented contingent consideration. This amount was estimated based on certain contractual stipulations which requires us to make payments to the seller in the future based upon the achievement of certain results. We used our current forecasted results of the acquired operations and discounted these future amounts using an internally derived discount rate. Future amounts payable may differ from this estimate by the difference between the actual and forecasted results. There has been no activity or changes to the initial amount recorded.

Note 20 - Quarterly Financial and Market Data (Unaudited)

Quarterly financial and market data for the years ended December 31, 2017 and 2016 were:

(In millions, except per share data)	First Quarter	Second Quarter	Third Quarter	Fourth Quarter
2017				
Net sales	$478.8	$491.3	$491.5	$ 511.7
Gross margin	134.1	139.9	135.6	142.2
Operating income	78.6	89.7	89.1	93.2
Net income	64.6	61.6	69.7	88.1
Net income per common share:				
Basic	$0.71	$0.68	$0.77	$ 0.97
Diluted	$ 0.70	$ 0.67	$0.76	$ 0.96
Market price:				
High	$55.91	$54.93	$ 58.24	$63.93
Low	$49.77	$ 49.20	$ 50.50	$57.43
2016				
Net sales	$497.7	$522.6	$500.5	$483.5
Gross margin	143.0	150.3	135.7	135.6
Operating income	83.9	100.1	89.1	87.0
Net income	56.0	66.1	68.2	59.5
Net income per common share:				
Basic	$ 0.60	$0.71	$0.74	$0.65
Diluted	$0.59	$ 0.70	$0.72	$0.64
Market price:				
High	$ 45.40	$46.26	$45.68	$54.97
Low	$38.38	$39.15	$40.82	$42.04

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Schedule II

Hexcel Corporation and Subsidiaries

Valuation and Qualifying Accounts

(In millions)	Balance at beginning of year	Charged to expense/(recovery)	Deductions and other	Balance at end of year
Year ended December 31, 2017				
Allowance for doubtful accounts	$ 0.4	$ 1.5	$ (1.6)	$ 0.3
Valuation allowance for deferred tax assets	58.9	(10.6)	6.6	54.9
Year ended December 31, 2016				
Allowance for doubtful accounts	$ 0.3	$ 0.1	$ —	$ 0.4
Valuation allowance for deferred tax assets	57.8	9.3	(8.2)	58.9
Year ended December 31, 2015				
Allowance for doubtful accounts	$ 0.4	$ —	$ (0.1)	$ 0.3
Valuation allowance for deferred tax assets	60.5	3.5	(6.2)	57.8