HUBBELL INC
Form 10-K
February 15, 2019
UNITED STATES
SECURITIES AND EXCHANGE COMMISSION
Washington, DC 20549
FORM 10-K
þ ANNUAL REPORT PURSUANT TO SECTION 13 OR 15(d) OF THE SECURITIES EXCHANGE ACT OF 1934
FOR THE FISCAL YEAR ENDED DECEMBER 31, 2018
¨ TRANSITION REPORT PURSUANT TO SECTION 13 OR 15(d) OF THE SECURITIES EXCHANGE ACT OF 1934
Commission File Number 1-2958

HUBBELL INCORPORATED
(Exact name of registrant as specified in its charter)

STATE OF CONNECTICUT	06-0397030
(State or other jurisdiction of incorporation or organization)	(I.R.S. Employer Identification No.)
40 Waterview Drive, Shelton, CT	06484
(Address of principal executive offices)	(Zip Code)

(475) 882-4000
(Registrant's telephone number, including area code)
SECURITIES REGISTERED PURSUANT TO SECTION 12(b) OF THE ACT:

Title of each Class	Name of Exchange on which Registered
Common Stock — par value $0.01 per share	New York Stock Exchange

SECURITIES REGISTERED PURSUANT TO SECTION 12(g) OF THE ACT:
NONE

Indicate by check mark	Yes	No
• if the registrant is a well-known seasoned issuer, as defined in Rule 405 of the Securities Act.	þ	¨
• if the registrant is not required to file reports pursuant to Section 13 or 15(d) of the Securities Exchange Act of 1934.	¨	þ
• if 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 report), and (2) has been subject to such filing requirements for the past 90 days.	þ	¨
• 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).	þ	¨
• 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.	þ	

• 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. (Check one):

Large accelerated filer þ	Accelerated filer ¨	Non-accelerated filer ¨ (Do not check if a smaller reporting company)	Smaller reporting company ¨

Emerging growth company ¨

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

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whether the registrant is a shell company (as defined in Rule 12b-2 of the Exchange Act). ¨ þ

The approximate aggregate market value of the voting stock held by non-affiliates of the registrant as of June 30, 2018 was $5,749,160,779*. The number of shares outstanding of Hubbell Common Stock as of February 13, 2019 is 54,601,694.

DOCUMENTS INCORPORATED BY REFERENCE

Portions of the definitive proxy statement for the annual meeting of shareholders scheduled to be held on May 7, 2019, to be filed with the Securities and Exchange Commission (the "SEC"), are incorporated by reference in answer to Part III of this Form 10-K.

*Calculated by excluding all shares held by Executive Officers and Directors of registrant without conceding that all such persons or entities are "affiliates" of registrant for purpose of the Federal Securities Laws.

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PART I

ITEM 1 Business

Hubbell Incorporated (herein referred to as “Hubbell”, the “Company”, the “registrant”, “we”, “our” or “us”, which references include its divisions and subsidiaries as the context may require) was founded as a proprietorship in 1888, and was incorporated in Connecticut in 1905. Hubbell is primarily engaged in the design, manufacture and sale of quality electrical and electronic products for a broad range of non-residential and residential construction, industrial and utility applications. Products are either sourced complete, manufactured or assembled by subsidiaries in the United States, Canada, Switzerland, Puerto Rico, Mexico, the People’s Republic of China (“China”), the United Kingdom (“UK”), Brazil, Australia, Spain and Ireland. Hubbell also participates in joint ventures in Taiwan, Hong Kong and the Philippines, and maintains offices in Singapore, Italy, China, India, Mexico, South Korea, Chile, and countries in the Middle East.

The Company’s reporting segments consist of the Electrical and the Power segments, as described below. See also Item 7. Management’s Discussion and Analysis – “Executive Overview of the Business”, and “Results of Operations” as well as Note 20 — Industry Segments and Geographic Area Information in the Notes to Consolidated Financial Statements.

The Company’s annual report on Form 10-K, quarterly reports on Form 10-Q, current reports on Form 8-K, and all amendments to those reports are made available free of charge through the Investor Relations section of the Company’s website at http://www.hubbell.com as soon as practicable after such material is electronically filed with, or furnished to, the SEC. The information contained on the Company’s website or connected to our website is not incorporated by reference into this Annual Report on Form 10-K and should not be considered part of this report.

Electrical Segment

The Electrical segment (59% of consolidated revenues in 2018 , 69% in 2017 and 70% in 2016) is comprised of businesses that sell stock and custom products including standard and special application wiring device products, rough-in electrical products, connector and grounding products, lighting fixtures and controls, components and assemblies for the natural gas distribution market, as well as other electrical equipment.

Products of the Electrical segment are typically used in and around industrial, commercial and institutional facilities by electrical contractors, maintenance personnel, electricians, utilities, and telecommunications companies. In addition, certain businesses design and manufacture a variety of high voltage test and measurement equipment, industrial controls and communication systems used in the non-residential and industrial markets. Many of these products are designed such that they can also be used in harsh and hazardous locations where a potential for fire and explosion exists due to the presence of flammable gasses and vapors. Harsh and hazardous products are primarily used in the oil and gas (onshore and offshore) and mining industries. There are also a variety of lighting fixtures, wiring devices and electrical products that have residential and utility applications, including residential products with Internet-of-Things ("IoT") enabled technologies.

These products are primarily sold through electrical and industrial distributors, home centers, retail and hardware outlets, lighting showrooms and residential product oriented internet sites. Special application products are primarily sold through wholesale distributors to contractors, industrial customers and original equipment manufacturers (“OEMs”). High voltage products are sold primarily by direct sales to customers through our sales engineers.

Hubbell maintains a sales and marketing organization to assist potential users with the application of certain products to their specific requirements, and with architects, engineers, industrial designers, OEMs and electrical contractors for the design of electrical systems to meet the specific requirements of industrial, non-residential and residential users. Hubbell is also represented by independent manufacturers' sales agents for many of its product offerings.

The Electrical segment, manufactures and sells thousands of wiring and electrical products, lighting fixtures and controls for indoor and outdoor applications as well as specialty lighting and communications products. The segment also includes businesses that manufacture main-to-meter gas distribution products. The products within the segment have applications in the non-residential, residential, industrial, and energy-related (oil and gas) markets. Fast growing trends within the industry are the adoption of light emitting diode ("LED") technology as the light source as well as products with embedded IoT technologies. The Company has a broad array of LED-luminaire products within its portfolio and the majority of new product development efforts are oriented towards expanding those offerings. In 2017, the Company expanded its research and development capabilities in new technologies through the acquisition of iDevices, a developer with expertise in IoT technologies and a platform of IoT-enabled home automation products.
Within the Electrical segment, products include items such as:

Commercial and Industrial

- Wiring devices & accessories
- Junction boxes, plugs & receptacles
- Cable reels
- Switches & dimmers
- Steel & plastic enclosures
- Datacom connectivity & enclosures
- Ground fault devices
- Pin & sleeve devices
- High voltage test systems
- Electrical motor controls

Lighting

- Canopy lights
- Parking lot/parking garage fixtures
- Decorative landscape fixtures
- Emergency lighting/exit signs
- Bollards
- Fluorescent fixtures
- Floodlights & poles
- Bath/vanity fixtures & fans
- Ceiling fans
- LED components
- Chandeliers & sconces
- Site & area lighting
- Recessed, surface mounted & track fixtures
- Athletic & recreational field fixtures
- Occupancy, dimming & daylight harvesting sensors

Construction and Energy

- Mechanical connectors
- Gas connectors and assemblies
- Specialty communications equipment
- Mechanical grounding devices
- Installation tooling
- Mining communication & controls
- Compression connectors
- Specialty lighting
- Cable glands & fittings
- Safety equipment

These products are sold under various brands and/or trademarks, including:

Commercial and Industrial

- Hubbell®
- Bell®
- Raco®
- Gleason Reel®
- ACME Electric®
- Kellems®
- TayMac®
- Hipotronics®
- Powerohm™
- EC&M Design®
- Bryant®
- Wiegmann®
- Haefely®
- iDevices®

Lighting

- Kim Lighting®
- Beacon Products™
- Spaulding Lighting™
- Kurt Versen®
- Litecontrol™
- Sportsliter Solutions™
- Columbia Lighting®
- Alera Lighting®
- Prescolite®
- Dual-Lite®
- Security Lighting™
- Progress Lighting Design®
- Hubbell® Outdoor Lighting™
- Architectural Area Lighting™

Construction and Energy

- Burndy®
- Killark®
- GAI-Tronics®
- Gas Breaker®
- R.W. Lyall™
- CMC®
- Hawke™
- Chalmit™
- Vantage Technology®
- Continental®
- Austdac™
- AEC™

Power Segment

The Power segment (41% of consolidated revenues in 2018, 31% in 2017 and 30% in 2016) consists of operations for the design, manufacture and sale of transmission and distribution components primarily for the electrical utilities industry. The water utility, telecommunications utility, civil construction and transportation industries are also served. Products are sold directly to utilities, and through distributors, as well as to contractors and construction and engineering firms. The 2018 acquisition of Meter Readings Holding Group, LLC ("Aclara Technologies" or "Aclara") expanded the Power portfolio to include endpoint metering devices and sensors, advanced metering infrastructure communications, and software and installation services sold to electrical, water, and gas utilities. While Hubbell believes its sales in this area are not materially dependent upon any customer or group of customers, a substantial decrease in purchases by electrical utilities would affect this segment.

Hubbell's Power segment manufactures and sells a wide variety of electrical distribution, transmission, substation and telecommunications products. These products and services include items such as:

• Arresters	• Bushings	• Grounding & bonding equipment
• Cutouts & fuse links	• Insulators	• Programmable reclosers
• Pole line hardware	• Cable terminations & accessories	• Sectionalizers
• Helical anchors & foundations	• Formed wire products	• Lineman tools, hoses & gloves
• Overhead, pad mounted & capacitor switches	• Splices, taps & connectors	• Polymer concrete & fiberglass enclosures and equipment pads
• Advanced metering infrastructure	• Meters and edge devices	• Meter installation services

These products are sold under the following brands and/or trademarks:

• Aclara®	• Chance®	• Anderson®	• PenCell®
• Fargo®	• Hubbell®	• Polycast®	• Opti-loop Design®
• Quazite®	• Quadri*sil®	• Trinetics®	• Reuel™
• Electro Composites™	• USCO™	• CDR™	• RFL Design®
• Hot Box®	• PCORE®	• Delmar™	• Turner Electric®
• EMC™	• Longbow™	• Ohio Brass®	• Meramec®

Information Applicable to All General Categories

International Operations

The Company has several operations located outside of the United States. These operations manufacture, assemble and/or procure and market Hubbell products and services for both the Electrical and Power segments.

See Note 20 — Industry Segments and Geographic Area Information in the Notes to Consolidated Financial Statements and Item 1A. Risk Factors relating to manufacturing in and sourcing from foreign countries.

Customers

The Company does not have any customers whose annual consolidated purchases exceed 10 percent of our total net sales in 2018, 2017 and 2016.

Raw Materials

Raw materials used in the manufacture of Hubbell products primarily include steel, aluminum, brass, copper, bronze, zinc, nickel, plastics, phenolics, elastomers and petrochemicals. Hubbell also purchases certain electrical and electronic components, including solenoids, lighting ballasts, printed circuit boards, integrated circuit chips and cord sets, from a number of suppliers. Hubbell is not materially dependent upon any one supplier for raw materials used in the manufacture of its products and equipment, and at the present time, raw materials and components essential to its operation are in adequate supply. However, some of these principal raw materials are sourced from a limited number of suppliers. See also Item 7A. Quantitative and Qualitative Disclosures about Market Risk.

Patents

Hubbell has approximately 2,250 active United States and foreign patents covering a portion of its products, which expire at various times. While Hubbell deems these patents to be of value, it does not consider its business to be dependent upon patent protection. Hubbell also licenses products under patents owned by others, as necessary, and grants licenses under certain of its patents.

Working Capital

Inventory, accounts receivable and accounts payable levels, payment terms and, where applicable, return policies are in accordance with the general practices of the electrical products industry and standard business procedures. See also Item 7. Management's Discussion and Analysis of Financial Condition and Results of Operations.

Backlog

Substantially all of the backlog existing at December 31, 2018 in the Electrical segment is expected to be shipped to customers in 2019. In the Power segment, the backlog existing at December 31, 2018 includes backlog expected to be shipped during 2019, along with $530 million of backlog of contracts that span multiple years, primarily related to long-term contracts of the Aclara business to deliver and install meters and grid monitoring sensor technology. The Backlog of orders believed to be firm at December 31, 2018 was approximately $1,250.8 million compared to $355.5 million at December 31, 2017. Although this backlog is important, the majority of Hubbell's revenues result from sales of inventoried products or products that have short periods of manufacture.

Competition

Hubbell experiences substantial competition in all categories of its business, but does not compete with the same companies in all of its product categories. The number and size of competitors vary considerably depending on the product line. Hubbell cannot specify with precision the number of competitors in each product category or their relative market position. However, some of its competitors are larger companies with substantial financial and other resources. Hubbell considers product performance, reliability, quality and technological innovation as important factors relevant to all areas of its business, and considers its reputation as a manufacturer of quality products to be an important factor in its business. In addition, product price, service levels and other factors can affect Hubbell's ability to compete.

Environment

The Company is subject to various federal, state and local government requirements relating to the protection of employee health and safety and the environment. The Company believes that, as a general matter, its policies, practices and procedures are properly designed to prevent unreasonable risk of environmental damage and personal injury to its employees and its customers' employees and that the handling, manufacture, use and disposal of hazardous or toxic substances are in accordance with environmental laws and regulations.

Like other companies engaged in similar businesses, the Company has incurred or acquired through business combinations, remedial response and voluntary cleanup costs for site contamination and is a party to product liability and other lawsuits and claims associated with environmental matters, including past production of product containing toxic substances. Additional lawsuits, claims and costs involving environmental matters are likely to continue to arise in the future. However, considering past experience and reserves, the Company does not anticipate that these matters will have a material impact on earnings, capital expenditures, financial condition or competitive position. See also Item 1A. Risk Factors and Note 15 — Commitments and Contingencies in the Notes to Consolidated Financial

Statements.

Employees

As of December 31, 2018, Hubbell had approximately 19,700 salaried and hourly employees of which approximately 10,400 of these employees, or 53%, are located in the United States. Approximately 2,600 of these U.S. employees are represented by 12 labor unions. Hubbell considers its labor relations to be satisfactory.

Executive Officers of the Registrant

Name	Age(1)	Present Position	Business Experience
David G. Nord	61	Chairman of the Board, President and Chief Executive Officer	Present position since May 2014; President and Chief Executive Officer since January 2013; President and Chief Operating Officer from June 2012 to January 2013, and Senior Vice President and Chief Financial Officer from September 2005 to June 2012. Previously, various positions, including Vice President, Controller, of United Technologies and its subsidiaries, 2000-2005.
William R. Sperry	56	Senior Vice President and Chief Financial Officer	Present position since June 6, 2012; Vice President, Corporate Strategy and Development August 15, 2008 to June 6, 2012; previously, Managing Director, Lehman Brothers August 2006 to April 2008, various positions, including Managing Director, of J.P. Morgan and its predecessor institutions, 1994-2006.
Gerben W. Bakker	54	Group President, Power Systems	Present position since February 1, 2014; previously, Division Vice President, Hubbell Power Systems, Inc. ("HPS") August 2009 - February 1, 2014; President, HPS Brazil June 2005 – July 2009; Vice President, Sourcing, HPS March 2004 – May 2005.
Joseph A. Capozzoli	44	Vice President, Controller	Present position since April 22, 2013; previously, Assistant Corporate Controller of Stanley Black & Decker, Inc. ("Stanley") April 2011 to April 2013; Global Operations Controller at Stanley 2010-2011; Director of Cost Accounting at Stanley, 2006-2010.
An-Ping Hsieh	58	Senior Vice President, General Counsel and Secretary	Present position since May 2, 2017; previously Senior Vice President, General Counsel May 2016 - May 2017, Vice President, General Counsel, September 2012 - May 2016; Vice President, Secretary and Associate General Counsel of United Technologies Corporation ("UTC") February 2008 to September 2012; Vice President and General Counsel, UTC Fire and Security 2003-2008; Deputy General Counsel, Otis Elevator Company, a United Technologies company 2001-2003.
Maria R. Lee	43	Treasurer and Vice President, Corporate Strategy and Investor Relations	Present position since January 1, 2016; previously Vice President, Corporate Strategy and Investor Relations, March 2015-December 2015; Director, Investor Relations of United Technologies Corporation ("UTC") 2011-2012; various positions, including Director, Financial Planning & Analysis, North and South America Area, Otis Elevator Company, at UTC, 2006-2011; various positions at Duff & Phelps, Affiliated Managers Group, Inc., and Booz Allen Hamilton, 1997-2006.
Stephen M. Mais	54	Senior Vice President, Human Resources	Present position since May 3, 2016; previously Vice President, Human Resources, August 2005 - May 2016; Director, Staffing and Capability, Pepsi Bottling Group ("Pepsi") 2001-2005; Director, Human Resources Southeastern U.S., Pepsi 1997-2001.
Kevin A. Poyck	49	Group President, Lighting	Present position since June 1, 2015; previously, Vice President, General Manager, Commercial and Industrial Lighting, Hubbell Lighting, Inc. ("HLI") 2014 - 2015; Vice President, Brand Management, Commercial and Industrial, HLI 2012-2014; Vice President, Operations, HLI 2009 - 2012; Vice President, Engineering, HLI 2005-2009.
Rodd R. Ruland	61	Group President, Construction and Energy	Present position since June 1, 2015; previously, President, BURNDY LLC, Hubbell Canada (HCLP) & Hubbell de Mexico (HdM) 2012-2015; President, BURNDY LLC 2009-2012; Corporate Vice President & General Manager, Electrical Power Interconnect Division, FCI (BURNDY) 2003-2009, Director, Business Development 2001-2003; various positions in Sales & Marketing, Business Development, and General Management and TycoElectronics/AMP Incorporated 1979-2000.

Darrin S. Wegman	51	Group President, Commercial and Industrial	Present position since June 1, 2015; previously, Vice President, General Manager, Wiring Device and Industrial Electrical business, 2013-2015; Vice President, Controller, Hubbell Incorporated, 2008-2013; Vice President and Controller, Hubbell Industrial Technology, 2002-2008; Controller, GAI-Tronics Corporation, 2000-2002.

(1) As of February 15, 2019.

There are no family relationships among any of the above-named executive officers and directors. For information related to our Board of Directors, refer to Item 10. Directors, Executive Officers and Corporate Governance.

ITEM 1A Risk Factors

Our business, operating results, financial condition, and cash flows may be impacted by a number of factors including, but not limited to those set forth below. Any one of these factors could cause our actual results to vary materially from recent results or future anticipated results. See also Item 7. Management’s Discussion and Analysis — “Executive Overview of the Business”, “Outlook”, and “Results of Operations”.

Global economic uncertainty could adversely affect us.

During periods of prolonged slow growth, or a downturn in conditions in the worldwide or domestic economies, we could experience reduced orders, payment delays, supply chain disruptions or other factors caused by economic challenges faced by our customers, prospective customers and suppliers. Depending upon their severity and duration, these conditions could have an adverse impact on our results of operations, financial condition and cash flows.

We operate in markets that are subject to competitive pressures that could affect selling prices or demand for our products.

We compete on the basis of product performance, quality, service and/or price. Competitors' behavior related to these areas could potentially have significant impacts on our financial results. Our competitive strategy is to design and manufacture high quality products at the lowest possible cost. Our strategy is to also increase selling prices to offset rising costs of raw materials and components. Competitive pricing pressures may not allow us to offset some or all of our increased costs through pricing actions. Alternatively, if raw material and component costs decline, the Company may not be able to maintain current pricing levels. Competition could also affect future selling prices or demand for our products which could have an adverse impact on our results of operations, financial condition and cash flows.

Our inability to effectively develop and introduce new products could adversely affect our ability to compete.

New product introductions and enhancement of existing products and services are key to the Company’s competitive strategy. The success of new product introductions is dependent on a number of factors, including, but not limited to, timely and successful development of new products, including software development, market acceptance of these products and the Company’s ability to manage the risks associated with these introductions. These risks include development and production capabilities, management of inventory levels to support anticipated demand, the risk that new products may have quality defects in the early stages of introduction, and obsolescence risk of existing products. The Company cannot predict with certainty the ultimate impact new product introductions could have on our results of operations, financial condition or cash flows.

We may not be able to successfully implement initiatives, including our restructuring activities that improve productivity and streamline operations to control or reduce costs.

Achieving our long-term profitability goals depends significantly on our ability to control or reduce our operating costs. Because many of our costs are affected by factors outside, or substantially outside, our control, we generally must seek to control or reduce costs through productivity initiatives. If we are not able to identify and implement initiatives that control or reduce costs and increase operating efficiency, or if the cost savings initiatives we have implemented to date do not generate expected cost savings, our financial results could be adversely impacted. Our efforts to control or reduce costs may include restructuring activities involving workforce reductions, facility consolidations and other cost reduction initiatives. If we do not successfully manage our current restructuring activities, or any other restructuring activities that we may undertake in the future, expected efficiencies and benefits may be delayed or not realized, and our operations and business could be disrupted.

We engage in acquisitions and strategic investments and may encounter difficulty in obtaining appropriate acquisitions and in integrating these businesses.

Part of the Company's growth strategy involves acquisitions. We have pursued and will continue to seek acquisitions and other strategic investments to complement and expand our existing businesses. The rate and extent to which acquisitions become available may impact our growth rate. The success of these transactions will depend on our ability to integrate these businesses into our operations and realize the planned synergies. We may encounter difficulties in integrating acquisitions into our operations and in managing strategic investments and foreign acquisitions and joint ventures may also present additional risk related to the integration of operations across different cultures and languages. Failure to effectively complete or manage acquisitions may adversely affect our existing businesses as well as our results of operations, financial condition and cash flows.

We may fail to realize all of the anticipated benefits of the Aclara Acquisition or those benefits may take longer to realize than expected.

The full benefits of the Aclara Acquisition, including the anticipated sales or growth opportunities, may not be realized as expected or may not be achieved within the anticipated time frame, or at all. Failure to achieve the anticipated benefits of the Aclara Acquisition could adversely affect our results of operations or cash flows and decrease or delay the expected accretive effect of the Aclara Acquisition.

We have outstanding indebtedness; our indebtedness has increased as a result of the Aclara Acquisition, and will further increase if we incur additional indebtedness in the future and do not retire existing indebtedness.

We have outstanding indebtedness and other financial obligations and significant unused borrowing capacity. The amount of cash required to pay interest on our indebtedness following completion of the Aclara Acquisition, and thus the demands on our cash resources, is greater than the amount of cash required to service our indebtedness prior to the Aclara Acquisition. Our increased indebtedness level and related debt service obligations could have negative consequences, including (i) requiring us to dedicate significant cash flow from operations to the payment of principal and interest on our indebtedness, which would reduce the funds we have available for other purposes, (ii) reducing our flexibility in planning for or reacting to changes in our business and market conditions and (iii) exposing us to interest rate risk since a portion of our debt obligations are at variable rates.

We may incur significantly more indebtedness in the future. If we add new indebtedness and do not retire existing indebtedness, the risks described above could increase.

We manufacture and source products and materials from various countries throughout the world. A disruption in the availability, price or quality of these products or materials could impact our operating results.

Our business is subject to risks associated with global manufacturing and sourcing. We use a variety of raw materials in the production of our products including steel, aluminum, brass, copper, bronze, zinc, nickel, plastics, phenolics, elastomers and petrochemicals. We also purchase certain electrical and electronic components, including solenoids, lighting ballasts, printed circuit boards, integrated circuit chips and cord sets from a number of suppliers. Significant shortages in the availability of these materials or significant price increases could increase our operating costs and adversely impact the competitive positions of our products, which could adversely impact our results of operations.

We rely on materials, components and finished goods that are sourced from or manufactured in foreign countries including Mexico, China, and other international countries. Political instability in any country where we do business could have an adverse impact on our results of operations.

We rely on our suppliers to produce high quality materials, components and finished goods according to our specifications. Although we have quality control procedures in place, there is a risk that products may not meet our specifications which could impact our ability to ship quality products to our customers on a timely basis, which could adversely impact our results of operations.

We are subject to risks surrounding our information technology systems failures, network disruptions, breaches in data security and compliance with data privacy laws or regulations.

We are highly dependent on various software and information technology systems to record and process operational, human resources and financial transactions. The proper functioning of Hubbell’s information technology systems is critical to the successful operation of our business. Although our information technology systems are protected with robust backup and security systems, these systems are still susceptible to cyber threats, malware, phishing attacks, break-ins and similar events, breaches of physical security or tampering and manipulation of these systems by employees or unauthorized third parties. Information security risks also exist with respect to the use of portable electronic devices, such as smartphones and laptops, which are particularly vulnerable to loss and theft. Hubbell may also be subject to disruptions of any of our systems and our vendor's systems arising from events that are wholly or partially beyond our control, such as natural disasters, acts of terrorism, cyber-attacks, computer viruses, and electrical/telecommunications outages or failures. All of these risks are also applicable where Hubbell relies on outside vendors to provide services, which may operate in an on-line, or “cloud,” environment. A failure of our information technology systems could adversely affect our ability to process orders, maintain proper levels of inventory, collect accounts receivable and pay expenses; all of which could have an adverse effect on our results of operations, financial condition and cash flows. In addition, security breaches could result in unauthorized disclosure of confidential information that may result in financial or reputational damage to the Company, as well as expose the Company to litigation and regulatory enforcement actions.

Hubbell also provides customers with solutions that include software components that allow for the control and/or the communication of data from those solutions to Hubbell or customer systems. In addition to the risks noted above, there are other risks associated with these solutions. For example, control and/or data from these solutions may be integral to a customer's operations. A failure of our technology to operate as designed or as a result of cyber threats could impact those operations, including by loss or destruction of data. Likewise, a customer’s failure to properly configure its own network are outside of the Company’s control and could result in a failure in functionality or security of our technology.

Hubbell is also subject to an increasing number of evolving data privacy and security laws and regulations that impose requirements on the Company and our technology prior to certain use or transfer, storing, processing, disclosure, and protection of data and prior to sale or use of certain technologies. Failure to comply with such laws and regulations could result in the imposition of fines, penalties and other costs. For example, the European Union’s implementation of the General Data Protection Regulation in 2018, the European Union’s pending ePrivacy Regulation, and California’s implementation of its Consumer Privacy Act of 2018 and Connected Device Privacy Act of 2018 all could disrupt our ability to sell products and solutions or use and transfer data because such activities may not be in compliance with applicable law in certain jurisdictions.

We have continued to work on improving our utilization of our enterprise resource planning system, expanding standardization of business processes and performing implementations at our remaining businesses. We expect to incur additional costs related to future implementations, process reengineering efforts as well as enhancements and upgrades to the system. These system modifications and implementations could result in operating inefficiencies which could adversely impact our operating results and/or our ability to perform necessary business transactions.

System failures, ineffective system implementation or disruptions, failure to comply with data privacy and security laws or regulations, IT system risk arising from the Company's acquisition activity or the compromise of security with respect to internal or external systems or portable electronic devices could damage the Company’s systems or infrastructure, subject us to liability claims, or regulatory fines, penalties, or intervention, harm our reputation, interrupt our operations, disrupt customer operations, and adversely affect the Company’s internal control over financial reporting, business, financial condition, results of operations, or cash flows.

Future tax law changes could increase our prospective tax expense. In addition, tax payments may ultimately differ from amounts currently recorded by the Company.

We are subject to income taxes as well as non-income based taxes, in both the United States and numerous foreign jurisdictions. The determination of the Company's worldwide provision for income taxes and other tax liabilities requires judgment and is based on diverse legislative and regulatory structures that exist in the various jurisdictions where the company operates. Although management believes its estimates are reasonable, the ultimate tax outcome may differ from the amounts recorded in its financial statements and may adversely affect the Company's financial results for the period when such determination is made. We are subject to ongoing tax audits in various jurisdictions. Tax authorities may disagree with certain positions we have taken and assess additional taxes. We regularly assess the likely outcomes of these audits in order to determine the appropriateness of our tax provisions. However, there can be no assurance that we will accurately predict the outcomes of these audits, and the future outcomes of these audits could adversely affect our results of operations, financial condition and cash flows.

U.S. tax legislation may materially adversely affect our financial condition, results of operations and cash flows.

On December 22, 2017 Public Law 115-97 “An Act to Provide Reconciliation Pursuant to Titles II and V of the Concurrent Resolution on the Budget for Fiscal Year 2018” was enacted. This law is commonly referred to as the Tax Cuts and Job Act of 2017 ("TCJA"). The TCJA significantly changed the U.S. Internal Revenue Code, including taxation of U.S. corporations, by, among other things, reducing the U.S. federal corporate income tax rate, limiting the availability of previously claimed deductions, taxing certain activities and transactions not previously subject to U.S. tax and imposing a mandatory deemed repatriation tax on certain undistributed earnings and profits of U.S.-owned foreign corporations. Throughout 2018, the U.S. Treasury and the Internal Revenue Service (“IRS”) issued numerous and complex proposed and final regulations, and related guidance on various aspects of the TCJA. However, many of the provisions of TCJA remain unclear and subject to interpretation. The legislation also remains subject to potential amendments and technical corrections, any of which could lessen or increase certain impacts of the legislation. Further, state taxing authorities continue to enact legislation and issue guidance on the state impacts of TCJA. See Note 13 — Income Taxes in the Notes to Consolidated Financial Statements for additional information.

Notwithstanding the reduction in the corporate income tax rate, the overall impact of the legislation remains uncertain and our business and financial condition could be adversely affected.

Significant developments from the recent and potential changes in U.S. trade policies could have a material adverse effect on us.

The U.S. government has announced and, in some cases, implemented a new approach to trade policy, including renegotiating, or potentially terminating, certain existing bilateral or multi-lateral trade agreements, such as the North American Free Trade Agreement ("NAFTA") or its anticipated successor agreement, the U.S.-Mexico-Canada Agreement, which is still subject to approval by the United States, Mexico and Canada, and proposed trade agreements, like the Trans-Pacific Partnership ("TPP"), which the United States has formally withdrawn from, as well as implementing the imposition of additional tariffs on certain foreign goods, including finished products and raw materials such as steel and aluminum. Changes in the U.S. trade policy, U.S. social, political, regulatory and economic conditions or in laws and policies governing foreign trade, manufacturing, development and investment in the territories and countries where we currently manufacture and sell products, and any resulting negative sentiments towards the United States as a result of such changes, could have an adverse effect on our business.

We rely on materials, components and finished goods, such as steel and aluminum, that are sourced from or manufactured in foreign countries, including China and Mexico. These tariffs and potential tariffs have resulted or may result in increased prices for these imported goods and materials and, in some cases, may result or have resulted in price increases for domestically sourced goods and materials. Changes in U.S. trade policy have resulted and could result in additional reactions from U.S. trading partners, including adopting responsive trade policies making it more difficult or costly for us to export our products or import goods and materials from those countries. These measures could also result in increased costs for goods imported into the U.S. or may cause us to adjust our worldwide supply chain. Either of these could require us to increase prices to our customers which may reduce demand, or, if we are unable to increase prices, result in lowering our margin on products sold.

Various countries, and regions, including, without limitation, China, Mexico, Canada and Europe, have announced plans or intentions to impose or have imposed tariffs on a wide range of U.S. products in retaliation for new U.S. tariffs. These actions could, in turn, result in additional tariffs being adopted by the U.S. These conditions and future actions could have a significant adverse effect on world trade and the world economy. To the extent that trade tariffs and other restrictions imposed by the United States increase the price of, or limit the amount of, raw materials and finished goods imported into the United States, the costs of our raw materials may be adversely affected and the demand from our customers for products and services may be diminished, which could adversely affect our revenues and profitability.

We cannot predict future trade policy or the terms of any renegotiated trade agreements and their impacts on our business. The adoption and expansion of trade restrictions, the occurrence of a trade war, or other governmental action related to tariffs or trade agreements or policies has the potential to adversely impact demand for our products, our costs, our customers, our suppliers, and the U.S. economy, which in turn could adversely impact our business, financial condition and results of operations.

Our success depends on attracting and retaining qualified personnel.

Our ability to sustain and grow our business requires us to hire, retain and develop a highly skilled and diverse management team and workforce. Failure to ensure that we have the depth and breadth of personnel with the necessary skill set and experience, or the loss of key employees, could impede our ability to deliver our growth objectives and execute our strategy.

The uncertainty surrounding the implementation and effect of Brexit and related negative developments in the European Union could adversely affect our business, financial condition and results of operations.

In 2016, the United Kingdom voted to leave the European Union (“EU”) (commonly referred to as “Brexit”). As a result of the referendum, a complex and uncertain process of negotiation is now taking place to determine the future terms of the UK’s relationship with the EU, with the UK currently due to exit the EU on March 29, 2019. We conduct business in both the UK and EU and shipments from our UK subsidiaries represented 3% and 2% of our total net sales in 2018 and 2017, respectively.

The long-term nature of the UK’s relationship with the EU is unclear and there is considerable uncertainty when, or if, any withdrawal agreement or long-term relationship strategy, including trade deals, will be agreed to and implemented by the UK and the EU. Brexit could adversely affect European or worldwide political, regulatory, economic or market conditions and could contribute to instability in political institutions and regulatory agencies. Brexit could also have the effect of disrupting the free movement of goods, services, and people between the UK, the EU and elsewhere. There can be no assurance that any or all of these events, or others that we cannot anticipate at this time, will not have a material adverse effect on our business, financial condition and results of operations.

Deterioration in the credit quality of our customers could have a material adverse effect on our operating results and financial condition.

We have an extensive customer base of distributors, wholesalers, electric utilities, OEMs, electrical contractors, telecommunications companies and retail and hardware outlets. We are not dependent on a single customer, however, our top ten customers account for approximately 38% of our net sales. Deterioration in the credit quality of several major customers could adversely affect our results of operations, financial condition and cash flows.

Inability to access capital markets or failure to maintain our credit ratings may adversely affect our business.

Our ability to invest in our business and make strategic acquisitions may require access to the capital markets. If general economic and capital market conditions deteriorate significantly, it could impact our ability to access capital. Failure to maintain our credit ratings could also impact our ability to access credit markets and could adversely impact our cost of borrowing. While we have not encountered significant financing difficulties recently, the capital and credit markets have experienced significant volatility in recent years. Market conditions could make it more difficult for us to access capital to finance our investments and acquisitions. This could adversely affect our results of operations, financial condition and cash flows.

If the underlying investments of our defined benefit plans do not perform as expected, we may have to make additional contributions to these plans.

We sponsor certain pension and other postretirement defined benefit plans. The performance of the financial markets and interest rates impact these plan expenses and funding obligations. Significant changes in market interest rates, investment losses on plan assets and reductions in discount rates may increase our funding obligations and could adversely impact our results of operations, cash flows, and financial condition. Furthermore, there can be no assurance that the value of the defined benefit plan assets will be sufficient to meet future funding requirements.

Volatility in currency exchange rates may adversely affect our financial condition, results of operations and cash flows.

Our international operations accounted for approximately 10% of our net sales in 2018. We are exposed to the effects (both positive and negative) that fluctuating exchange rates have on translating the financial statements of our international operations, most of which are denominated in local currencies, into the U.S. dollar. Fluctuations in exchange rates may affect product demand and reported profits in our international operations. In addition, currency fluctuations may affect the prices we pay suppliers for materials used in our products. As a result, fluctuating exchange rates may adversely impact our results of operations and cash flows.

Our reputation and our ability to conduct business may be impaired by improper conduct by any of our employees, agents or business partners.

We cannot provide absolute assurance that our internal controls and compliance systems will always protect us from acts committed by our employees, agents or business partners that would violate U.S. and/or non-U.S. laws, including the laws governing payments to government officials, bribery, fraud, anti-kickback and false claims rules, competition, export and import compliance, money laundering and data privacy. In particular, the U.S. Foreign Corrupt Practices Act, the U.K. Bribery Act, and similar anti-bribery laws in other jurisdictions generally prohibit companies and their intermediaries from making improper payments to government officials for the purpose of obtaining or retaining business, and we operate in parts of the world that have experienced governmental corruption to some degree. Despite meaningful measures that we undertake to facilitate lawful conduct, which include training and internal control policies, these measures may not always prevent reckless or criminal acts by our employees or agents. Any such improper actions could damage our reputation and subject us to civil or criminal investigation in the United States and in other jurisdictions, could lead to substantial civil and criminal, monetary and non-monetary penalties and could cause us to incur significant legal and investigative fees.

We could incur significant and/or unexpected costs in our efforts to successfully avoid, manage, defend and litigate intellectual property matters.

The Company relies on certain patents, trademarks, copyrights, trade secrets and other intellectual property of which the Company cannot be certain that others have not and will not infringe upon. Although management believes that the loss or expiration of any single intellectual property right would not have a material impact on its operating results, intellectual property litigation could be costly and time consuming and the Company could incur significant legal expenses pursuing these claims against others.

From time to time, we receive notices from third parties alleging intellectual property infringement. Any dispute or litigation involving intellectual property could be costly and time-consuming due to the complexity and the uncertainty of intellectual property litigation. Our intellectual property portfolio may not be useful in asserting a counterclaim, or negotiating a license, in response to a claim of infringement or misappropriation. In addition, as a result of such claims, the Company may lose its rights to utilize critical technology or may be required to pay substantial damages or license fees with respect to the infringed rights or be required to redesign our products at a substantial cost, any of which could negatively impact our operating results. Even if we successfully defend against claims of infringement, we may incur significant costs that could adversely affect our results of operations, financial condition and cash flow. See Item 3 “Legal Proceedings” for a discussion of our legal proceedings.

We may be required to recognize impairment charges for our goodwill and other intangible assets.

As of December 31, 2018, the net carrying value of our goodwill and other intangible assets totaled approximately $2.6 billion. As required by generally accepted accounting principles, we periodically assess these assets to determine if they are impaired. Impairment of intangible assets may be triggered by developments both within and outside the Company’s control. Deteriorating economic conditions, technological changes, disruptions to our business, inability to effectively integrate acquired businesses, unexpected significant changes or planned changes in use of the assets, intensified competition, divestitures, market capitalization declines and other factors may impair our goodwill and other intangible assets. Any charges relating to such impairments could adversely affect our results of operations in the periods an impairment is recognized.

We are subject to litigation and environmental regulations that may adversely impact our operating results.

We are a party to a number of legal proceedings and claims, including those involving product liability, intellectual property and environmental matters, which could be significant. It is not possible to predict with certainty the outcome of every claim and lawsuit. In the future, we could incur judgments or enter into settlements of lawsuits and claims that could have a materially adverse effect on our results of operations, cash flows, and financial condition. In addition, while we maintain insurance coverage with respect to certain claims, such insurance may not provide adequate coverage against such claims. We establish reserves based on our assessment of contingencies, including contingencies related to legal claims asserted against us. Subsequent developments in legal proceedings may affect our assessment and estimates of the loss contingency recorded as a reserve and require us to make additional payments, which could have a materially adverse effect on our results of operations, financial condition and cash flow.

We are also subject to various laws and regulations relating to environmental protection and the discharge of materials into the environment, and we could incur substantial costs as a result of the noncompliance with or liability for clean up or other costs or damages under environmental laws. In addition, we could be affected by future laws or regulations, including those imposed in response to climate change concerns. Compliance with any future laws and regulations could result in a materially adverse effect on our business and financial results. See Item 3 “Legal Proceedings” for a discussion of our legal proceedings.

Regulations related to conflict-free minerals may cause us to incur additional expenses and may create challenges with our customers.

The Dodd-Frank Wall Street Reform and Consumer Protection Act contains provisions to improve transparency and accountability regarding the use of “conflict” minerals mined from the Democratic Republic of Congo and adjoining countries (“DRC”). The SEC has established annual disclosure and reporting requirements for those companies who use “conflict” minerals sourced from the DRC in their products. These new requirements could limit the pool of suppliers who can provide conflict-free minerals and as a result, we cannot ensure that we will be able to obtain these conflict-free minerals at competitive prices. Compliance with these new requirements may also increase our costs. In addition, we may face challenges with our customers if we are unable to sufficiently verify the origins of the minerals used in our products.

We face the potential harms of natural disasters, terrorism, acts of war, international conflicts or other disruptions to our operations.

Natural disasters, acts or threats of war or terrorism, international conflicts, and the actions taken by the United States and other governments in response to such events could cause damage to or disrupt our business operations, our suppliers or our customers, and could create political or economic instability, any of which could have an adverse effect on our business. Although it is not possible to predict such events or their consequences, these events could decrease demand for our products, make it difficult or impossible for us to deliver products, or disrupt our supply chain.

Uncertainty about the future of the London Interbank Offer Rate ("LIBOR") may adversely affect our business and financial results.

Our 2018 Credit Facility and Term Loan Agreement use LIBOR as a reference rate, such that the interest due pursuant to such loans may be calculated using LIBOR plus an applicable margin (determined by reference to a ratings based grid) or the alternate base rate. In July 2017, the UK's Financial Conduct Authority, which regulates LIBOR, announced its intent to phase out LIBOR by the end of 2021. It is not possible to predict the effect of this announcement, including whether LIBOR will continue in place, and if so what changes will be made to it, what alternative reference rates may replace LIBOR in use going forward, and how LIBOR will be determined for purposes of loans, securities and derivative instruments currently referencing it if it ceases to exist. If the method for calculation of LIBOR changes, if LIBOR is no longer available or if lenders have increased costs due to changes in LIBOR, we may suffer from potential increases in interest rates on our floating debt rate. Further, we may need to renegotiate our 2018 Credit Facility or Term Loan Agreement to replace LIBOR with the new standard that is established. These uncertainties or their resolution also could negatively impact our funding costs, loan and other asset values, asset-liability management strategies, and other aspects of our business and financial results.

ITEM 1B Unresolved Staff Comments

None.

ITEM 2 Properties

As of December 31, 2018, Hubbell’s global headquarters are located in leased office space in Shelton, Connecticut. Other principal administrative offices are in Columbia, South Carolina, Greenville, South Carolina and Manchester, New Hampshire. Hubbell's manufacturing and warehousing facilities, classified by reporting segment, are located in the following countries. The Company believes its manufacturing and warehousing facilities are adequate to carry on its business activities.

		Number of Facilities		Total Approximate Floor Area in Square Feet	
Segment	Location	Warehouses	Manufacturing	Owned	Leased
Electrical segment	United States	9	24	2,688,400	1,856,900
	Australia	—	2	—	31,700
	Canada	1	2	178,700	3,000
	Mexico	1	4	828,600	174,100
	China	—	2	—	287,900
	Puerto Rico	—	1	162,400	—
	Singapore	1	—	—	8,700
	Switzerland	—	1	95,000	—
	United Kingdom	2	3	133,500	57,500
Power segment [1]	United States	4	13	3,328,300	202,600
	Brazil	—	1	188,100	24,000
	Canada	—	1	30,000	—
	Mexico	1	1	167,500	181,100
	China	—	3	—	262,600
TOTAL		19	58	7,800,500	3,090,100

[1] The Power segment shares an owned manufacturing building in Mexico with the Electrical segment. The building is included in the Electrical segment facility count.

ITEM 3 Legal Proceedings

The Company is subject to various legal proceedings arising in the normal course of its business. These proceedings include claims for damages arising out of use of the Company's products, intellectual property, workers' compensation and environmental matters. The Company is self-insured up to specified limits for certain types of claims, including product liability and workers' compensation, and is fully self-insured for certain other types of claims, including environmental and intellectual property matters. The Company recognizes a liability for any contingency that in management's judgment is probable of occurrence and can be reasonably estimated. We continually reassess the likelihood of adverse judgments and outcomes in these matters, as well as estimated ranges of possible losses based upon an analysis of each matter which includes consideration of outside legal counsel and, if applicable, other experts. Information required by this item is incorporated herein by reference to the section captioned "Notes to Consolidated Financial Statements, Note 15 — Commitments and Contingencies" of this Form 10-K.

ITEM 4 Mine Safety Disclosures

Not applicable.

PART II

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

The information required by Item 5 with respect to securities authorized for issuance under equity compensation plans is incorporated herein by reference to Part III, Item 12 of this Form 10-K.

The Company's Common Stock trades on the New York Stock Exchange under the symbol, "HUBB".

The number of common shareholders of record on December 31, 2018 was 1,722.

Our dividends are declared at the discretion of our Board of Directors. In October 2018, the Company’s Board of Directors approved an increase in the common stock dividend rate from $0.77 to $0.84 per share per quarter. The increased quarterly dividend payment commenced with the December 14, 2018 payment made to the shareholders of record on November 30, 2018.

Purchases of Equity Securities

On October 20, 2017, the Board of Directors approved a stock repurchase program (the “October 2017 program”) that authorized the repurchase of up to $400 million of Common Stock and expires on October 20, 2020. In the twelve months ended December 31, 2018, the Company repurchased shares for an aggregate purchase price of approximately $40.0 million. As a result, our remaining share repurchase authorization under the October 2017 program is $360.0 million. Subject to numerous factors, including market conditions and alternative uses of cash, we may conduct discretionary repurchases through open market or privately negotiated transactions, which may include repurchases under plans complying with Rules 10b5-1 and 10b-18 under the Securities Exchange Act of 1934, as amended.

The following table summarizes the Company's repurchase activity of Common Stock during the quarter ended December 31, 2018:

Period	Total Number of Shares of Common Stock Purchased (000’s)	Average Price Paid per share of Common Stock Share	Approximate Value of Shares that May Yet Be Purchased Under the Programs (in millions)
BALANCE AS OF SEPTEMBER 30, 2018			$ 380.0
October 2018	110	$ 100.36	$ 369.0
November 2018	36	$ 108.51	$ 365.1
December 2018	48	$ 104.60	$ 360.0
TOTAL FOR THE QUARTER ENDED DECEMBER 31, 2018	194	$ 102.93	

Corporate Performance Graph

The following graph compares the total return to shareholders on the Company's common stock during the five years ended December 31, 2018, with a cumulative total return on the (i) Standard & Poor's MidCap 400 ("S&P MidCap 400") and (ii) the Dow Jones U.S. Electrical Components & Equipment Index ("DJUSEC"). The Company is a member of the S&P MidCap 400. As of December 31, 2018, the DJUSEC reflects a group of fourteen company stocks in the electrical components and equipment market segment, and serves as the Company's peer group for purposes of this graph. The comparison assumes $100 was invested on December 31, 2013 in the Company's Common Stock and in each of the foregoing indices and assumes reinvestment of dividends.

COMPARISON OF 5 YEAR CUMULATIVE TOTAL RETURN*
Among Hubbell Incorporated, the S&P Midcap 400 Index, and the Dow Jones US Electrical Components & Equipment Index

In 2015, the Company completed the reclassification of its dual class of common stock into a single class of Common Stock. The Hubbell Incorporated line above uses the weighted average of Hubbell Class A and Class B shares for the annual period from December 2013 through December 2014.
*$100 invested on 12/31/13 in stock or index, including reinvestment of dividends. Fiscal year ending December 31.

ITEM 6 Selected Financial Data

The following summary should be read in conjunction with the consolidated financial statements and notes contained herein (dollars and shares in millions, except per share amounts).

OPERATIONS, years ended December 31,	2018	2017	2016	2015	2014
Net sales	$4,481.7	$3,668.8	$3,505.2	$3,390.4	$3,359.4
Gross profit	$1,300.4	$1,155.1	$1,105.1	$1,091.6	$1,108.2
Operating income [4]	$556.9	$518.8	$489.8	$474.1	$515.0
Adjusted operating income [1]	$607.2	$525.5	$489.8	$474.1	$515.0
Operating income as a % of sales	12.4 %	14.1 %	14.0 %	14.0 %	15.3 %
Adjusted operating income as a % of sales [1]	13.5 %	14.3 %	14.0 %	14.0 %	15.3 %
Net income attributable to Hubbell [2]	$360.2	$243.1	$293.0	$277.3	$325.3
Adjusted net income attributable to Hubbell [1]	$401.7	$311.9	$293.0	$294.8	$325.3
Net income attributable to Hubbell as a % of net sales	8.0 %	6.6 %	8.4 %	8.2 %	9.7 %
Adjusted net income attributable to Hubbell as a % of net sales [1]	9.0 %	8.5 %	8.4 %	8.7 %	9.7 %
Net income attributable to Hubbell as a % of Hubbell shareholders' average equity	21.1 %	15.1 %	17.6 %	15.1 %	17.0 %
Earnings per share — diluted	$6.54	$4.39	$5.24	$4.77	$5.48
Adjusted earnings per share — diluted [1]	$7.29	$5.64	$5.24	$5.07	$5.48
Cash dividends declared per common share	$3.15	$2.87	$2.59	$2.31	$2.06
Average number of common shares outstanding — diluted	54.9	55.1	55.7	58.0	59.2
Cost of acquisitions, net of cash acquired	$1,118.0	$184.1	$173.4	$163.4	$183.8
FINANCIAL POSITION, AT YEAR-END					
Working capital [3]	$804.4	$898.0	$961.7	$784.7	$1,130.3
Total assets	$4,872.1	$3,720.6	$3,525.0	$3,208.7	$3,320.1
Total debt	$1,793.2	$1,055.2	$993.7	$644.1	$596.3
Total Hubbell shareholders' equity	$1,780.6	$1,634.2	$1,592.8	$1,740.6	$1,927.1
NUMBER OF EMPLOYEES, AT YEAR-END	19,700	17,700	17,400	16,200	15,400

(1) The selected non-GAAP measures of adjusted operating income, adjusted operating income as a percent of sales (adjusted operating margin), adjusted net income attributable to Hubbell, adjusted net income attributable to Hubbell as a percent of net sales, and adjusted earnings per share-diluted should be read in conjunction with Item 7, "Management's Discussion and Analysis of Financial Condition and Results of Operations".

(2) Net income in 2017 includes approximately $57 million, or $1.02 per share, impact associated with the TCJA.

(3) Defined as current assets less current liabilities.

(4) Historical amounts have been adjusted to reflect the retrospective effects from the January 1, 2018 adoption of Accounting Standards Update (ASU) No. 2017-07, Compensation Retirement Benefits (Topic): Improving the Presentation of Net Periodic Pension Cost and Net Periodic Postretirement Benefit Cost.

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

Executive Overview of the Business

The Company is primarily engaged in the design, manufacture and sale of quality electrical and electronic products for a broad range of non-residential and residential construction, industrial and utility applications. Products are either sourced complete, manufactured or assembled by subsidiaries in the United States, Canada, Switzerland, Puerto Rico, China, Mexico, the UK, Brazil, Australia, Spain and Ireland. The Company also participates in joint ventures in Taiwan, Hong Kong and the Philippines, and maintains offices in Singapore, Italy, China, India, Mexico, South Korea, Chile, and countries in the Middle East. The Company employed approximately 19,700 individuals worldwide as of December 31, 2018.

The Company’s reporting segments consist of the Electrical segment and the Power segment. Results for 2018, 2017 and 2016 by segment are included under “Segment Results” within this Management’s Discussion and Analysis.

The Company's long-term strategy is to serve its customers with reliable and innovative electrical and related infrastructure solutions with desired brands, high-quality service, delivered through a competitive cost structure; to complement organic revenue growth with acquisitions that enhance its product offerings; and to allocate capital effectively to create shareholder value.

Our strategy to complement organic revenue growth with acquisitions focuses on acquiring assets that extend our capabilities, expand our product offerings, and present opportunities to compete in core, adjacent or complementary markets. Our acquisition strategy also provides the opportunity to advance our revenue growth objectives during periods of weakness or inconsistency in our end-markets.

Our strategy to deliver products through a competitive cost structure has resulted in past and ongoing restructuring and related activities. Our restructuring and related efforts include the consolidation of manufacturing and distribution facilities, and workforce actions, as well as streamlining and consolidating our back-office functions. The primary objectives of our restructuring and related activities are to optimize our manufacturing footprint, cost structure, and effectiveness and efficiency of our workforce.

Productivity improvement also continues to be a key area of focus for the Company and efforts to drive productivity complement our restructuring and related activities to minimize the impact of rising material costs and administrative cost inflation. Material costs are approximately two-thirds of our cost of goods sold therefore volatility in this area can significantly impact profitability. Our goal is to have pricing and productivity programs that offset material and other inflationary cost increases as well as pay for investments in key growth areas.

Productivity programs impact virtually all functional areas within the Company by reducing or eliminating waste and improving processes. We continue to expand our efforts surrounding global product and component sourcing and supplier cost reduction programs. Value engineering efforts, product transfers and the use of lean process improvement techniques are expected to continue to increase manufacturing efficiency. In addition, we continue to build upon the benefits of our enterprise resource planning system across all functions.

Acquisition of Aclara

On February 2, 2018 the Company acquired Aclara for approximately $1.1 billion. Aclara is a leading global provider of smart infrastructure solutions for electric, gas, and water utilities, with advanced metering solutions and grid monitoring sensor technology, as well as leading software enabled installation services. The acquisition extends the

Power segment's capabilities into smart automation technologies, accelerates ongoing innovation efforts to address utility customer demand for data and integrated solutions, and expands the segment's reach to a broader set of utility customers.

For additional information about the Aclara acquisition, refer to Note 3 — Business Acquisitions in the Notes to the Consolidated Financial Statements.

Results of Operations

Our operations are classified into two reportable segments: Electrical and Power. For a complete description of the Company's segments, see Part I, Item 1 of this Annual Report on Form 10-K. Within these segments, Hubbell serves customers in five primary end markets; non-residential construction, residential construction, industrial, energy-related markets (also referred to as oil and gas markets) and utility markets (also referred to as the electrical transmission and distribution (T&D) market). In order of magnitude of net sales, the Company's served markets are electrical T&D, non-residential construction, industrial, oil and gas, and residential construction.

Our end markets experienced strong growth in 2018, driving organic net sales growth of 4.4%, including the traction we gained in the latter half of the year on price realization. We saw notable strength in 2018 in energy-related markets, including gas distribution, the core industrial market, and non-residential markets, as well as growth within the residential lighting market that accelerated in the second half of the year. Utility markets grew primarily within T&D and outside-the-plant telecommunications.

Net sales growth from acquisitions was a highlight, as Aclara delivered strong revenue performance in 2018, demand for its products was strong and the Aclara acquisition has added a robust backlog and project pipeline.

Earnings growth was also strong as our operating income grew by seven percent in 2018; however, inflationary pressures and material cost increases, including tariffs, pressured operating margins. During the second half of 2018, many of our businesses took pricing actions to mitigate the impact of material cost increases and the effect of Section 301 tariffs resulting from changes in U.S. trade policy in 2018 (the "Tariffs" referred to in the following discussion of results of operations). See Part I, Item 1A "Risk Factors" for additional discussion of developments stemming from the recent and potential changes in trade policies.

Adjusted net income and adjusted diluted earnings per share, each grew by 29% in 2018 and reflect our strong operating income performance as well as the benefit of a lower effective tax rate resulting from the enactment of the TCJA.

SUMMARY OF CONSOLIDATED RESULTS (IN MILLIONS, EXCEPT PER SHARE DATA)

	For the Year Ending December 31,					
	2018	% of Net sales	2017	% of Net sales	2016	% of Net sales
Net sales	$4,481.7		$3,668.8		$3,505.2	
Cost of goods sold	3,181.3	71.0%	2,513.7	68.5%	2,400.1	68.5%
Gross profit	1,300.4	29.0%	1,155.1	31.5%	1,105.1	31.5%
Selling & administrative expenses	743.5	16.6%	636.3	17.3%	615.3	17.5%
Operating income	556.9	12.4%	518.8	14.1%	489.8	14.0%
Net income attributable to Hubbell	360.2	8.0 %	243.1	6.6 %	293.0	8.4 %
EARNINGS PER SHARE - DILUTED	$6.54		$4.39		$5.24	

In the following discussion of results of operations, we refer to "adjusted" operating measures. We believe those adjusted measures, which exclude the impact of certain costs, may provide investors with useful information regarding our underlying performance from period to period and allow investors to understand our results of operations without regard to items we do not consider a component of our core operating performance. Management uses these adjusted measures when assessing the performance of the business.

Our adjusted operating measures exclude the income tax effects associated with U.S. tax reform recognized in the fourth quarter of 2017, Aclara acquisition-related and transaction costs recognized in 2017 and 2018, and the loss on extinguishment of debt incurred in the third quarter of 2017, as further explained below, and as shown in the reconciliations to the comparable GAAP measures that follow. However, the net tax benefit of approximately $6 million related to adjustments made in connection with the Company's accounting for the effects of TCJA during the measurement period in 2018 has not been reflected as an adjustment to the GAAP measures and is therefore not a reconciling item in the adjusted operating measures below.

Aclara acquisition-related and transaction costs

Aclara acquisition-related and transaction costs include the amortization of identified intangible assets and inventory step-up amortization expense. Aclara transaction costs are primarily for professional services and other fees incurred to complete the acquisition as well as certain financing costs recognized in interest expense in connection with the transaction. The effect of Aclara inventory step-up amortization expense and transaction costs are complete as of December 31, 2018. See Note 3 — Business Acquisitions in the Notes to Consolidated Financial Statements for additional information and further discussion of Aclara acquisition-related and transaction costs. Only a portion of the Aclara transaction costs are expected to be tax deductible.

Loss on the early extinguishment of debt

Our consolidated results of operations in 2017 include a $10.1 million pre-tax loss on the early extinguishment of long-term debt from the redemption of all of our $300 million outstanding long-term unsecured, unsubordinated notes that were scheduled to mature in 2018.

The following table provides the Aclara acquisition-related and transaction costs for the year ended December 31, 2018 and 2017 by type and by location in the Consolidated Statement of Income (in millions):

	Year Ended December 31, 2018	Year Ended December 31, 2017
Aclara acquisition-related costs	$ 40.8	$ —
Aclara transaction costs	12.8	7.1
Aclara acquisition-related and transaction costs	$ 53.6	$ 7.1
Cost of goods sold	$ 29.5	$ —
S&A expense	20.8	6.7
Operating income	$ 50.3	$ 6.7
Interest expense	3.3	0.4
Aclara acquisition-related and transaction costs	$ 53.6	$ 7.1

The following table reconciles our adjusted financial measures to the directly comparable GAAP financial measure (in millions, except per share amounts):

	For the Year Ended December 31,					
	2018	% of Net sales	2017	% of Net sales	2016	% of Net sales
Gross profit (GAAP measure)	$1,300.4	29.0%	$1,155.1	31.5%	$1,105.1	31.5%
Aclara acquisition-related and transaction costs	29.5		—		—	
Adjusted gross profit	$1,329.9	29.7%	$1,155.1	31.5%	$1,105.1	31.5%
S&A expenses (GAAP measure)	$743.5	16.6%	$636.3	17.3%	$615.3	17.5%
Aclara acquisition-related and transaction costs	20.8		6.7		—	
Adjusted S&A expenses	$722.7	16.1%	$629.6	17.2%	$615.3	17.5%
Operating income (GAAP measure)	$556.9	12.4%	$518.8	14.1%	$489.8	14.0%
Aclara acquisition-related and transaction costs	50.3		6.7		—	
Adjusted operating income	$607.2	13.5%	$525.5	14.3%	$489.8	14.0%
Net income attributable to Hubbell (GAAP measure)	$360.2		$243.1		$293.0	
Income tax expense associated with U.S. tax reform	$—		56.5		—	
Aclara acquisition-related and transaction costs, net of tax	41.5		6.0		—	
Loss on early extinguishment of debt, net of tax	—		6.3		—	
Adjusted net income attributable to Hubbell	$401.7		$311.9		$293.0	
Less: Earnings allocated to participating securities	(1.4	)	(1.1	)	(1.0	)
Adjusted net income available to common shareholders	$400.3		$310.8		$292.0	
Average number of diluted shares outstanding	54.9		55.1		55.7	
ADJUSTED EARNINGS PER SHARE — DILUTED	$7.29		$5.64		$5.24	

2018 Compared to 2017

Net Sales

Net sales of $4.5 billion in 2018 increased 22.2% percent compared to 2017 due to the contribution of net sales from acquisitions, higher organic volume and favorable price realization. Acquisitions added 17.8% to net sales, primarily from the acquisition of Aclara, while organic volume, including favorable price realization, contributed 4.4%. The effect of foreign exchange was flat compared to the prior year.

Cost of Goods Sold

As a percentage of net sales, cost of goods sold increased by 250 basis points to 71.0% of net sales in 2018 as compared to 68.5% in 2017. The increase was primarily driven by acquisitions, as 2018 includes $29.5 million of Aclara acquisition-related costs as well as the effect of adding the operating results of Aclara, which carries a relatively higher cost of goods sold as a percentage of net sales (and lower gross margin) as compared to the legacy Hubbell business. The increase also reflects an unfavorable net impact of price and material costs, as rising material costs and the impact of Tariffs outpaced favorable price realization.

Gross Profit

Gross profit margin in 2018 compared to 2017 declined by 250 basis points to 29.0% of net sales, driven by costs of goods sold discussed above. Excluding Aclara acquisition-related costs, the adjusted gross profit margin was 29.7% in 2018 as compared to 31.5% in 2017.

Selling & Administrative Expenses

S&A expense in 2018 was $743.5 million and increased by $107.2 million compared to the prior year primarily due to the addition of S&A costs of Aclara, including $20.8 million of Aclara acquisition-related and transaction costs. S&A expense as a percentage of net sales declined by 70 basis points to 16.6% in 2018. Excluding Aclara acquisition-related and transaction costs, adjusted S&A expense as a percentage of net sales declined by 110 basis points to 16.1% in 2018 primarily due to volume leverage associated with higher net sales.

Operating Income

Operating income increased seven percent in 2018 to $556.9 million, primarily driven by the operating results of the Aclara business, including acquisition-related and transaction costs. The increase in operating income from higher net sales volume was largely offset by rising material costs and the impact of Tariffs, which together, outpaced favorable price realization.

Operating margin decreased by 170 basis points to 12.4% due to higher Aclara acquisition-related and transaction costs in 2018 as well as the operating results of the Aclara business, which carries a relatively lower gross margin as compared to the legacy Hubbell results. The decrease in operating margin also reflects the impact of material costs, tariffs and price realization noted above, which together were only partially offset by the benefit from higher net sales volume.

Excluding Aclara Acquisition-related and transaction costs, adjusted operating income increased 15.5% percent in 2018 to $607.2 million and adjusted operating margin declined by 80 basis points to 13.5% in 2018.

Total Other Expense

Total other expense in 2018 was $89.9 million and increased by $14.2 million compared to the prior year, primarily due to higher interest expense from the issuance of $450 million of 2028 Notes and placement of the $500 million Term Loan, each in the first quarter of 2018, to finance the Aclara acquisition, partially offset by the loss on extinguishment of debt recognized in 2017 (which did not repeat in 2018).

Income Taxes

The effective tax rate was 21.6% in 2018 as compared to 43.6% in 2017. The decrease is primarily attributable to the absence of the $56.5 million provisional income tax expense associated with the TCJA recognized in the 2017 financial statements, the reduction of the federal income tax rate from 35% to 21% and net favorable adjustments to the 2017 provisional income tax expense associated with TCJA recognized in the current year.

During 2018, the Company completed its analysis of the specific income tax effects of TCJA and recorded a net tax benefit of approximately $6 million related to adjustments to the prior provisional estimates and to record amounts related to items for which a prior provisional estimate had not been made. Additional information related to the Company's effective tax rate is included in Note 13 — Income Taxes in the Notes to Consolidated Financial Statements

Net Income Attributable to Hubbell and Earnings Per Diluted Share

Net income attributable to Hubbell was $360.2 million in 2018 and increased 48% as compared to 2017. The increase reflects a lower effective tax rate, higher operating income and the loss on extinguishment of debt in 2017 (which did not repeat in 2018), offset partially by higher interest expense. Adjusted net income attributable to Hubbell was $401.7 million in 2018 and increased 29% as compared to 2017. Earnings per diluted share in 2018 increased 49% compared to 2017. Adjusted earnings per diluted share in 2018 increased 29% as compared to 2017.

Segment Results

Electrical Segment

(in millions)	2018	2017
Net sales	$2,660.6	$2,532.8

Operating income	$320.8	$294.0
Operating margin	12.1 %	11.6 %

Net sales in the Electrical segment were $2.7 billion, up five percent in 2018 as compared with 2017 due to approximately five percentage points of net sales growth from higher organic volume, including favorable price realization for the segment. Acquisitions increased net sales by less than one percentage point and the effect of foreign currency translation was flat.

Within the segment, the aggregate net sales of our Commercial and Industrial and Construction and Energy business groups increased by seven percentage points, due to approximately six percentage points of organic growth, and approximately one percentage point of net sales growth from acquisitions. Organic net sales growth of these businesses was driven primarily by our products serving the energy-related markets as well as the non-residential and residential construction markets. Net sales of our Lighting business group increased approximately two percent in 2018 due to higher organic volume, partially offset by pricing headwinds. Within the Lighting business group, net sales of residential lighting products increased by 12%, driven by strong unit volume growth, while net sales of commercial and industrial lighting products declined by 2% as a result of lower volume and pricing headwinds.

Operating income in the Electrical segment for 2018 was $320.8 million and increased nine percent compared to 2017. Operating margin in 2018 increased by 50 basis points to 12.1%. The increase in operating margin is primarily due to incremental earnings on higher net sales, as discussed above, and productivity gains in excess of cost increases, partially offset by material cost headwinds (including the impact of Tariffs) that outpaced price realization.

Power Segment

(in millions)	2018	2017
Net sales	$1,821.1	$1,136.0
Operating income	$236.1	$224.8
Aclara acquisition-related and transaction costs	50.3	6.7
Adjusted operating income	$286.4	$231.5
Operating margin	13.0 %	19.8 %
Adjusted operating margin	15.7 %	20.4 %

Net sales for 2018 in the Power segment were $1.8 billion, up approximately 60% as compared to 2017, primarily due to the addition of net sales of the Aclara business as well as higher organic volume. Acquisitions contributed 56.6% to net sales growth and higher organic volume contributed 4.1%, including favorable price realization. Organic net sales growth was driven by the transmission and distribution (T&D) and telecommunications markets. Foreign exchange reduced net sales as compared to the prior year by less than one percentage point.

Operating income in the Power segment for 2018 increased by five percent to $236.1 million as compared to the prior year. Operating margin in 2018 decreased to 13.0% as compared to 19.8% in 2017 and reflects an approximately 2% decline from higher Aclara acquisition-related and transaction costs in 2018, as well as approximately 2% attributable to the lower margin operating results of the Aclara business. The decrease in operating margin also reflects a net headwind from material cost increases (including the impact of Tariffs) that outpaced price realization, and the absence of a one-time benefit in the fourth quarter of 2017.

2017 Compared to 2016

Net Sales

Net sales of $3.7 billion in 2017 increased approximately five percent as compared to 2016. Acquisitions added two percentage points to net sales in 2017 and organic volume, including the impact of pricing headwinds, added three percentage points. Within our Electrical segment, organic net sales growth came primarily from products sold into the energy-related, non-residential and residential construction markets. Organic net sales within our Power segment increased by six percentage points primarily driven by growth in the electrical transmission and distribution market.

Cost of Goods Sold

Cost of goods sold as a percentage of net sales in 2017 was 68.5% and was flat as compared to 2016. Price and material cost headwinds as well as a 30 basis point headwind from acquisitions, were offset by gains from productivity initiatives that exceeded cost inflation, greater realized savings from our restructuring and related actions and lower restructuring and related costs in 2017.

The headwind from acquisitions includes our investment in IoT capabilities in 2017 through the acquisition of iDevices.

Gross Profit

The gross profit margin for 2017 was 31.5% and was flat as compared to 2016, driven by costs of goods sold discussed above.

Selling & Administrative Expenses

S&A expense in 2017 was $636.3 million and increased by $21.0 million compared to the same period of the prior year. S&A expense as a percentage of net sales declined by 20 basis points to 17.3% in 2017. Excluding Aclara transaction costs, adjusted S&A expense as a percentage of net sales declined by 30 basis points to 17.2% in 2017 primarily due to higher net sales volume and greater realized savings from our restructuring and related actions, partially offset by acquisitions, which increased the adjusted S&A expense as a percentage of net sales by approximately 10 basis points.

Operating Income

Operating income increased six percent in 2017 to $518.8 million and operating margin increased by 10 basis points to 14.1%. Excluding Aclara transaction costs, adjusted operating income in 2017 was $525.5 million and the adjusted operating margin increased by 30 basis points to 14.3%. That increase was primarily due to greater realized savings from our restructuring and related actions and lower restructuring and related costs, productivity initiatives in excess of cost inflation as well as from incremental earnings on higher net sales volume. The benefit from those items was partially offset by price and material cost headwinds as well as a 40 basis point headwind from acquisitions, including our investment in IoT capabilities through the acquisition of iDevices.

Total Other Expense

Total other expense was $75.7 million in 2017 compared to $59.4 million in 2016. The increase was primarily due to a $10.1 million pre-tax loss on the early extinguishment of long-term debt recognized in 2017 and higher foreign exchange losses in 2017 partially offset by the write-off of an escrow receivable in 2016 associated with a prior acquisition. This escrow receivable write off had no effect on net income of the prior year as it was offset in income taxes by the release of a related liability.

Income Taxes

The effective tax rate was 43.6% in 2017 and includes the provisional impact of the TCJA to the 2017 financial statements. Excluding the provisional impact of TCJA, the effective tax rate was 30.8% and was flat compared to the prior year. The favorable impact resulted primarily from the income tax effects of share based awards and settlement of a tax examination in 2017 offset by the impact of return to provision adjustments and other favorable discrete items realized in the prior year that did not repeat in the current year, including the release of a liability in 2016 caused by the expiration of certain statute of limitations associated with an uncertain tax position from a prior acquisition.

Net Income attributable to Hubbell and Earnings Per Diluted Share

Net income attributable to Hubbell was $243.1 million in 2017 and decreased 17% as compared to 2016. Adjusted net income attributable to Hubbell was $311.9 million in 2017 and increased 6% as compared to 2016. Earnings per diluted share in 2017 decreased 16% compared to 2016. Adjusted earnings per diluted share in 2017 increased 8% and reflects the increase in adjusted operating income in 2017 as well as a 0.6 million decline in the average number of diluted shares outstanding as compared to the prior year.

Segment Results

Electrical Segment

(in millions)	2017	2016
Net sales	$2,532.8	$2,460.2
Operating income	$294.0	$276.4
Operating margin	11.6 %	11.2 %

Net sales in the Electrical segment were $2.5 billion, up three percent in 2017 as compared with 2016 due to two percentage points of net sales growth from higher organic volume, including the impact of pricing headwinds, and one percentage point contributed by acquisitions.

Within the segment, the aggregate net sales of our Commercial and Industrial and Construction and Energy business groups increased by six percentage points, due to four percentage points of organic growth, and two percentage points of net sales growth from acquisitions. Organic net sales growth of these businesses was driven primarily by our products serving the energy-related markets as well as the non-residential and residential construction markets. Net sales of our Lighting business group decreased one percent in 2017 as two percentage points of headwind from pricing, was only partially offset by one percentage point of volume growth. Within the Lighting business group, net sales of residential lighting products increased by three percent, while net sales of commercial and industrial lighting products declined by two percentage points, primarily due to headwinds on pricing.

Operating income in the Electrical segment for 2017 was $294.0 million and increased 6.4% compared to 2016. Operating margin in 2017 increased 40 basis points compared to 2016 as greater realized savings from our restructuring and related actions, lower restructuring and related costs, and the benefit from higher net sales volume, were partially offset by price and material cost headwinds and acquisitions. Acquisitions reduced the adjusted operating margin by approximately 50 basis points in 2017, and includes our investment in IoT capabilities through the acquisition of iDevices.

Power Segment

(in millions)	2017	2016
Net sales	$1,136.0	$1,045.0
Operating income	$224.8	$213.4
Aclara transaction costs	6.7	—
Adjusted operating income	$231.5	$213.4
Operating margin	19.8 %	20.4 %
Adjusted operating margin	20.4 %	20.4 %

Net sales in the Power segment were $1.1 billion, up nine percent compared to 2016, primarily due to higher organic volume and net sales from acquisitions. The increase in organic volume contributed six percentage points driven by growth in the distribution and telecommunications markets, including storm-related sales associated with hurricanes in 2017, and acquisitions which contributed three percentage points to net sales growth.

Operating income in the Power segment increased 5.3 percent to $224.8 million in 2017. Operating margin in 2017 decreased by 60 basis points to 19.8% primarily due to price and material cost headwinds, Aclara transaction costs, and higher restructuring and related costs. The impact of those items was partially offset by gains from productivity initiatives in excess of cost inflation as well as from incremental earnings on higher net sales volume. In 2016, operating margin included a benefit within cost inflation from the reduction of an environmental liability, and in 2017 operating margin includes a similarly-sized benefit within cost inflation from an insurance recovery.

Financial Condition, Liquidity and Capital Resources

Cash Flow

(in millions)	December 31, 2018	2017	2016
Net cash provided by (used in):			
Operating activities	$517.1	$379.0	$411.0
Investing activities	(1,201.4)	(245.6)	(230.2)
Financing activities	506.5	(214.3)	(59.4)
Effect of foreign currency exchange rate changes on cash and cash equivalents	(8.2)	18.3	(27.3)
NET CHANGE IN CASH AND CASH EQUIVALENTS	$(186.0)	$(62.6)	$94.1

Comparable periods have been recast to reflect the adoption of the new accounting pronouncement for share-based payments (ASU 2016-09).

The following table reconciles our cash flows from operating activities to free cash flows for 2018, 2017 and 2016 (in millions):

(in millions)	December 31, 2018	2017	2016
Net cash provided by operating activities (GAAP measure)	$517.1	$379.0	$411.0
Less: Capital expenditures	(96.2)	(79.7)	(67.2)
Free cash flow	$420.9	$299.3	$343.8
Free cash flow as a percent of net income attributable to Hubbell (1)	116.9 %	123.1 %	117.3 %

(1) Free cash flow as a percent of net income attributable to Hubbell, includes the approximately $57 million impact of the TCJA in 2017. Free cash flow as a percentage of net income attributable to Hubbell excluding the impact of the TCJA is approximately 100% in 2017.

Free cash flow is a non-GAAP measure and is defined as cash flow from operations less capital expenditures. Management believes that free cash flow provides useful information regarding Hubbell’s ability to generate cash without reliance on external financing. In addition, management uses free cash flow to evaluate the resources available for investments in the business, strategic acquisitions and further strengthening the balance sheet.

2018 Compared to 2017

Cash provided by operating activities for 2018 increased compared to 2017 primarily due to a higher contribution from net income and the related non-cash adjustments for depreciation and amortization, partially offset by $26.2 million of additional pension funding in 2018 compared to 2017. Cash used for working capital was $25.6 million in 2018 compared to $29.0 million in 2017 primarily due to improved inventory management in 2018, partially offset by higher accounts receivables and Aclara related items, including cash payments for transaction costs in 2018.

Cash used for investing activities of $1,201.4 million in 2018 increased compared to cash used of $245.6 million in 2017. This increase is primarily due to approximately $1.1 billion paid for the acquisition of Aclara in 2018, $16.5 million of higher capital expenditures and an $11.6 million decrease in the proceeds from disposition of assets in 2018, as compared to 2017.

Cash provided from financing activities of $506.5 million in 2018 increased compared to $214.3 million of cash used in 2017. The change in cash flows from financing activities reflects the proceeds of the $450 million public debt offering in February 2018 and $500 million Term Loan issued in February 2018 to fund the acquisition of Aclara, as well as, lower share repurchases in 2018, partially offset by cash used to reduce short-term borrowings.

The unfavorable impact of foreign currency exchange rates on cash was $8.2 million in 2018 as compared to a favorable impact of $18.3 million in 2017. The unfavorable impact in 2018 was primarily related to the U.S. dollar strengthening against the Canadian dollar, Australian dollar and British pound.

2017 Compared to 2016

Cash provided by operating activities for 2017 decreased compared to 2016 primarily due to higher uses of cash for working capital. Cash used for working capital was $29.0 million in 2017 compared to $10.1 million in 2016 primarily due to higher inventories in anticipation of increased demand, partially offset by stronger collections of accounts receivable and higher income taxes payable, due to the impact of the TCJA in 2017.

Cash used for investing activities of $245.6 million in 2017 increased compared to cash used of $230.2 million in 2016. This increase is primarily due to $12.5 million of higher capital expenditures and $10.7 million of higher cash paid for acquisitions, partially offset by a $7.6 million increase in the proceeds from disposition of assets in 2017 as compared to 2016.

Cash used for financing activities of $214.3 million in 2017 increased compared to $59.4 million of cash used in 2016. The increase in cash used in 2017 as compared to 2016 is primarily the result of higher net proceeds from long-term borrowings in 2016 and an increase in shareholder dividends paid in 2017, partially offset by a decrease in shares repurchased in 2017, as well as an increase in short term borrowings in 2017.

The favorable impact of foreign currency exchange rates on cash increased to $18.3 million in 2017 as compared to an unfavorable impact of $27.3 million in 2016. The favorable impact in 2017 was primarily related to the U.S. dollar weakening against the British pound, Canadian dollar and Australian dollar.

Investments in Our Business

Investments in our business include cash outlays for the acquisition of businesses as well as expenditures to maintain the operation of our equipment and facilities and invest in restructuring activities.

In February 2018, the Company completed the acquisition of Aclara for approximately $1.1 billion in an all-cash transaction. To fund the Aclara acquisition, on February 2, 2018 the Company borrowed $500 million under a Term Loan Agreement with a syndicate of lenders, issued $450 million of unsecured, 3.50% senior notes maturing in 2028, and the remaining purchase price and transaction expenses were funded with commercial paper. Refer to Note 3 — Business Acquisitions and Note 12 — Debt in the Notes to Consolidated Financial Statements for additional information.

We continually invest in restructuring and related programs to maintain a competitive cost structure, drive operational efficiency and mitigate the impact of rising material costs and administrative cost inflation. As a result of these programs we have exited a total of 29 manufacturing and warehousing facilities since those programs began in late 2014. We expect our investment in restructuring and related spend in 2019 and 2020 to increase as we initiate further footprint consolidation and cost reduction initiatives.

In connection with our restructuring and related programs we incur restructuring costs as defined by U.S. GAAP, which are primarily severance and employee benefits, asset impairments, as well as facility closure, contract termination and certain pension costs that are directly related to restructuring actions. We also incur restructuring-related costs, which are costs associated with our business transformation initiatives, including the consolidation of back-office functions and streamlining our processes, and certain other costs and gains associated with restructuring actions. We refer to these costs on combined basis as "restructuring and related costs", which is a non-GAAP measure.

Restructuring costs are predominantly settled in cash from our operating activities and are generally settled within one year, with the exception of asset impairments, which are non-cash. Restructuring costs in 2016 also included a $12.5 million charge to recognize the estimated liability associated with the withdrawal from a multi-employer pension plan, which may be settled either in periodic payments over approximately 19 years, or in a lump sum, subject to negotiation.

The table below presents the restructuring and related costs incurred in 2018, additional expected costs, and the expected completion date for those restructuring actions that were initiated in 2018 and prior years (in millions):

Expected Completion Date

	Costs Incurred in 2018	Additional Expected Costs	
2018 Restructuring Actions	$ 12.9	$ 7.8	2020
2017 and Prior Restructuring Actions[a]	(0.9)	0.1	2019
Restructuring cost (GAAP measure)	$ 12.0	$ 7.9	
Restructuring-related costs	3.8	—	
Restructuring and related costs (Non-GAAP)	$ 15.8	$ 7.9	

[a] Additional expected cost does not include any potential future liability, in excess of amounts already recognized in 2016, associated with the withdrawal from the multi-employer pension plan referred to in the preceding paragraph. Additional information about the estimated withdrawal liability associated with that multi-employer plan is included in Note 11 — Retirement Benefits in the Notes to Consolidated Financial Statements.

During 2018, we used cash of $96.2 million for capital expenditures, an increase of $16.5 million from 2017 as we made higher investments in facilities and equipment during 2018 to support our continuing focus on productivity, and due to the acquisition of Aclara.

Stock Repurchase Program

On October 20, 2017, the Board of Directors approved a new stock repurchase program (the “October 2017 program”) that authorized the repurchase of up to $400 million of Common Stock and expires on October 20, 2020. As of December 31, 2018, the Company has repurchased $40.0 million of shares of Common Stock, bringing the remaining share repurchase authorization to $360.0 million. Subject to numerous factors, including market conditions and alternative uses of cash, we may conduct discretionary repurchases through open market or privately negotiated transactions, which may include repurchases under plans complying with Rules 10b5-1 and 10b-18 under the Securities Exchange Act of 1934, as amended.

Debt to Capital

At December 31, 2018 and 2017, the Company had $1,737.1 million and $987.1 million, respectively, of long-term unsecured, unsubordinated notes, net of unamortized discount and the unamortized balance of capitalized debt issuance costs. At December 31, 2018 the Company also had $25.0 million of long-term debt classified as short-term on the Consolidated Balance Sheets, reflecting maturities due within the next 12 months.

At December 31, 2017 long-term debt consisted of unsecured, senior notes in principal amounts of $300 million due in 2022 (the "2022 Notes"), $400 million due in 2026 (the "2026 Notes"), and $300 million due in 2027 (the "2027 Notes").

In February 2018, the Company completed a public debt offering of $450 million principal amount of unsecured, senior notes maturing in February 2028 and bearing interest at a fixed rate of 3.50% (the "2028 Notes"). Net proceeds from the issuance were $442.6 million after deducting the discount on the notes and offering expenses paid by the Company.

The 2022 Notes, 2026 Notes, 2027 Notes and 2028 Notes are callable at any time at specified prices and are only subject to accelerated payment prior to maturity upon customary events of default under the indentures governing such Notes, or upon a change in control triggering event as defined in such indentures. The Company was in compliance with all covenants (none of which are financial) as of December 31, 2018.

On January 31, 2018, the Company entered into a Term Loan Agreement (the “Term Loan Agreement”) with a syndicate of lenders under which the Company borrowed $500 million on an unsecured basis to partially finance the Aclara acquisition on February 2, 2018. The interest rate applicable to borrowings under the Term Loan Agreement is generally either adjusted LIBOR plus an applicable margin (determined by a ratings based grid) or the alternate base rate. The sole financial covenant in the Term Loan Agreement requires that total debt not exceed 65% of total capitalization as of the last day of each fiscal quarter of the Company.

The principal amount of borrowings under the Term Loan Agreement amortize in equal quarterly installments of 5% per year in year one, 5% per year in year two, 7.5% per year in year three, 10% per year in year four, 10% per year in year five, and any remaining borrowings under the Term Loan Agreement are due and payable in full in February 2023. The Company may also make principal payments in excess of the amortization schedule at its discretion and, during 2018, the Company made $150 million of such payments.

Pursuant to the contractual loan amortization schedule, $25.0 million of borrowings under the Term Loan are classified as short-term within current liabilities on the December 31, 2018 Consolidated Balance Sheets.

In August 2017, the Company completed a public debt offering of $300 million of long-term, unsecured, senior notes maturing in August 2027 and bearing interest at a fixed rate of 3.15% (the "2027 Notes"). Net proceeds from the issuance were $294.6 million after deducting the discount on the notes and offering expenses paid by the Company. In September 2017, the Company applied the net proceeds from the 2027 Notes to redeem all of its $300 million of long-term, unsecured, unsubordinated notes maturing in 2018 and bearing interest at a fixed rate of 5.95%. In connection with this redemption, the Company recognized a loss on the early extinguishment of the 2018 Notes of $6.3 million on an after-tax basis.

At December 31, 2018 and 2017, the Company had $56.1 million and $68.1 million, respectively, of short-term debt outstanding composed of;

$26.0 million and $63.0 million of commercial paper borrowings outstanding at December 31, 2018 and 2017, respectively.

$25 million of long-term debt classified as short-term within current liabilities in the Consolidated Balance Sheets, reflecting maturities within the next 12 months relating to borrowing under the Term Loan at December 31, 2018.

$5.1 million of borrowings to support our international operations in China at December 31, 2018 and 2017, respectively.

Net debt, defined as total debt less cash and investments, is a non-GAAP measure that may not be comparable to definitions used by other companies. We consider net debt to be a useful measure of our financial leverage for evaluating the Company’s ability to meet its funding needs.

The following table sets forth the reconciliation of net debt at December 31, 2018 and 2017:

	December 31,	
(in millions)	2018	2017
Total Debt	$1,793.2	$1,055.2
Total Hubbell Shareholders' Equity	1,780.6	1,634.2
TOTAL CAPITAL	$3,573.8	$2,689.4
Debt to Total Capital	50 %	39 %
Cash and Investments	$254.5	$447.2
NET DEBT	$1,538.7	$608.0
Net Debt to Total Capital	43 %	23 %

Liquidity

We measure liquidity on the basis of our ability to meet short-term and long-term operational funding needs, fund additional investments, including acquisitions, and make dividend payments to shareholders. Significant factors affecting the management of liquidity are cash flows from operating activities, capital expenditures, cash dividend payments, stock repurchases, access to bank lines of credit and our ability to attract long-term capital with satisfactory terms.

In 2018, we invested in the Aclara acquisition and also returned capital to our shareholders through dividends and share repurchases. These activities were funded primarily with additional debt financing and cash flows from operations as further described below.

Cash used for the acquisition of businesses in 2018, net of cash acquired was $1,118.0 million, including cash settlement of a deferred purchase price obligation and a net working capital adjustment related to acquisitions completed in prior years. Further discussion of our acquisitions can be found in Note 3 — Business Acquisitions in the Notes to Consolidated Financial Statements.

In 2018, cash used for share repurchases was $40.0 million. Dividends paid on our Common Stock in 2018 were $172.3 million.

In February of 2018, we increased our long-term and short-term borrowings to complete the acquisition of Aclara and we expect our cash flows from operations, (including those from Aclara), as well as our other sources of funds, will be sufficient to meet our obligations in respect of those borrowings.

We also require cash outlays to fund our operations, capital expenditures, and an increase in working capital that would be required to accommodate a higher level of business activity for the foreseeable future, as well as our rate of cash dividends and, potential future acquisitions. We also have contractual obligations for long-term debt, operating leases, purchase obligations, and certain other long-term liabilities that are summarized in the table of Contractual Obligations as of December 31, 2018, and as a result of the TCJA, we have an obligation to fund, over the next seven years, the Company's liability for the transition tax on the deemed repatriation.

Our sources of funds and available resources to meet these funding needs are as follows:

Cash flows from operations and existing cash resources: We held $189.0 million of cash and cash equivalents at December 31, 2018, of which approximately 9% was held inside the United States and the remainder held internationally. The Company repatriated a portion of its foreign earnings in 2018. The current period financials reflect the income tax effects of the repatriation of these earnings as well as as the income tax effects of certain anticipated future cash repatriations.

On January 31, 2018, the Company entered into a five-year revolving credit agreement (the "2018 Credit Facility"), with a syndicate of lenders that provides a $750 million committed revolving credit facility and terminated all commitments under the 2015 Credit Facility. Commitments under the 2018 Credit Facility may be increased (subject to certain conditions) to an aggregate amount not to exceed $1.250 billion. The interest rate applicable to borrowings under the 2018 Credit Facility is generally either the adjusted LIBOR plus an applicable margin (determined by a ratings based grid) or the alternate base rate. The single financial covenant in the 2018 Credit Facility requires that total debt not exceed 65% of total capitalization as of the last day of each fiscal quarter of the Company. The 2018 Credit Facility expires in February 2023. As of December 31, 2018 the Company had not drawn against the facility.

Annual commitment fees to support availability under the 2018 Credit Facility are not material. Although not the principal source of liquidity, we believe our 2018 Credit Facility is capable of providing significant financing flexibility at reasonable rates of interest. However, an increase in usage of the 2018 Credit Facility related to growth or a significant deterioration in the results of our operations or cash flows, could cause our borrowing costs to increase and/or our ability to borrow could be restricted. We have not entered into any guarantees that could give rise to material unexpected cash requirements.

In addition to our commercial paper program and existing revolving credit facility, we also have the ability to obtain additional financing through the issuance of long-term debt. Considering our current credit rating, historical earnings performance, and financial position we believe that we would be able to obtain additional long-term debt financing on attractive terms.

The Company also maintains other lines of credit that are primarily used to support the issuance of letters of credit. Interest rates and other terms of borrowing under these lines of credit vary from country to country, depending on local market conditions. At December 31, 2018 and 2017, total availability under these lines was $54.8 million and $53.9 million, respectively, of which $20.3 million and $21.5 million was utilized to support letters of credit and the remaining amount was unused. The annual commitment fees associated with these lines of credit are not material.

Pension Funding Status

We have a number of funded and unfunded non-contributory U.S. and foreign defined benefit pension plans. Benefits under these plans are generally provided based on either years of service and final average pay or a specified dollar amount per year of service. The funded status of our qualified, defined benefit pension plans is dependent upon many factors including future returns on invested pension assets, the level of market interest rates, employee earnings and employee demographics.

In 2018, the Company approved amendments to one of its foreign defined benefit pension plans, which closed the plan to future service accruals effective August 31, 2018. As a result of the amendments, in the third quarter of 2018, the Company recognized a curtailment gain of approximately $4.7 million, net of tax, in accumulated other comprehensive income. In addition, effective August 31, 2018, the amortization of actuarial gains and losses is being recognized over the remaining life expectancy of the participants of this plan, as all participants are considered inactive as a result of the amendment.

In December 2016, the Company approved amendments to the domestic qualified defined benefit pension plan and non-qualified defined benefit plan, which froze service accruals for active participants effective February 28, 2017 and further will freeze compensation accruals effective December 31, 2020. The Company also froze all accruals in a second non-qualified defined benefit plan effective December 31, 2016. As a result of the amendments, the Company recognized a $34.1 million curtailment gain in accumulated other comprehensive income as of December 31, 2016 and recognized $0.2 million of pension expense in 2016. In addition, effective January 1, 2017, the amortization of unrecognized gains and losses of these plans is recognized over the remaining life expectancy of participants, as all participants are considered inactive as a result of the amendments.

In 2018 and 2016, we completed transactions with third-party insurers to settle approximately $28 million and $40 million, respectively of projected benefit obligations of our domestic qualified defined benefit pension plans.

Changes in the value of the defined benefit plan assets and liabilities will affect the amount of pension expense ultimately recognized. Although differences between actuarial assumptions and actual results are no longer deferred for balance sheet purposes, deferral is still permitted for pension expense purposes. Unrecognized gains and losses in excess of an annual calculated minimum amount (the greater of 10% of the projected benefit obligation or 10% of the market value of assets) have been amortized and recognized in net periodic pension cost. Effective January 1, 2017, the amortization of unrecognized gains and losses of our primary domestic defined benefit plan is being recognized over the remaining life expectancy of participants, which is approximately 20 years. During 2018 and 2017, we recorded $10.5 million and $11.4 million, respectively, of pension expense related to the amortization of these unrecognized losses.

In 2018, 2017 and 2016, we contributed $27.9 million, $1.7 million, and $18.0 million, respectively, to our qualified foreign and domestic defined benefit pension plans. These contributions have improved the funded status of those plans. Although not required by ERISA and the Internal Revenue Code, the Company may elect to make a voluntary contribution to its qualified domestic defined benefit pension plan in 2019. The Company expects to contribute approximately $0.5 million to its foreign plans in 2019. The anticipated level of pension funding in 2019 is not expected to have a significant impact on our overall liquidity.

Assumptions

The following assumptions were used to determine projected pension and other benefit obligations at the measurement date and the net periodic benefit costs for the year:

	Pension Benefits		Other Benefits	
	2018	2017	2018	2017
Weighted-average assumptions used to determine benefit obligations at December 31,				
Discount rate	4.24 %	3.67 %	4.40 %	3.70 %
Rate of compensation increase	3.25 %	3.24 %	4.05 %	4.00 %
Weighted-average assumptions used to determine net periodic benefit cost for years ended December 31,				

Discount rate	3.67 %	4.12 %	3.70 %	4.10 %
Expected return on plan assets	4.68 %	4.94 %	N/A	N/A
Rate of compensation increase	3.25 %	3.55 %	4.00 %	3.93 %

At the end of each year, we estimate the expected long-term rate of return on pension plan assets based on the strategic asset allocation for our plans. In making this determination, we utilize expected rates of return for each asset class based upon current market conditions and expected risk premiums for each asset class. A one percentage point change in the expected long-term rate of return on pension fund assets would have an impact of approximately $6.7 million on 2019 pretax pension expense. The expected long-term rate of return is applied to the fair market value of pension fund assets to produce the expected return on fund assets that is included in pension expense.

The difference between this expected return and the actual return on plan assets was recognized at December 31, 2018 for balance sheet purposes, but continues to be deferred for expense purposes. The net deferral of past asset gains (losses) ultimately affects future pension expense through the amortization of gains (losses) with an offsetting adjustment to Hubbell shareholders' equity through Accumulated other comprehensive loss.

At the end of each year, we determine the discount rate to be used to calculate the present value of our pension plan liabilities. For our U.S. and Canadian pension plans, this discount rate is determined by matching the expected cash flows associated with our benefit obligations to the expected cash flows of a hypothetical portfolio of high quality, fixed income debt instruments with maturities that closely match the expected funding period of our pension liabilities. As of December 31, 2018, we used a discount rate of 4.40% for our U.S. pension plans compared to a discount rate of 3.80% used in 2017. For our Canadian pension plan, we used a discount rate of 3.60% in 2018, compared to the 3.50% discount rate used in 2017.

For our UK pension plan the discount rate was derived using a yield curve fitted to the yields on AA bonds in the Barclays Capital Sterling Aggregate Corporate Index and uses sample plan cash flow data as a proxy to plan specific liability cash flows. The derived discount rate is the single discount rate equivalent to discounting these liability cash flows at the term-dependent spot rates of AA corporate bonds. This methodology resulted in a December 31, 2018 discount rate for the UK pension plan of 2.90% as compared to a discount rate of 2.60% used in 2017.

An increase of one percentage point in the discount rate would lower our 2019 pretax pension expense by approximately $1.4 million. A discount rate decline of one percentage point would increase our 2019 pretax pension expense by approximately $1.6 million.

In 2018 we changed the mortality table used to calculate the present value of our pension plan liabilities from the RP-2014 mortality table, with generational projection from 2006 using Scale MP-2017 to the RP-2014 mortality table, with generational projection from 2006 using Scale MP-2018. That change did not have a material impact to the projected benefit obligation of our U.S. plans upon remeasurement at December 31, 2018. The RP-2014 mortality table with generational projection from 2006 using Scale MP-2018 was chosen as the best estimate based on the observed and anticipated experience of the plans after considering alternative tables.

Other Post Employment Benefits (“OPEB”)

The Company also has a number of health care and life insurance benefit plans covering eligible employees who reached retirement age while working for the Company. These benefits have been discontinued for substantially all future retirees. These plans are not funded and, therefore, no assumed rate of return on assets is required. We use a similar methodology to derive the yield curve for our post employment benefit plan obligations that we use for our pension plans. As of December 31, 2018, the Company used a discount rate of 4.40% to determine the projected benefit obligation compared to a discount rate of 3.70% used in 2017.

In accordance with the accounting guidance for retirement benefits, we recorded to Accumulated other comprehensive loss, within Hubbell shareholders’ equity, a charge, net of tax, of approximately $0.3 million in 2018 and a charge, net of tax, of approximately $1.6 million in 2017, related to the annual remeasurement of the OPEB plans and the amortization of prior service credits and net actuarial gains.

Off-Balance Sheet Arrangements

Off-balance sheet arrangements are defined as any transaction, agreement or other contractual arrangement to which an entity that is not included in our consolidated results is a party, under which we, whether or not a party to the arrangement, have, or in the future may have: (1) an obligation under a direct or indirect guarantee or similar arrangement, (2) a retained or contingent interest in assets transferred to an unconsolidated entity or similar arrangement that serves as credit, liquidity or market risk support to such entity for such assets, (3) an obligation or liability, including a contingent obligation or liability, under a contract that would be accounted for as a derivative instrument, except that it is excluded from the scope of FASB ASC Topic 815, or (4) an obligation, including a contingent obligation, arising out of a variable interest in an unconsolidated entity that is held by, and material to, the Company, where such entity provides financing, liquidity, market risk or credit risk support to, or engages in leasing, hedging or research and development services with, the Company.

We do not have any off-balance sheet arrangements as defined above which have or are likely to have a current or future material effect on our financial condition, results of operations, liquidity, capital expenditures, capital resources or cash flows.

Contractual Obligations

A summary of our contractual obligations and commitments at December 31, 2018 is as follows (in millions):

	Payments due by period				
	Total	2019	2020-2021	2022-2023	2024 and thereafter
Debt obligations[a]	$1,756.3	$—	$ 81.3	$ 525.0	$1,150.0
Short-term debt obligations[a]	56.1	56.1	—	—	—
Expected interest payments	401.5	60.7	118.1	94.4	128.3
Operating lease obligations	111.2	23.5	37.5	23.7	26.5
Retirement and other benefits[b] [c]	204.9	8.4	16.5	17.5	162.5
Purchase obligations	347.5	322.8	24.7	—	—
Obligations under customer incentive programs	52.4	52.4	—	—	—
Income tax payments[d]	28.4	3.4	—	8.1	16.9
TOTAL	$2,958.3	$527.3	$ 278.1	$ 668.7	$1,484.2

(a) Amounts exclude unamortized discount and capitalized debt issuance costs.

(b) Amounts above reflect projected funding related to the Company's non-qualified defined benefit and OPEB plans. Projected funding obligations of the Company's qualified defined benefit pension plans are excluded from the table as there are significant factors, such as the future market value of plan assets and projected investment return rates, which could cause actual funding requirements to differ materially from projected funding.

(c) Amounts above reflect a $12.5 million obligation associated with the withdrawal from a multi-employer plan. See Note 11 — Retirement Benefits in the Notes to Consolidated Financial Statements for further information.

(d) Amount above includes future payments associated with the one-time transition tax under the TCJA.

Our purchase obligations include amounts committed under legally enforceable contracts or purchase orders for goods and services with defined terms as to price, quantity, delivery and termination liability. These obligations primarily consist of inventory purchases made in the normal course of business to meet operational requirements and commitments for equipment purchases. As of December 31, 2018, we have $38.9 million of uncertain tax positions reflected in our Consolidated Balance Sheet. We are unable to make a reasonable estimate regarding the timing of settlement of these uncertain tax positions and, as a result, they have been excluded from the table. See Note 13 — Income Taxes in the Notes to Consolidated Financial Statements.

Critical Accounting Estimates

Note 1 — Significant Accounting Policies in the Notes to Consolidated Financial Statements describes the significant accounting policies used in the preparation of our financial statements.

Use of Estimates

We are required to make assumptions and estimates and apply judgments in the preparation of our financial statements that affect the reported amounts of assets and liabilities, revenues and expenses and related disclosures. We base our assumptions, estimates and judgments on historical experience, current trends and other factors deemed relevant by management. We continually review these estimates and their underlying assumptions to ensure they are appropriate for the circumstances. Changes in estimates and assumptions used by us could have a material impact on our financial results. We believe that the following estimates are among the most critical in fully understanding and evaluating our reported financial results. These items utilize assumptions and estimates about the effect of future events that are inherently uncertain and are based on our judgment.

Revenue Recognition

The Company recognizes revenue when performance obligations identified under the terms of contracts with its customers are satisfied, which generally occurs, for products, upon the transfer of control in accordance with the contractual terms and conditions of the sale. The majority of the Company’s revenue associated with products is recognized at a point in time when the product is shipped to the customer, with a relatively small amount of transactions in the Power segment recognized upon delivery of the product at the contractually specified destination. Revenue from service contracts and post-shipment performance obligations is less than three percent of total annual consolidated net revenue and those service contracts and post-shipment obligations are primarily within the Power segment. Revenue from service contracts and post-shipment performance obligations is recognized when or as those obligations are satisfied. The Company primarily offers assurance-type standard warranties that do not represent separate performance obligations and on occasion will separately offer and price extended warranties that are separate performance obligations for which the associated revenue is recognized over-time based on the extended warranty period. The Company records amounts billed to customers for reimbursement of shipping and handling costs within revenue. Shipping and handling costs associated with outbound freight after control over a product has transferred to a customer are accounted for as fulfillment costs and are included in cost of goods sold. Sales taxes and other usage-based taxes are excluded from revenue.

The Company has certain arrangements that require us to estimate at the time of sale the amounts of variable consideration that should not be recorded as revenue as certain amounts are not expected to be collected from customers, as well as an estimate of the value of the product to be returned. The Company principally relies on historical experience, specific customer agreements and anticipated future trends to estimate these amounts at the time of shipment and to reduce the transaction price. These arrangements include sales discounts and allowances based on sales volumes, specific programs and special pricing allowances, and returned goods, as are customary in the electrical products industry. Customer returns have historically ranged from 1%-2% of gross sales.

Inventory Valuation

Inventories in the U.S. are primarily valued at the lower of LIFO cost or market, while non-U.S. inventories are valued at the lower of FIFO cost or market. We routinely evaluate the carrying value of our inventories to ensure they are carried at the lower of LIFO or FIFO cost or market value. Such evaluation is based on our judgment and use of estimates, including sales forecasts, gross margins for particular product groupings, planned dispositions of product lines, technological events and overall industry trends. In addition, the evaluation is based on changes in inventory management practices which may influence the timing of exiting products and method of disposing of excess inventory.

Excess inventory is generally identified by comparing future expected inventory usage to actual on-hand quantities. Inventory values are reduced for on-hand inventory in excess of pre-defined usage forecasts. Forecast usage is primarily determined by projecting historical (actual) sales and inventory usage levels forward to future periods. Changes in these estimates may necessitate future adjustments to inventory values.

Customer Credit and Collections

We maintain allowances for doubtful accounts receivable in order to reflect the potential uncollectability of receivables related to purchases of products on open credit. If the financial condition of our customers were to deteriorate, resulting in their inability to make required payments, we may be required to record additional allowances for doubtful accounts.

Accrued Insurance

We retain a significant portion of the risks associated with workers' compensation, medical, automobile and general liability insurance. We estimate self-insurance liabilities using a number of factors, including historical claims experience, demographic factors, severity factors and other actuarial assumptions. The accrued liabilities associated with these programs are based on our estimates of ultimate costs to settle known claims as well as claims incurred but not reported as of the balance sheet date. These assumptions are periodically reviewed with a third-party actuary to determine the adequacy of these self-insurance reserves. Changes in these assumptions may necessitate future adjustments to these self-insurance liabilities.

Employee Benefits Costs and Funding

We sponsor domestic and foreign defined benefit pension, defined contribution and other postretirement plans. Major assumptions used in the accounting for these employee benefit plans include the discount rate, expected return on the pension fund assets, rate of increase in employee compensation levels and health care cost increase projections. These assumptions are determined based on Company data and appropriate market indicators, and are evaluated each year as of the plans' measurement dates. Further discussion of the assumptions used in 2018 and 2017 are included above under "Pension Funding Status" and in Note 11 — Retirement Benefits in the Notes to Consolidated Financial Statements.

Taxes

We account for income taxes in accordance with the applicable accounting guidance which requires that deferred tax assets and liabilities be recognized using enacted tax rates for the effect of temporary differences between the book and tax basis of recorded assets and liabilities. Additionally, deferred tax assets are required to be reduced by a valuation allowance if it is more-likely-than-not that some portion or all of a deferred tax asset will not be realized. The factors used to assess the likelihood of realization of deferred tax assets are the forecast of future taxable income, available tax planning strategies that could be implemented to realize the net deferred tax assets, and future reversals of deferred tax liabilities. Failure to achieve forecasted taxable income can affect the ultimate realization of net deferred tax assets.

We operate within multiple taxing jurisdictions and are subject to audit in these jurisdictions. The Internal Revenue Service ("IRS") and other tax authorities routinely review our tax returns. These audits can involve complex issues, which may require an extended period of time to resolve. The Company records uncertain tax positions when it has determined that it is more-likely-than-not that a tax position will not be sustained upon examination by taxing authorities based on the technical merits of the position. The Company uses the criteria established in the accounting guidance to determine whether an item meets the definition of more-likely-than-not. The Company's policy is to recognize these uncertain tax positions when the more-likely-than-not threshold is met, when the statute of limitations has expired or upon settlement. In management's opinion, adequate provision has been made for potential adjustments arising from any examinations. See Note 1 — Significant Accounting Policies and Note 13 — Income Taxes in the Notes to Consolidated Financial Statements.

Contingent Liabilities

We are subject to proceedings, lawsuits, and other claims or uncertainties related to environmental, legal, product and other matters. We routinely assess the likelihood of an adverse judgment or outcome to these matters, as well as the range of potential losses. We record a liability when it is both probable that a liability has been incurred and the amount can be reasonably estimated. A determination of the reserves required, if any, is made after careful analysis, including consultations with outside advisors, where applicable. Where no amount within a range of estimates is more likely, the minimum is accrued. The required reserves may change in the future due to new developments.

Warranty

The Company offers product warranties that cover defects on most of its products. These warranties primarily apply to products that are properly installed, maintained and used for their intended purpose. The Company accrues estimated warranty costs at the time of sale. Estimated warranty expenses, recorded in cost of goods sold, are based upon historical information such as past experience, product failure rates, or the estimated number of units to be repaired or replaced. Adjustments are made to the product warranty accrual as claims are incurred, additional information becomes known or as historical experience indicates.

Valuation of Long-Lived Assets

Our long-lived assets include land, buildings, equipment, molds and dies, software, goodwill and other intangible assets. Long-lived assets, other than land, goodwill and indefinite-lived intangibles, are depreciated over their estimated useful lives. The assets and liabilities of acquired businesses are recorded under the acquisition method of accounting at their estimated fair values at the dates of acquisition. Goodwill represents purchase price in excess of fair values assigned to the underlying identifiable net assets of acquired businesses. Intangible assets primarily consist of patents, tradenames and customer related intangibles.

We review depreciable long-lived assets for impairment whenever events or changes in circumstances indicate that the carrying amount may not be fully recoverable. If such a change in circumstances occurs, the related estimated future undiscounted cash flows expected to result from the use of the asset group and its eventual disposition is compared to the carrying amount. If the sum of the expected cash flows of the asset group is less than the carrying amount, an impairment charge is recorded. The impairment charge is measured as the amount by which the carrying amount exceeds the fair value of the asset. The fair value of impaired assets is determined using expected cash flow estimates, quoted market prices when available and appraisals as appropriate. We did not record any material impairment charges related to long-lived assets in 2018, 2017, or 2016.

Goodwill and indefinite-lived intangible assets are reviewed annually for impairment unless circumstances dictate the need for more frequent assessment. We perform our goodwill impairment testing as of April 1st of each year unless circumstances dictate the need for more frequent assessments. The accounting guidance provides entities an option of performing a qualitative assessment before performing a quantitative analysis. If the entity determines, on the basis of certain qualitative factors, that it is more-likely-than-not that the goodwill is not impaired, the entity would not need to proceed to the two step goodwill impairment testing process as prescribed in the guidance. The Company performed a qualitative assessment for six of its seven reporting units. The Company elected to bypass the qualitative assessment and proceeded directly to the quantitative analysis for its remaining reporting unit. The goodwill impairment test requires judgment, including the identification of reporting units, assigning assets and liabilities to reporting units, and determining the fair value of each reporting unit. Significant judgments required to estimate the fair value of reporting units include estimating future discounted cash flows, determining appropriate discount rates and other assumptions. We use internal discounted cash flow estimates to determine fair value. These cash flow estimates are derived from historical experience and future long-term business plans and the application of an appropriate discount rate. Changes in these estimates and assumptions could materially affect the determination of fair value and/or goodwill impairment for each reporting unit. As of April 1, 2018, our goodwill testing resulted in fair values for each reporting unit that substantially exceeded the reporting unit's carrying value. We have not recorded any goodwill impairments since the initial adoption of the accounting guidance in 2002.

The identification and measurement of impairment of indefinite-lived intangible assets involves an assessment of qualitative factors to determine whether events or circumstances indicate that it is more-likely-than-not that an indefinite-lived intangible asset is impaired. If it is more-likely-than-not that the asset is impaired, the fair value of the indefinite lived intangibles will be determined using discounted cash flow estimates. If the carrying value of these assets exceeds the estimated fair value, the carrying value will be reduced to the estimated fair value. We did not record any impairments related to indefinite-lived intangible assets in 2018, 2017, or 2016.

Stock-Based Compensation

We determine the grant date fair value of certain stock-based compensation awards using either a lattice model or the Black-Scholes option pricing model. Both of these models require management to make certain assumptions with respect to selected model inputs. These inputs include assumptions for the expected term, stock volatility, dividend yield and risk-free interest rate. Changes in these inputs impact fair value and could impact our stock-based compensation expense in the future. In addition, we are required to estimate the expected forfeiture rate and recognize expense only for those awards expected to meet the service and performance vesting conditions. If our actual forfeiture rate is different from our estimate, adjustments to stock-based compensation expense may be required. See also Note 17 — Stock-Based Compensation in the Notes to Consolidated Financial Statements.

Forward-Looking Statements

Some of the information included in this Management's Discussion and Analysis of Financial Condition and Results of Operations, and elsewhere in this Form 10-K, contain "forward-looking statements" as defined by the Private Securities Litigation Reform Act of 1995. These include statements about our expected capital resources, liquidity, financial performance, pension funding, and results of operations and are based on our reasonable current expectations. In addition, all statements regarding the expected financial impact of the integration of Aclara, adoption of updated accounting standards and any expected effects of such adoption, restructuring plans and expected associated costs and benefits, intent to repurchase shares of Common Stock, and change in operating results, anticipated market conditions and productivity initiatives are forward looking. Forward-looking statements may be identified by the use of words, such as "believe", "expect", "anticipate", "intend", "depend", "should", "plan", "estimated", "predict", "could", "may", "subje
"growing", "prospective", "forecast", "projected", "purport", "might", "if", "contemplate", "potential", "pending," "target", "g

“will likely be”, and similar words and phrases. Discussions of strategies, plans or intentions often contain forward-looking statements. Important factors, among others, that could cause our actual results and future actions to differ materially from those described in forward-looking statements include, but are not limited to:

- Changes in demand for our products, market conditions, product quality, or product availability adversely affecting sales levels.
- Changes in markets or competition adversely affecting realization of price increases.
- Failure to achieve projected levels of efficiencies, cost savings and cost reduction measures, including those expected as a result of our lean initiative and strategic sourcing plans.
- The expected benefits and the timing of other actions in connection with our Enterprise Resource Planning ("ERP") system.
- The ability to effectively implement ERP systems without disrupting operational and financial processes.
- Availability and costs of raw materials, purchased components, energy and freight.
- Changes in expected or future levels of operating cash flow, indebtedness and capital spending.
- General economic and business conditions in particular industries, markets or geographic regions, as well as inflationary trends.
- Impacts of trade tariffs, import quotas or other trade restrictions or measures taken by the U.S., U.K., and other countries.
- Regulatory issues, changes in tax laws including the TCJA, or changes in geographic profit mix affecting tax rates and availability of tax incentives.
- A major disruption in one or more of our manufacturing or distribution facilities or headquarters, including the impact of plant consolidations and relocations.
- Changes in our relationships with, or the financial condition or performance of, key distributors and other customers, agents or business partners which could adversely affect our results of operations.
- Impact of productivity improvements on lead times, quality and delivery of product.

- Anticipated future contributions and assumptions including changes in interest rates and plan assets with respect to pensions.
- Adjustments to product warranty accruals in response to claims incurred, historical experiences and known costs.
- Unexpected costs or charges, certain of which might be outside of our control.
- Changes in strategy, economic conditions or other conditions outside of our control affecting anticipated future global product sourcing levels.
- Ability to carry out future acquisitions and strategic investments in our core businesses as well as the acquisition related costs.
- Ability to successfully execute, manage and integrate key acquisitions and mergers, including the Aclara acquisition.
- Unanticipated difficulties integrating acquisitions as well as the realization of expected synergies and benefits anticipated when we first enter into a transaction.
- The ability of governments to meet their financial obligations.
- Political unrest in foreign countries.
- The impact of Brexit and other world economic and political issues.
- Natural disasters.
- Failure of information technology systems or security breaches resulting in unauthorized disclosure of confidential information.

- Future revisions to or clarifications of the TCJA.
- Future repurchases of common stock under our common stock repurchase program.
- Changes in accounting principles, interpretations, or estimates.
- The outcome of environmental, legal and tax contingencies or costs compared to amounts provided for such contingencies.
- Adverse changes in foreign currency exchange rates and the potential use of hedging instruments to hedge the exposure to fluctuating rates of foreign currency exchange on inventory purchases.
- Transitioning from LIBOR to a replacement alternative reference rate.
- Other factors described in our Securities and Exchange Commission filings, including the “Business”, “Risk Factors” and “Quantitative and Qualitative Disclosures about Market Risk” sections in this Company’s Annual Report on Form 10-K for the year ended December 31, 2018.

Any such forward-looking statements are not guarantees of future performances and actual results, developments and business decisions may differ from those contemplated by such forward-looking statements. The Company disclaims any duty to update any forward-looking statement, all of which are expressly qualified by the foregoing, other than as required by law.

ITEM 7A Quantitative and Qualitative Disclosures about Market Risk

In the operation of our business, we have various exposures to areas of risk related to factors within and outside the control of management. Significant areas of risk and our strategies to manage the exposure are discussed below.

In 2018, we manufactured and/or assembled products in the United States, Canada, Switzerland, Puerto Rico, Mexico, China, UK, Brazil, Spain and Australia and sold products in those markets as well as through offices in Singapore, Italy, China, Mexico, and South Korea and countries in the Middle East. In 2018, Hubbell also participated in joint ventures in Taiwan, Hong Kong and the Philippines. Shipments to third party customers from non-U.S. subsidiaries as a percentage of the Company’s total net sales were 10% in 2018, 11% in 2017 and 10% in 2016, with the UK and Canadian operations representing approximately 33% and 27%, respectively, of 2018 total international net sales. As such, our operating results could be affected by changes in foreign currency exchange rates or weak economic conditions in the foreign markets in which we sell our products. To manage this exposure, we closely monitor the working capital requirements of our international units and may enter into forward foreign exchange contracts. Further discussion of forward exchange contracts can be found in Note 14 — Financial Instruments and Fair Value Measurement in the Notes to Consolidated Financial Statements.

Product purchases representing approximately 20% of our net sales are sourced from unaffiliated suppliers located outside the United States, primarily in China and other Asian countries, Europe and Brazil. Foreign sourcing of products may result in unexpected fluctuations in product cost or increased risk of business interruption due to lack of product or component availability due to any one of the following:

- Political or economic uncertainty in the source country
- Fluctuations in the rate of exchange between the U.S. dollar and the currencies of the source countries
- Changes in U.S. laws and policies governing foreign trade
- Increased logistical complexity including supply chain interruption or delay, port of departure or entry disruption and overall time to market
- Loss of proprietary information
- Product quality issues outside the control of the Company

We have developed plans that address many of these risks. Such actions include careful selection of products to be outsourced and the suppliers selected; ensuring multiple sources of supply; limiting concentrations of activity by port, broker, freight forwarder, etc.; processes related to quality control; and maintaining control over operations, technologies and manufacturing deemed to provide competitive advantage. Many of our businesses have a dependency on certain basic raw materials needed to produce their products including steel, aluminum, brass, copper, bronze, zinc, nickel, plastics, phenols, elastomers and petrochemicals as well as purchased electrical and electronic components. Our financial results could be affected by the availability and changes in prices of these materials and components.

Certain of these materials are sourced from a limited number of suppliers. These materials are also key source materials for many other companies in our industry and within the universe of industrial manufacturers in general. As such, in periods of rising demand for these materials, we may experience both increased costs and/or limited supply. These conditions can potentially result in our inability to acquire these key materials on a timely basis to produce our products and satisfy our incoming sales orders. Similarly, the cost of these materials can rise suddenly and result in materially higher costs of producing our products. We believe we have adequate primary and secondary sources of supply for each of our key materials and that, in periods of rising prices, we expect to recover a majority of the increased cost in the form of higher selling prices. However, recoveries typically lag the effect of cost increases due to the nature of our markets.

Our financial results are subject to interest rate fluctuations to the extent there is a difference between the amount of our interest-earning assets and the amount of interest-bearing liabilities. The principal objectives of our investment management activities are to preserve capital while earning net investment income that is commensurate with acceptable levels of interest rate, default and liquidity risk taking into account our funding needs. As part of our investment management strategy, we may use derivative financial products such as interest rate hedges and interest rate swaps.

From time to time or when required, we issue commercial paper, which exposes us to changes in interest rates. Our cash position includes amounts denominated in foreign currencies. We manage our worldwide cash requirements by considering available funds held by our subsidiaries and the cost effectiveness with which these funds can be accessed.

Our long term debt portfolio is comprised of fixed-rate senior notes and a term loan with an interest rate based on either adjusted LIBOR plus an applicable margin (determined by a ratings based grid) or the alternate base rate. As of December 31, 2018, the long-term debt outstanding related to the fixed-rate senior notes and term loan was $1,450.0 million and $331.3 million, respectively. The senior notes are not exposed to interest rate risk as the bonds are at a fixed-rate until maturity.

We continually evaluate risk retention and insurance levels for product liability, property damage and other potential exposures to risk. We devote significant effort to maintaining and improving safety and internal control programs, which are intended to reduce our exposure to certain risks. We determine the level of insurance coverage and the likelihood of a loss and believe that the current levels of risk retention are consistent with those of comparable companies in the industries in which we operate. There can be no assurance that we will not incur losses beyond the limits of our insurance. However, our liquidity, financial position and profitability are not expected to be materially affected by the levels of risk retention that we accept.

The following table presents cost and weighted average interest rate information related to financial instruments that are sensitive to changes in interest rates, by maturity at December 31, 2018 (dollars in millions):

	2019	2020	2021	2022	2023	Thereafter	Total

								Fair Value 12/31/18
ASSETS								
Available-for-sale investments	$9.2	$12.6	$3.4	$3.3	$4.6	$15.8	$48.9	$48.9
Avg. interest rate	4.60 %	5.00 %	5.00 %	5.00 %	5.00 %	4.60 %		
LIABILITIES								
Senior Notes	$—	$—	$—	$300.0	$—	$1,150.0	$1,450.0	$1,369.3
Avg. interest rate	—	—	—	3.63 %	—	3.36 %		
Term Loan	$25.0	$34.4	$46.9	$50.0	$175.0	$—	$331.3	$318.8
Avg. interest rate	3.44 %	3.44 %	3.44 %	3.44 %	3.44 %	—		

We use derivative financial instruments only if they are matched with a specific asset, liability, or proposed future transaction. We do not speculate or use leverage when trading a financial derivative product.

ITEM 8 Financial Statements and Supplementary Data

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

Reports of Management

Report on Management’s Responsibility for Financial Statements

Our management is responsible for the preparation, integrity and fair presentation of our published financial statements. The financial statements have been prepared in accordance with accounting principles generally accepted in the United States of America and include amounts based on informed judgments made by management.

We believe it is critical to provide investors and other users of our financial statements with information that is relevant, objective, understandable and timely, so that they can make informed decisions. As a result, we have established and maintain systems and practices and internal control processes designed to provide reasonable, but not absolute, assurance that transactions are properly executed and recorded and that our policies and procedures are carried out appropriately. Management strives to recruit, train and retain high quality people to ensure that controls are designed, implemented and maintained in a high-quality, reliable manner.

Our independent registered public accounting firm audited our financial statements and the effectiveness of our internal control over financial reporting in accordance with standards established by the Public Company Accounting Oversight Board (United States). Their report appears on the next page within this Annual Report on Form 10-K.

Our Board of Directors normally meets ten times per year to provide oversight, to review corporate strategies and operations, and to assess management’s conduct of the business. The Audit Committee of our Board of Directors is composed of at least three individuals all of whom must be “independent” under current New York Stock Exchange listing standards and regulations adopted by the SEC under the federal securities laws. The Audit Committee meets regularly with our internal auditors and independent registered public accounting firm, as well as, management to review, among other matters, accounting, auditing, internal controls and financial reporting issues and practices. Both the internal auditors and independent registered public accounting firm have full, unlimited access to the Audit Committee.

Management’s Annual Report on Internal Control over Financial Reporting

Management is responsible for establishing and maintaining adequate systems of internal control over financial reporting as defined by Rules 13a-15(f) and 15d-15(f) under the Securities Exchange Act of 1934, as amended. Our internal control over financial reporting is designed to provide reasonable assurance regarding the reliability of financial reporting and the preparation of financial statements for external reporting purposes in accordance with generally accepted accounting principles in the United States of America. Because of its inherent limitations, internal control over financial reporting may not prevent or detect misstatements.

In February 2018, the Company acquired Aclara for approximately $1.1 billion. Because the Company has not yet fully incorporated the internal controls and procedures of Aclara into the Company's internal control over financial reporting, management excluded this business from its assessment of the effectiveness of internal control over financial reporting as of December 31, 2018. Aclara accounted for 13% of the

Company's total assets excluding intangibles and goodwill as of December 31, 2018 and 14% of the Company's net sales for the year then ended.

Management has assessed the effectiveness of our internal control over financial reporting as of December 31, 2018. In
making this assessment, management used the criteria set forth in Internal Control-Integrated Framework (2013 framework) issued by the Committee of Sponsoring Organizations of the Treadway Commission ("COSO"). Based on this assessment, management concluded that our internal control over financial reporting was effective at a reasonable assurance level as of December 31, 2018.

The effectiveness of our internal control over financial reporting as of December 31, 2018 has been audited by PricewaterhouseCoopers LLP, our independent registered public accounting firm as stated in their report which is included below within this Annual Report on Form 10-K.

/s/ DAVID G. NORD	/s/ WILLIAM R. SPERRY
David G. Nord	William R. Sperry
Chairman of the Board, President and Chief Executive Officer	Senior Vice President and Chief Financial Officer

Report of Independent Registered Public Accounting Firm

To the Board of Directors and Shareholders of Hubbell Incorporated

Opinions on the Financial Statements and Internal Control over Financial Reporting

We have audited the accompanying consolidated balance sheets of Hubbell Incorporated and its subsidiaries (the "Company") as of December 31, 2018 and 2017, and the related consolidated statements of income, comprehensive income, changes in equity and cash flows for each of the three years in the period ended December 31, 2018, including the related notes and schedule of valuation and qualifying accounts and reserves for each of the three years in the period ended December 31, 2018 appearing under Item 15 (collectively referred to as the “consolidated financial statements”). We also have audited the Company's internal control over financial reporting as of December 31, 2018, based on criteria established in Internal Control - Integrated Framework (2013) issued by the Committee of Sponsoring Organizations of the Treadway Commission (COSO).

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

Basis for Opinions

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

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

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

As described in Management’s Annual Report on Internal Control over Financial Reporting, management has excluded Meter Readings Holding Group, LLC (“Aclara”) from its assessment of internal control over financial reporting as of December 31, 2018 because it was acquired by the Company in a purchase business combination during 2018. We have also excluded Aclara from our audit of internal control over financial reporting. Aclara is a wholly-owned subsidiary whose total assets and total revenues excluded from management’s assessment and our audit of internal control over financial reporting represent 13% and 14%, respectively, of the related consolidated financial statement amounts as of and for the year ended December 31, 2018.

Definition and Limitations of Internal Control over Financial Reporting

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

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

/s/ PricewaterhouseCoopers LLP

Hartford, Connecticut
February 15, 2019

We have served as the Company's auditor since at least 1961. We have not been able to determine the specific year we began serving as auditor of the Company.

Consolidated Statement of Income

	Year Ended December 31,		
(in millions, except per share amounts)	2018	2017	2016
Net sales	$4,481.7	$3,668.8	$3,505.2
Cost of goods sold	3,181.3	2,513.7	2,400.1
Gross profit	1,300.4	1,155.1	1,105.1
Selling & administrative expenses	743.5	636.3	615.3
Operating income	556.9	518.8	489.8
Interest expense	(72.4)	(44.9)	(43.4)
Investment income	0.1	0.9	0.5
Loss on extinguishment of debt	—	(10.1)	—
Other expense, net	(17.6)	(21.6)	(16.5)
Total other expense	(89.9)	(75.7)	(59.4)
Income before income taxes	467.0	443.1	430.4
Provision for income taxes	100.9	193.2	132.6
Net income	366.1	249.9	297.8
Less: Net income attributable to noncontrolling interest	5.9	6.8	4.8
NET INCOME ATTRIBUTABLE TO HUBBELL	$360.2	$243.1	$293.0
Earnings per share			
Basic	$6.57	$4.42	$5.26
Diluted	$6.54	$4.39	$5.24

See notes to consolidated financial statements.

Consolidated Statement of Comprehensive Income

	Year Ended December 31,		
(in millions)	2018	2017	2016
Net income	$366.1	$249.9	$297.8
Other comprehensive income (loss):			
Foreign currency translation adjustments	(33.9)	28.9	(35.4)
Defined benefit pension and post-retirement plans, net of taxes of ($6.3), ($1.0) and $18.9	17.8	4.0	(40.3)
Unrealized gain (loss) on investments, net of taxes of $0.4, ($0.2) and $0.1	(1.4)	0.6	(1.2)
Unrealized gains (losses) on cash flow hedges, net of taxes of ($0.5), $0.4 and $0.5	1.6	(0.8)	(1.4)
Other comprehensive income (loss)	(15.9)	32.7	(78.3)
Comprehensive income	350.2	282.6	219.5
Less: Comprehensive income attributable to noncontrolling interest	5.9	6.8	4.8
COMPREHENSIVE INCOME ATTRIBUTABLE TO HUBBELL	$344.3	$275.8	$214.7

See notes to consolidated financial statements.

Consolidated Balance Sheet

(in millions, except per share amounts)	At December 31, 2018	2017
ASSETS		
Current Assets		
Cash and cash equivalents	$189.0	$375.0
Short-term investments	9.2	14.5
Accounts receivable, net	725.4	540.3
Inventories, net	651.0	634.7
Other current assets	69.1	39.6
Total Current Assets	1,643.7	1,604.1
Property, Plant, and Equipment, net	502.1	458.3
Other Assets		
Investments	56.3	57.7
Goodwill	1,784.4	1,089.0
Intangible assets, net	819.5	460.4
Other long-term assets	66.1	51.1
TOTAL ASSETS	$4,872.1	$3,720.6
LIABILITIES AND EQUITY		
Current Liabilities		
Short-term debt	$56.1	$68.1
Accounts payable	393.7	326.5
Accrued salaries, wages and employee benefits	101.6	76.6
Accrued insurance	61.3	60.0
Other accrued liabilities	226.6	174.9
Total Current Liabilities	839.3	706.1
Long-term Debt	1,737.1	987.1
Other Non-Current Liabilities	496.8	379.5
TOTAL LIABILITIES	3,073.2	2,072.7
Commitments and Contingencies (see Note 15)		
Hubbell Shareholders' Equity		
Common stock, par value $.01		
Common Stock - Authorized 200,000,000 shares, outstanding 54,715,188 and 54,882,154 shares	$0.6	$0.6
Additional paid-in capital	1.3	11.0
Retained earnings	2,064.4	1,892.4
Accumulated other comprehensive loss	(285.7)	(269.8)
Total Hubbell Shareholders' Equity	1,780.6	1,634.2
Noncontrolling interest	18.3	13.7
TOTAL EQUITY	1,798.9	1,647.9
TOTAL LIABILITIES AND EQUITY	$4,872.1	$3,720.6

See notes to consolidated financial statements.

Consolidated Statement of Cash Flows

	Year Ended December 31,		
(in millions)	2018	2017	2016
Cash Flows from Operating Activities			
Net income	$366.1	$249.9	$297.8
Adjustments to reconcile net income to net cash provided by operating activities, net of acquisitions:			
Depreciation and amortization	148.4	98.2	90.9
Deferred income taxes	49.0	(14.3)	12.7
Stock-based compensation	24.2	22.3	22.3
Loss on extinguishment of debt	—	10.1	—
Gain on sale of assets	(4.0)	(11.6)	(5.8)
Changes in assets and liabilities, net of acquisitions:			
Decrease (increase) in accounts receivable	(75.4)	3.9	(42.3)
Decrease (increase) in inventories	34.2	(90.3)	18.4
Increase in current liabilities	15.6	57.4	13.8
Changes in other assets and liabilities, net	(20.4)	50.7	8.4
Contributions to qualified defined benefit pension plans	(27.9)	(1.7)	(18.0)
Other, net	7.3	4.4	12.8
NET CASH PROVIDED BY OPERATING ACTIVITIES	517.1	379.0	411.0
Cash Flows from Investing Activities			
Capital expenditures	(96.2)	(79.7)	(67.2)
Acquisitions, net of cash acquired	(1,118.0)	(184.1)	(173.4)
Purchases of available-for-sale investments	(16.6)	(20.9)	(20.0)
Proceeds from sales of available-for-sale investments	20.5	17.4	13.3
Proceeds from disposition of assets	6.8	18.4	10.8
Other, net	2.1	3.3	6.3
NET CASH USED IN INVESTING ACTIVITIES	(1,201.4)	(245.6)	(230.2)
Cash Flows from Financing Activities			
Issuance of long-term debt	947.5	297.6	397.0
Payment of long-term debt	(168.8)	(300.0)	—
Issuance of short-term debt	0.8	66.3	1.2
Payment of short-term debt	(38.0)	(1.7)	(51.5)
Make whole payment for extinguishment of long-term debt	—	(9.9)	—
Debt issuance cost	(7.6)	(3.0)	(3.6)
Payment of dividends	(172.3)	(157.6)	(144.0)
Payment of dividends to noncontrolling interest	(3.9)	(3.5)	(2.8)
Acquisition of common shares	(40.0)	(92.5)	(246.8)
Other	(11.2)	(10.0)	(8.9)
NET CASH PROVIDED (USED) IN FINANCING ACTIVITIES	506.5	(214.3)	(59.4)
Effect of foreign currency exchange rate changes on cash and cash equivalents	(8.2)	18.3	(27.3)
Increase (Decrease) in cash and cash equivalents	(186.0)	(62.6)	94.1
Cash and cash equivalents, beginning of year	375.0	437.6	343.5
Cash and cash equivalents, end of year	$189.0	$375.0	$437.6

See notes to consolidated financial statements.

Consolidated Statement of Changes in Equity

(in millions, except per share amounts)	Common Stock	Additional Paid-in Capital	Retained Earnings	Accumulated Other Comprehensive Income (Loss)	Total Hubbell Shareholders' Equity	Non-controlling interest
BALANCE AT DECEMBER 31, 2015	$0.6	$ 78.1	$1,886.1	$ (224.2)	$ 1,740.6	$ 8.4
Net income			293.0		293.0	4.8
Other comprehensive (loss) income				(78.3)	(78.3)	
Stock-based compensation		22.5			22.5	
Income tax windfall from stock-based awards, net		4.8			4.8	
Acquisition/surrender of common shares[1]		(90.4)	(155.5)		(245.9)	
Cash dividends declared ($2.59 per share)			(144.3)		(144.3)	
Dividends to noncontrolling interest						(2.8)
Director's deferred compensation		0.4			0.4	
BALANCE AT DECEMBER 31, 2016	0.6	15.4	1,879.3	(302.5)	1,592.8	10.4
Net income			243.1		243.1	6.8
Other comprehensive (loss) income				32.7	32.7	
Stock-based compensation		22.3			22.3	
Acquisition/surrender of common shares[1]		(27.2)	(72.1)		(99.3)	
Cash dividends declared ($2.87 per share)			(157.9)		(157.9)	
Dividends to noncontrolling interest						(3.5)
Director's deferred compensation		0.5			0.5	
BALANCE AT DECEMBER 31, 2017	0.6	11.0	1,892.4	(269.8)	1,634.2	13.7
Net income			360.2		360.2	5.9
Other comprehensive (loss) income				(15.9)	(15.9)	
Stock-based compensation		24.2			24.2	
ASC 606 adoption to retained earnings			0.6		0.6	
Acquisition/surrender of common shares[1]		(34.5)	(16.0)		(50.5)	
Cash dividends declared ($3.15 per share)			(172.8)		(172.8)	
Dividends to noncontrolling interest						(3.9)
Aclara noncontrolling interest						2.6
Director's deferred compensation		0.6			0.6	
BALANCE AT DECEMBER 31, 2018	$0.6	$ 1.3	$2,064.4	$ (285.7)	$ 1,780.6	$ 18.3

See notes to consolidated financial statements.

[1] For accounting purposes, the Company treats repurchased shares as constructively retired when acquired and accordingly charges the purchase price against Common Stock par value, Additional paid-in capital, to the extent available, and Retained earnings. The change in Retained earnings of $16.0 million, $72.1 million and $155.5 million in 2018, 2017 and 2016, respectively, reflects this accounting treatment.

Notes to Consolidated Financial Statements

NOTE 1 Significant Accounting Policies

Basis of Presentation

The accompanying consolidated financial statements of the Company have been prepared in accordance with accounting principles generally accepted in the United States of America ("GAAP").

Principles of Consolidation

The Consolidated Financial Statements include all wholly owned subsidiaries. All significant intercompany balances and transactions have been eliminated. The Company participates in three joint ventures, one of which is accounted for using the equity method, the others have been consolidated in accordance with the consolidation accounting guidance. An analysis is performed to determine which reporting entity, if any, has a controlling financial interest in a variable interest entity ("VIE") with a primarily qualitative analysis. The qualitative analysis is based on identifying the party that has both the power to direct the activities that most significantly impact the VIE's economic performance (the "power criterion") and the obligation to absorb losses from or the right to receive benefits of the VIE that could potentially be significant to the VIE (the "losses/benefit criterion"). The party that meets both these criteria is deemed to have a controlling financial interest. The party with the controlling financial interest is considered to be the primary beneficiary and as a result is required to consolidate the VIE. The Company has a 50% interest in a joint venture in Hong Kong, established as Hubbell Asia Limited ("HAL"). The principal objective of HAL is to manage the operations of its wholly-owned manufacturing company in China. Under the accounting guidance, the Company is the primary beneficiary of HAL and as a result consolidates HAL. This determination is based on the fact that HAL's sole business purpose is to manufacture product exclusively for the Company (the power criterion) and the Company is financially responsible for ensuring HAL maintains a fixed operating margin (the losses/benefit criterion). The consolidation of HAL is not material to the Company's consolidated financial statements.

Use of Estimates

The preparation of financial statements in accordance with GAAP requires management to make estimates and assumptions that affect the reported amounts in the Consolidated Financial Statements and accompanying Notes to Consolidated Financial Statements. Actual results could differ from the estimates that are used.

Revenue Recognition

The Company recognizes revenue when performance obligations identified under the terms of contracts with its customers are satisfied, which generally occurs, for products, upon the transfer of control in accordance with the contractual terms and conditions of the sale. The majority of the Company's revenue associated with products is recognized at a point in time when the product is shipped to the customer, with a relatively small amount of transactions in the Power segment recognized upon delivery of the product at the contractually specified destination. Revenue from service contracts and post-shipment performance obligations is less than three percent of total annual consolidated net revenue and those service contracts and post-shipment obligations are primarily within the Power segment. Revenue from service contracts and post-shipment performance obligations is recognized when or as those obligations are satisfied. The Company primarily offers assurance-type standard warranties that do not represent separate performance obligations and on occasion will separately offer and price extended warranties that are separate performance obligations for which the associated revenue is recognized over-time based on the extended warranty period. The Company records amounts billed to customers for reimbursement of shipping and handling costs within revenue. Shipping and handling costs associated with outbound freight after control over a product has transferred to a customer are accounted for as fulfillment costs and are included in cost of goods sold. Sales taxes and other usage-based taxes are excluded from revenue.

Within the Electrical segment, certain businesses require a portion of the transaction price to be paid in advance of transfer of control. Advance payments are not considered a significant financing component as they are received less than one year before the related performance obligations are satisfied. In addition, in the Power segment, certain businesses offer annual maintenance service contracts that require payment at the beginning of the contract period. These payments are treated as a contract liability and are classified in Other accrued liabilities in the Consolidated Balance Sheet. Once control transfers to the customer and the Company meets the revenue recognition criteria, the deferred revenue is recognized in the Consolidated Statement of Income. The deferred revenue relating to the annual maintenance service contracts is recognized in the Consolidated Statement of Income on a straight line basis over the expected term of the contract.

The Company has certain arrangements that require us to estimate at the time of sale the amounts of variable consideration that should not be recorded as revenue as certain amounts are not expected to be collected from customers, as well as an estimate of the value of the product to be returned. The Company principally relies on historical experience, specific customer agreements and anticipated future trends to estimate these amounts at the time of shipment and to reduce the transaction price. These arrangements include sales discounts and allowances based on sales volumes, specific programs and special pricing allowances, and returned goods, as are customary in the electrical products industry. Customer returns have historically ranged from 1%-2% of gross sales.

Shipping and Handling Costs

The Company records shipping and handling costs as part of Cost of goods sold in the Consolidated Statement of Income.

Foreign Currency Translation

The assets and liabilities of international subsidiaries are translated to U.S. dollars at exchange rates in effect at the end of the year, and income and expense items are translated at average exchange rates in effect during the year. The effects of exchange rate fluctuations on the translated amounts of foreign currency assets and liabilities are included as translation adjustments in Accumulated other comprehensive loss within Hubbell shareholders' equity. Gains and losses from foreign currency transactions are included in results of operations.

Cash and Cash Equivalents

The carrying value of cash equivalents approximates fair value. Cash equivalents consist of highly liquid investments with original maturities to the Company of three months or less.

Investments

Investments in debt and equity securities are classified by individual security as available-for-sale, held-to-maturity or trading securities. Our available-for-sale securities, consisting of municipal bonds and the redeemable preferred stock of a privately held company, are carried on the balance sheet at fair value with current period adjustments to carrying value recorded in Accumulated other comprehensive loss within Hubbell shareholders' equity, net of tax. Realized gains and losses are recorded in income in the period of sale. The Company's trading securities are carried on the balance sheet at fair value and consist primarily of debt and equity mutual funds. Gains and losses associated with these trading securities are reflected in the results of operations. The Company did not have any investments classified as held-to-maturity as of December 31, 2018 and 2017.

Accounts Receivable and Allowances

Trade accounts receivable are recorded at the invoiced amount and generally do not bear interest. The allowance for doubtful accounts is based on an estimated amount of probable credit losses in existing accounts receivable. The allowance is calculated based upon a combination of historical write-off experience, fixed percentages applied to aging categories and specific identification based upon a review of past due balances and problem accounts. Account balances are charged off against the allowance when it is determined that internal collection efforts should no longer be pursued. The Company also maintains a reserve for credit memos and cash discounts which are principally calculated based upon historical experience, specific customer agreements, as well as anticipated future trends.

Inventories

Inventories are stated at the lower of cost or market value. Approximately 66% of total net inventory value is determined utilizing the last-in, first-out (LIFO) method of inventory accounting. The cost of foreign inventories and certain domestic inventories is determined utilizing average cost or first-in, first-out (FIFO) methods of inventory accounting. Reserves for excess and obsolete inventory are provided based on current assessments about future demand compared to on-hand quantities.

Property, Plant, and Equipment

Property, plant, and equipment values are stated at cost less accumulated depreciation. Maintenance and repair expenditures that do not significantly increase the life of an asset are charged to expense when incurred. Property, plant, and equipment placed in service prior to January 1, 1999 are depreciated over their estimated useful lives, principally, using accelerated methods. Assets placed in service subsequent to January 1, 1999 are depreciated over their estimated useful lives, using straight-line methods. Leasehold improvements are amortized over the shorter of their economic lives or the lease term. Gains and losses arising on the disposal of property, plant and equipment are included in Operating income in the Consolidated Statement of Income.

Capitalized Computer Software Costs

Capitalized computer software costs, net of amortization, were $20.2 million and $15.7 million at December 31, 2018 and 2017, respectively. This balance is reflected in Other long-term assets in the Consolidated Balance Sheet. Capitalized computer software is for internal use and costs primarily consist of purchased materials, external services and salary costs for personnel dedicated to the projects. Software is amortized on a straight-line basis over appropriate periods, generally between three and five years. The Company recorded amortization expense of $6.4 million in 2018, $5.6 million in 2017 and $5.2 million in 2016 relating to capitalized computer software.

Goodwill and Other Intangible Assets

Goodwill represents purchase price in excess of fair values of the underlying net assets of acquired companies. Indefinite-lived intangible assets and goodwill are subject to annual impairment testing using the specific guidance and criteria described in the accounting guidance. The Company performs its goodwill impairment testing as of April 1st of each year, unless circumstances dictate the need for more frequent assessments. The accounting guidance provides entities an option of performing a qualitative assessment (a "step-zero" test) before performing a quantitative analysis. If the entity determines, on the basis of certain qualitative factors, that it is more-likely-than-not that the goodwill is not impaired, the entity would not need to proceed to the two step goodwill impairment testing process (quantitative analysis) as prescribed in the guidance. The Company applied the "step-zero" test to six of its seven reporting units. Based on that qualitative assessment, the Company concluded it was more-likely-than-not that the fair value of these reporting units substantially exceeded their carrying value and therefore, further quantitative analysis was not required. For the seventh reporting unit the Company has elected to utilize the two step goodwill impairment testing process as permitted in the accounting guidance. Step 1 compares the fair value of the Company's reporting units to their carrying values. If the fair value of the reporting unit exceeds its carrying value, no further analysis is necessary. If the carrying value of the reporting unit exceeds its fair value, Step 2 must be completed to determine the amount of impairment.

Goodwill impairment testing requires judgment, including the identification of reporting units, assigning assets and liabilities to reporting units and determining the fair value of each reporting unit. Significant judgments required to estimate the fair value of reporting units include estimating future cash flows, determining appropriate discount rates and other assumptions. The Company uses internal discounted cash flow estimates to determine fair value. These cash flow estimates are derived from historical experience and future long-term business plans and the application of an appropriate discount rate. Changes in these estimates and assumptions could materially affect the determination of fair value and/or goodwill impairment for each reporting unit. The Company's estimated aggregate fair value of its reporting units are reasonable when compared to the Company's market capitalization on the valuation date.

As of April 1, 2018, our impairment testing resulted in implied fair value for each reporting unit that exceeded the reporting unit's carrying value, including goodwill. The Company did not have any reporting units at risk of failing Step 1 of the impairment test as the excess of the implied fair value significantly exceeded the carrying value of the reporting units. Additionally, the Company did not have any reporting units with zero or negative carrying amounts. The Company has not recorded any goodwill impairments since the initial adoption of the accounting guidance in 2002.

The Company's intangible assets consist primarily of customer relationships, tradenames and patents. Intangible assets with definite lives are amortized over periods generally ranging from 5-30 years. The Company amortizes intangible assets with definite lives using either an accelerated method that reflects the pattern in which economic benefits of the intangible assets are consumed and results in higher amortization in the earlier years of the assets, useful life, or using a straight line method.

Approximately 75% of the gross value of definite-lived intangible assets follow an accelerated amortization method. These definite lived intangibles are tested for impairment whenever events or circumstances indicate that the carrying amount of an asset (asset group) may not be recoverable. An impairment loss is recognized when the carrying amount of an asset exceeds the estimated undiscounted cash flows used in determining the fair value of the asset. The Company did not record any material impairments related to its definite lived intangible assets in 2018, 2017 or 2016. The Company also has some tradenames that are considered to be indefinite-lived intangible assets. These indefinite-lived intangible assets are not amortized and are tested for impairment annually, unless circumstances dictate the need for more frequent assessment.

The accounting guidance related to testing indefinite-lived intangible assets for impairment provides entities an option of performing a qualitative assessment before calculating the fair value of the asset. If the entity determines, on the basis of certain qualitative factors, that it is more-likely-than-not that the asset is not impaired, the entity would not need to calculate the fair value of the asset. The Company performed the qualitative assessment which resulted in no impairment in 2018, 2017 and 2016.

Other Long-Lived Assets

The Company reviews depreciable long-lived assets for impairment whenever events or changes in circumstances indicate that the carrying amount may not be fully recoverable. If such a change in circumstances occurs, the related estimated future undiscounted cash flows expected to result from the use of the asset group and its eventual disposition is compared to the carrying amount. If the sum of the expected cash flows is less than the carrying amount, an impairment charge is recorded. The impairment charge is measured as the amount by which the carrying amount exceeds the fair value of the asset. The fair value of impaired assets is determined using expected cash flow estimates, quoted market prices when available and appraisals as appropriate. The Company did not record any material impairment charges in 2018, 2017 or 2016.

Accrued Insurance

The Company retains a significant portion of the risks associated with workers' compensation, medical, automobile and general liability insurance. The Company estimates self-insurance liabilities using a number of factors, including historical claims experience, demographic factors, and other actuarial assumptions. The accrued liabilities associated with these programs are based on the Company's estimate of the ultimate costs to settle known claims as well as claims incurred but not reported as of the balance sheet date. The Company periodically reviews the assumptions with a third party actuary to determine the adequacy of these self-insurance reserves.

Accrued Warranty

The Company offers product warranties which cover defects on most of its products. These warranties primarily apply to products that are properly installed, maintained and used for their intended purpose. The Company accrues estimated warranty costs at the time of sale. Estimated warranty expenses, recorded in cost of goods sold, are based upon historical information such as past experience, product failure rates, or the estimated number of units to be repaired or replaced. Adjustments are made to the product warranty accrual as claims are incurred, additional information becomes known or as historical experience indicates. The Company assumed warranty obligations with an estimated fair value of $89.4 million in connection with the acquisition of Aclara.

Income Taxes

The Company operates within multiple taxing jurisdictions and is subject to audit in these jurisdictions. The IRS and other tax authorities routinely examine the Company’s tax returns. These audits can involve complex issues which may require an extended period of time to resolve. The Company makes adequate provisions for best estimates of exposures on previously filed tax returns. Deferred income taxes are recognized for the tax consequence of differences between financial statement carrying amounts and the tax basis of assets and liabilities by applying the currently enacted statutory tax rates in accordance with the accounting guidance for income taxes. The effect of a change in statutory tax rates is recognized in the period that includes the enactment date. Additionally, deferred tax assets are required to be reduced by a valuation allowance if it is more-likely-than-not that some portion or all of the deferred tax asset will not be realized. The Company uses factors to assess the likelihood of realization of deferred tax assets such as the forecast of future taxable income and available tax planning strategies that could be implemented to realize the deferred tax assets.

In addition, the accounting guidance prescribes a recognition threshold and measurement attribute for the financial statement recognition and measurement of the tax position taken or expected to be taken in a tax return. For any amount of benefit to be recognized, it must be determined that it is more-likely-than-not that a tax position will be sustained upon examination by taxing authorities based on the technical merits of the position. The amount of benefit to be recognized is based on the Company’s assertion of the most likely outcome resulting from an examination, including resolution of any related appeals or litigation processes. Companies are required to reflect only those tax positions that are more-likely-than-not to be sustained.

We have completed the accounting for the income tax effects of the TCJA in accordance with SAB 118. The Company has included in the current period financial statements adjustments to the prior provisional estimates.

See Note 13 — Income Taxes for additional information.

Research and Development

Research and development expenditures represent costs to discover and/or apply new knowledge in developing a new product, process, or in bringing about a significant improvement to an existing product or process. Research and development expenses are recorded as a component of Cost of goods sold. Expenses for research and development were approximately 3% of Cost of goods sold in 2018, 3% in 2017 and 2% in 2016.

Retirement Benefits

The Company maintains various defined benefit pension plans for some of its U.S. and foreign employees. The accounting guidance for retirement benefits requires the Company to recognize the funded status of its defined benefit pension and postretirement plans as an asset or liability in the Consolidated Balance Sheet. Gains or losses, prior service costs or credits, and transition assets or obligations that have not yet been included in net periodic benefit cost as of the end of the year are recognized as components of Accumulated other comprehensive loss, net of tax, within Hubbell shareholders' equity. The Company's policy is to fund pension costs within the ranges prescribed by applicable regulations. In addition to providing defined benefit pension benefits, the Company provides health care and life insurance benefits for some of its active and retired employees. The Company's policy is to fund these benefits through insurance premiums or as actual expenditures are made. See also Note 11 — Retirement Benefits.

Earnings Per Share

Restricted stock granted by the Company is considered a participating security since it contains a non-forfeitable right to dividends. As a result, the earnings per share accounting guidance requires the Company to use the two-class method for calculating earnings per share. The two-class method is an earnings allocation formula that determines earnings per share for common stock and participating securities. Basic earnings per share is calculated as net income available to common shareholders divided by the weighted average number of shares of common stock outstanding. Earnings per diluted share is calculated as net income available to common shareholders divided by the weighted average number of shares outstanding of common stock plus the incremental shares outstanding assuming the exercise of dilutive stock options, stock appreciation rights and performance shares. See also Note 18 — Earnings Per Share.

Stock-Based Compensation

The Company recognizes the grant-date fair value of all stock-based awards on a straight-line basis over their respective requisite service periods (generally equal to an award's vesting period). A stock-based award is considered vested for expense attribution purposes when the retention of the award is no longer contingent on providing subsequent service. Accordingly, the Company generally recognizes compensation cost immediately for awards granted to retirement-eligible individuals or over the period from the grant date to the date retirement eligibility is achieved, if less than the stated vesting period. The expense is recorded in Cost of goods sold and S&A expense in the Consolidated Statement of Income based on the recipients' respective functions within the organization.

The Company records deferred tax assets for awards that will result in deductions on its tax returns, based upon the amount of compensation cost recognized and the statutory tax rate in the jurisdiction in which it will receive a deduction. See also Note 17 — Stock-Based Compensation.

Derivatives

In order to limit financial risk in the management of its assets, liabilities and debt, the Company may use derivative financial instruments such as foreign currency hedges, interest rate hedges and interest rate swaps. All derivative financial instruments are matched with an existing Company asset, liability or proposed transaction. The Company does not speculate or use leverage when trading a derivative product. Market value gains or losses on the derivative financial instrument are recognized in income when the effects of the related price changes of the underlying asset or liability are recognized in income. See Note 14 — Financial Instruments and Fair Value Measurement for more information regarding our derivative instruments.

Recent Accounting Pronouncements

In February 2018, the Financial Accounting Standards Board ("FASB") issued an Accounting Standards Update (ASU 2018-02) relating to the reclassification of certain tax effects from accumulated other comprehensive income/(loss). The new guidance allows an entity to reclassify the income tax effects of the TCJA on items within accumulated other comprehensive income/(loss) to retained earnings. This new guidance is effective for fiscal years beginning after December 15, 2018, with early adoption permitted. The new standard must be adopted retrospectively to each period in which the effect of the change in the U.S. federal corporate income tax rate in the TCJA is recognized. The Company is currently assessing the impact of adopting this standard on its financial statements.

In response to the enactment of the TCJA, the Securities and Exchange Commission's Office of the Chief Accountant published Staff Accounting Bulletin 118 ("SAB 118"). SAB 118 addresses the requirements to account for the impact of a change in tax law or tax rates in the period of enactment. Specifically, SAB 118 provides guidance for issuers that are not able to complete the accounting for the income tax effects of the TCJA by the time financial statements are issued for the reporting period that includes the enactment date ("enactment period financials").

Under SAB 118, the measurement period for accounting for the TCJA begins in the period of enactment and ends when an entity has obtained, prepared and analyzed the information necessary to complete the accounting requirements under ASC 740, Income Taxes, (the "measurement period"), but in no event can the measurement period extend beyond one year from the TCJA's enactment date. Any provisional amount or adjustment to a provisional amount included in a company's financial statements during the measurement period should be included in income from continuing operations as an adjustment to tax expense or benefit in the reporting period the amounts are determined. The Company completed its analysis of the income tax effects of the TCJA within the measurement period and the impact of those income tax effects have been reflected in the income from continuing operations as an adjustment to tax expense in the appropriate reporting period.

In January 2017, the FASB issued an Accounting Standards Update (ASU 2017-04) "Intangibles-Goodwill and Other (Topic 350): Simplifying the Test for Goodwill Impairment." ASU 2017-04 eliminates step two of the goodwill impairment test and specifies that goodwill impairment should be measured by comparing the fair value of a reporting unit with its carrying amount. Additionally, the amount of goodwill allocated to each reporting unit with a zero or negative carrying amount of net assets should be disclosed. ASU 2017-04 is effective for annual or interim goodwill impairment tests performed in fiscal years beginning after December 15, 2019; early adoption is permitted. The Company is currently assessing the impact of adopting this standard on its financial statements.

In March 2017, the FASB issued an Accounting Standards Update (ASU 2017-07) relating to the presentation of net periodic pension costs and net periodic post-retirement benefit cost. This new guidance requires the service component of net periodic pension and post-retirement benefit costs to be reported in the same income statement line item as other employee compensation costs, and the other components to be reported outside of operating income. The Company adopted the requirements of the new standard in the first quarter of 2018 and applied the guidance on a retrospective basis, as required by the standard. The impact to our fiscal quarters and year-ended 2017 is shown in the table below (in millions):

(in millions)	Three Months Ended Dec 31, 2017	Sep 30, 2017	Jun 30, 2017	Mar 31, 2017	Twelve Months Ended Dec 31, 2017	Dec 31, 2016
Cost of goods sold	$(0.9)	$(0.8)	$(0.8)	$(0.8)	$(3.3)	$(4.4)
Selling & administrative expenses	(2.9)	(3.0)	(3.0)	(2.9)	(11.8)	(7.6)
Total operating expenses	(3.8)	(3.8)	(3.8)	(3.7)	(15.1)	(12.0)
Operating income	3.8	3.8	3.8	3.7	15.1	12.0
Total other expense	(3.8)	(3.8)	(3.8)	(3.7)	(15.1)	(12.0)
Net income	$—	$—	$—	$—	$—	$—

In February 2016, the FASB issued an Accounting Standards Update (ASU 2016-02) related to the accounting and financial statement presentation for leases. This new guidance, codified in ASC 842, will require a lessee to recognize a right-of-use asset and a lease liability for both financing and operating leases, with a policy election permitting an exception to this guidance for leases with a term of 12 months or less and that do not contain a purchase option that is reasonably certain to be exercised. For financing leases, the lessee will recognize interest expense and amortization of the right-of-use asset, and for operating leases, the lessee will recognize a straight-line lease expense. This guidance is effective for fiscal years beginning after December 15, 2018, with early adoption permitted. The Company will adopt the standard as of January 1, 2019.

Pursuant to ASU 2018-11, ASC 842 must be adopted using a modified retrospective transition at the beginning of the earliest comparative period presented. The standard, as originally issued, was to be applied retrospectively, however in July 2018 the FASB issued ASU No. 2018-11 “Leases (Topic 842): Targeted Improvements,” which provides an additional transition method that permits changes to be applied by means of a cumulative-effect adjustment recorded in retained earnings as of the beginning of the fiscal year of adoption. It is our intention to apply this approach in adopting the standard.

In preparing to adopt ASC 842, we have designed processes and controls to manage and account for our active leases under the new requirements. We have completed a qualitative assessment of the company’s portfolio of active leases and have compiled a central repository of related data. In addition, we have implemented a software system to address the new reporting requirements. Lease data elements, required for accounting under the new standard, are being abstracted, validated and loaded into the software solution. The Company estimates that it will recognize approximately $100 million of right-of-use assets and corresponding lease liabilities on the balance sheet upon adoption. However, the population of contracts subject to balance sheet recognition and their initial measurement remains under evaluation; final balance sheet impacts will depend on the lease portfolio at the time of adoption. The Company does not expect that adoption will have a material impact on our results of operations or liquidity.

In May 2014, the FASB issued an Accounting Standards Update (ASU 2014-09) related to new revenue recognition guidance (ASC 606) that supersedes the existing revenue recognition guidance and most industry-specific guidance applicable to revenue recognition. According to the new guidance, an entity will apply a principles-based five step model to recognize revenue upon the transfer of promised goods or services to customers and in an amount that reflects the consideration for which the entity expects to be entitled in exchange for those goods or services. Subsequently, the FASB has issued amendments to certain aspects of the guidance including the effective date.

Effective January 1, 2018, the Company adopted the requirements of ASC 606 using the modified retrospective approach. The Company applied the guidance to all contracts and recognized a cumulative effect adjustment to Retained Earnings as of January, 1, 2018 of $0.6 million. The impacts to the financial statements are primarily related to balance sheet classification, including amounts associated with the change in balance sheet classification of sales returns reserves, while the impacts on the income statement reflect the change in classification of restocking fees. The impact to our financial statements for the quarter ended December 31, 2018 was as follows (in millions):

Income Statement	For the Twelve Months Ended December 31, 2018 As Reported	Balances Without Adoption of ASC 606	Effect of Adoption Higher/(Lower)
Net sales	$4,481.7	$4,478.7	$ 3.0
Costs and expenses			
Cost of goods sold	$3,181.3	$3,178.3	$ 3.0

Balance Sheet	As of December 31, 2018 As Reported	Balances Without Adoption of ASC 606	Effect of Adoption Higher/(Lower)
ASSETS			
Accounts receivable, net	$725.4	$708.7	$ 16.7
Inventories, net	651.0	661.8	(10.8)
Other current assets	69.1	59.5	9.6
Total Assets	$4,872.1	$4,856.6	$ 15.5
LIABILITIES			
Other accrued liabilities	$226.6	$211.7	$ 14.9
Total Liabilities	$3,073.2	$3,058.3	$ 14.9
EQUITY			
Retained earnings	$2,064.4	$2,063.8	$ 0.6
Total Equity	$1,798.9	$1,798.3	$ 0.6

In August 2018, the FASB issued an Accounting Standards Update (ASU 2018-13) "Fair Value Measurement (Topic 820): Disclosure Framework—Changes to the Disclosure Requirements for Fair Value Measurement", which modifies the disclosure requirements for fair value measurements. ASU 2018-13 is effective in the first quarter of fiscal 2020, and early adoption is permitted, including an election to early adopt provisions that remove or modify disclosures without early adopting requirements that add disclosures. The Company has elected to early adopt the provisions of the ASU that removed or modify disclosures in 2018 and the adoption had no material impact on its financial statements.

In August 2018, the FASB issued an Accounting Standards Update (ASU 2018-14) "Compensation—Retirement Benefits—Defined Benefit Plans—General (Topic 715-20): Disclosure Framework—Changes to the Disclosure Requirements for Defined Benefit Plans", which modifies the disclosure requirements for defined benefit pension plans and other postretirement plans. ASU 2018-14 is effective in the first quarter of fiscal 2021, and early adoption is permitted. ASU 2018-14 was adopted by the Company in 2018 and had no material impact on its financial statements.

In August 2018, the FASB issued an Accounting Standards Update (ASU 2018-15) "Intangibles—Goodwill and Other—Internal-Use Software (Subtopic 350-40): Customer's Accounting for Implementation Costs Incurred in a Cloud Computing Arrangement That Is a Service Contract", which clarifies the accounting for implementation costs in cloud computing arrangements. ASU 2018-15 is effective in the first quarter of fiscal 2020, and early adoption is permitted. The Company is currently assessing the impact of adopting this standard on its financial statements.

NOTE 2 Revenue

Approximately two-thirds of the Company's net sales are to distributors who then sell directly into the residential, non-residential, industrial, electrical transmission and distribution and oil and gas end markets. Within the Power segment, our businesses sell to distributors, with the majority of sales to the utility end markets. Our businesses within the Power segment also sell directly into transmission and distribution utility markets.

The following table presents disaggregated revenue by business group (in millions) for the twelve months ended December 31, 2018, 2017 and 2016:

	Twelve Months Ended December 31,		
	2018	2017	2016
Net sales			
Hubbell Commercial and Industrial	$910.8	$864.5	$846.9
Hubbell Construction and Energy	799.7	732.6	667.5
Hubbell Lighting	950.1	935.7	945.8
Hubbell Power Systems	1,821.1	1,136.0	1,045.0
Total net sales	$4,481.7	$3,668.8	$3,505.2

The following table presents disaggregated third-party net sales by geographic location (in millions) for the twelve months ended December 31, 2018, 2017 and 2016 (on a geographic basis, the Company defines "international" as businesses based outside of the United States and its possessions):

	Twelve Months Ended December 31, 2018			Twelve Months Ended December 31, 2017			Twelve Months Ended December 31, 2016		
	Electrical	Power	Total	Electrical	Power	Total	Electrical	Power	Total
Net sales									
United States	$2,365.4	$1,675.2	$4,040.6	$2,229.3	$1,051.6	$3,280.9	$2,187.0	$960.4	$3,147.4
International	295.2	145.9	441.1	303.5	84.4	387.9	273.2	84.6	357.8
Total net sales	$2,660.6	$1,821.1	$4,481.7	$2,532.8	$1,136.0	$3,668.8	$2,460.2	$1,045.0	$3,505.2

Contract Balances

Our contract liabilities consist of advance payments for products as well as deferred revenue on service obligations and extended warranties. The current portion of deferred revenue is included in Other accrued liabilities and the non-current portion of deferred revenue is included in Other non-current liabilities in the Consolidated Balance Sheet.

Contract liabilities were $27.7 million as of December 31, 2018 compared to $10.2 million as of December 31, 2017. The $17.5 million increase in our contract liabilities balance was primarily due to timing of advance payments on certain orders and the acquisition of Aclara, partially offset by the recognition of $9.0 million in revenue related to amounts that were recorded in contract liabilities at January 1, 2018. The Company has an immaterial amount of contract assets relating to performance obligations satisfied prior to payment that is recorded in Other long-term assets in the Consolidated Balance Sheet. Impairment losses recognized on our receivables and contract assets were immaterial in the twelve months ended December 31, 2018. See Note 1 – Basis of Presentation and Note 3 – Business Acquisitions in the Notes to Consolidated Financial Statements for additional information.

Unsatisfied Performance Obligations

The Company has elected the practical expedient to disclose only the value of unsatisfied performance obligations for contracts with an original expected length greater than one year. Prior to the acquisition of Aclara, the majority of Hubbell's revenues resulted from sales of inventoried products with short periods of manufacture and delivery and thus are excluded from this disclosure. As of December 31, 2018, the Company had approximately $530 million of unsatisfied performance obligations for contracts with an original expected length of greater than one year, primarily relating to long-term contracts of the Aclara business (within the Power segment) to deliver and install meters and grid monitoring sensor technology. The Company expects that a majority of the unsatisfied performance obligations will be completed and recognized over the next 3 years.

Practical Expedients

We apply a practical expedient to expense costs to obtain a contract as incurred when the amortization period would have been one year or less.

NOTE 3 Business Acquisitions

On February 2, 2018, the Company completed the acquisition of Aclara for approximately $1.1 billion. Aclara is a leading global provider of smart infrastructure solutions for electric, gas, and water utilities, with advanced metering solutions and grid monitoring sensor technology, as well as leading software enabled installation services. The acquisition was structured as a merger in which Aclara became a wholly owned indirect subsidiary of the Company. Aclara's businesses have been added to the Power segment. The acquisition extends the Power segment's capabilities into smart automation technologies, accelerates ongoing innovation efforts to address utility customer demand for data and integrated solutions, and expands the segment's reach to a broader set of utility customers.

The Company financed the acquisition and related transactions with net proceeds from borrowings under a new unsecured term loan facility in an aggregate principal amount of $500 million, the issuance of 3.50% Senior Notes due 2028 in an aggregate principal amount of $450 million and commercial paper borrowings.

Allocation of Consideration Transferred to Net Assets Acquired

The following table presents the determination of the fair value of identifiable assets acquired and liabilities assumed from the Company's acquisition of Aclara. Fair value estimates are based on a complex series of judgments about future events and uncertainties and rely heavily on estimates and assumptions. The judgments used to determine the estimated fair value assigned to each class of assets acquired and liabilities assumed, as well as asset lives, can materially impact the Company's results of operations.

The following are the assets acquired and the liabilities assumed by the Company in the Aclara acquisition, reconciled to the acquisition consideration (in millions):

Accounts receivable	$118.1
Inventories	73.5
Other current assets	8.5
Property, plant and equipment	30.9
Intangible assets	434.0
Accounts payable	(51.8)
Other accrued liabilities	(93.3)
Deferred tax liabilities, net	(42.1)
Other non-current liabilities	(67.7)
Noncontrolling interest	(2.5)
Goodwill	708.7
Total Estimate of Consideration Transferred, Net of Cash Acquired	$1,116.3

Cash used for the acquisition of businesses, net of cash acquired as reported in the Consolidated Statement of Cash Flows for the twelve months ended December 31, 2018 is $1,118.0 million and includes approximately $1.7 million of deferred purchase price and net working capital settlements relating to acquisitions completed in prior years.

In connection with the Aclara transaction, the Company recorded goodwill of $708.7 million, which is attributable primarily to expected synergies, expanded market opportunities, and other expected benefits that the Company believes will result from combining its operations with the operations of Aclara. For tax purposes, $159.9 million of the Aclara historical goodwill is deductible. The incremental goodwill created as a result of the acquisition is not deductible for tax purposes. Goodwill has been allocated to the Power segment.

The purchase price allocation to identifiable intangible assets acquired is as follows (in millions, except useful life amounts):

	Estimated Fair Value	Weighted Average Estimated Useful Life
Patents, tradenames and trademarks	$ 55.0	20.0
Customer relationships	194.0	18.0
Developed technology	185.0	13.0
Total	$ 434.0	

Customer relationships and developed technology intangible assets acquired are amortized using an accelerated method that reflects the pattern in which economic benefits of the intangible assets are consumed and results in higher amortization in the earlier years of the asset's useful life.

For the year ended December 31, 2018 and 2017, the Company recorded transaction costs of $12.8 million and $7.1 million, respectively, relating to the Acquisition of Aclara. These costs were recorded in the respective financial statement line items as follows (in millions):

	Twelve Months Ended December 31,	
	2018	2017
Selling & administrative expense	$9.5	$6.7
Interest expense	3.3	0.4
Total Aclara Transaction Costs	$12.8	$7.1

Supplemental Pro-Forma Data

Aclara's results of operations have been included in the Company's financial statements for the period subsequent to the completion of the acquisition on February 2, 2018. Aclara contributed sales of approximately $611.1 million and operating income of approximately $29.6 million, before any transaction costs described below, for the period from the completion of the acquisition through December 31, 2018.

The following unaudited supplemental pro-forma information presents consolidated results as if the acquisition had been completed on January 1, 2017. Following that approach, for the purpose of the pro-forma results presented in the tables below, certain costs incurred by the Company during 2018 have been reclassified into the pro-forma 2017 period. Those reclassifications primarily include the following, which represent the amount of increase or (decrease) to reported results to arrive at the pro forma results. Per share amounts in 2018 reflect the reduction in the U.S. federal corporate income tax rate from 35% to 21%:

(pre-tax in millions, except per share amounts)	Twelve Months Ended December 31,		Per Diluted Share	
	2018	2017	2018	2017
Aclara transaction costs incurred in 2018[1]	$12.8	$(12.8)	$0.19	$(0.16)
Intangible amortization and inventory step up[2]	1.3	(44.3)	0.02	(0.50)
Interest expense[3]	3.8	(27.6)	0.05	(0.31)

[1] Aclara transaction costs incurred in 2018 have been reclassified into the comparable pro-forma 2017 period.

[2] Aclara intangible amortization and inventory step up amortization incurred in 2018 has been reclassified into the comparable pro-forma 2017 period and increased to reflect the assumption the transaction was completed on January 1, 2017. The pro-forma 2018 period include the intangible amortization that would be incurred assuming the transaction had been completed on January 1, 2017.

[3] Interest expense incurred in 2018, reflecting amounts incurred from the date of the acquisition, has been reclassified into the pro-forma 2017 period and increased to reflect the assumption the transaction was completed on January 1, 2017. The pro-forma 2018 period includes the interest expense that would have been incurred assuming the transaction had been completed on January 1, 2017.

The pro-forma results were calculated by combining the results of the Company with the stand-alone results of Aclara for the pre-acquisition periods, as described above:

(in millions, except per share amounts)	Twelve Months Ended December 31,	
	2018	2017
Net sales	$4,531.2	$4,180.9
Net income attributable to Hubbell	$376.4	$209.8
Earnings Per Share:		
Basic	$6.86	$3.82
Diluted	$6.83	$3.81

The unaudited supplemental pro-forma financial information does not reflect the actual performance of Aclara in the periods presented and does not reflect the potential realization of cost savings relating to the integration of the two companies. Further, the pro-forma data should not be considered indicative of the results that would have occurred if the acquisition and related financing had been consummated on January 1, 2017, nor are they indicative of future results.

NOTE 4 Receivables and Allowances

Receivables consist of the following components at December 31, (in millions):

	2018	2017
Trade accounts receivable	$739.1	$576.3
Non-trade receivables	26.2	19.1
Accounts receivable, gross	765.3	595.4
Allowance for credit memos, returns and cash discounts[1]	(35.1)	(50.5)
Allowance for doubtful accounts	(4.8)	(4.6)
Total allowances	(39.9)	(55.1)
ACCOUNTS RECEIVABLE, NET	$725.4	$540.3

[1] In 2017 includes $17.6 million of reserves for returns. Effective January 1, 2018, upon adoption of ASC 606, reserves for returns have been reclassified in the Consolidated Balance Sheet to Other accrued liabilities.

NOTE 5 Inventories

Inventories are classified as follows at December 31, (in millions):

	2018	2017
Raw material	$220.2	$190.0
Work-in-process	110.3	115.8
Finished goods	402.3	390.5
	732.8	696.3
Excess of FIFO over LIFO cost basis	(81.8)	(61.6)
INVENTORIES, NET	$651.0	$634.7

NOTE 6 Goodwill and Other Intangible Assets

Changes in the carrying amounts of goodwill for the years ended December 31, 2018 and 2017, by segment, were as follows (in millions):

	Segment		
	Electrical	Power	Total
BALANCE AT DECEMBER 31, 2016	$652.0	$339.0	$991.0
Current year acquisitions	58.7	29.8	88.5
Foreign currency translation and prior year acquisitions	6.9	2.6	9.5
BALANCE AT DECEMBER 31, 2017	$717.6	$371.4	$1,089.0
Current year acquisitions	—	708.7	708.7
Foreign currency translation and prior year acquisitions	(3.5)	(9.8)	(13.3)
BALANCE AT DECEMBER 31, 2018	$714.1	$1,070.3	$1,784.4

In 2018, the Company completed one acquisition (Aclara) that was added to the Power segment. The acquisition has been accounted for as a business combination and has resulted in the recognition of $708.7 million of goodwill. See also Note 3 — Business Acquisitions.

The Company has not recorded any material goodwill impairments since the initial adoption of the accounting guidance in 2002.

Identifiable intangible assets are recorded in Intangible assets, net in the Consolidated Balance Sheet. Identifiable intangible assets are comprised of the following (in millions):

	December 31, 2018		December 31, 2017	
	Gross Amount	Accumulated Amortization	Gross Amount	Accumulated Amortization
Definite-lived:				
Patents, tradenames and trademarks	$204.4	$ (58.6)	$151.4	$ (50.1)
Customer/agent relationships and other	833.0	(212.6)	462.0	(156.7)
TOTAL DEFINITE-LIVED INTANGIBLES	1,037.4	(271.2)	613.4	(206.8)
Indefinite-lived:				
Tradenames and other	53.3	—	53.8	—
TOTAL INTANGIBLE ASSETS	$1,090.7	$ (271.2)	$667.2	$ (206.8)

Amortization expense associated with these definite-lived intangible assets was $68.9 million, $34.9 million and $32.3 million in 2018, 2017 and 2016, respectively. Amortization expense associated with these intangible assets is expected to be $71.9 million in 2019, $71.2 million in 2020, $69.5 million in 2021, $64.2 million in 2022 and $59.6 million in 2023.

NOTE 7 Investments

At December 31, 2018 and December 31, 2017, the Company held investments classified as available-for-sale and investments classified as trading securities. Investments classified as available-for-sale consisted of municipal bonds with an amortized cost basis of $49.0 million and an investment in the redeemable preferred stock of a privately-held electrical utility substation security provider with an amortized cost basis of $5.0 million. The investment in redeemable preferred stock was classified in Level 3 of the fair value hierarchy and had a fair value of $2.3 million and $4.1 million at December 31, 2018 and 2017, respectively. Investments classified as trading securities were composed primarily of debt and equity mutual funds and are stated at fair market value based on current quotes.

The following table sets forth selected data with respect to the Company's investments at December 31, (in millions):

	2018					2017				
	Amortized Cost	Gross Unrealized Gains	Gross Unrealized Losses	Fair Value	Carrying Value	Amortized Cost	Gross Unrealized Gains	Gross Unrealized Losses	Fair Value	Carrying Value
Available-for-sale securities	$54.0	$1.1	$(3.9)	$51.2	$51.2	$59.3	$0.1	$(1.0)	$58.4	$58.4
Trading securities	10.1	4.2	—	14.3	14.3	8.9	4.9	—	13.8	13.8
TOTAL INVESTMENTS	$64.1	$5.3	$(3.9)	$65.5	$65.5	$68.2	$5.0	$(1.0)	$72.2	$72.2

Contractual maturities of our investments in available-for-sale securities at December 31, 2018 were as follows (in millions):

	Amortized Cost	Fair Value
Available-for-sale securities		
Due within 1 year	$ 9.2	$ 9.2
After 1 year but within 5 years	28.8	26.0
After 5 years but within 10 years	13.4	13.4
Due after 10 years	2.6	2.6
TOTAL	$ 54.0	$ 51.2

The total unrealized gain/(loss) recognized in the year relating to available-for-sale securities, net of tax, was $(1.4) million and $0.6 million at December 31, 2018 and 2017, respectively. These net unrealized gains/(losses) are included in Accumulated other comprehensive loss, net of tax. Net unrealized gains relating to trading securities have been reflected in the results of operations. The Company uses the specific identification method when identifying the cost basis used to calculate the gain or loss on these securities. Gains and losses for both available-for-sale and trading securities were not material in 2018, 2017 and 2016.

NOTE 8 Property, Plant, and Equipment

Property, plant, and equipment, carried at cost, is summarized as follows at December 31, (in millions):

	2018	2017
Land	$42.2	$40.0
Buildings and improvements	277.3	272.2
Machinery, tools, and equipment	863.5	806.2
Construction-in-progress	46.2	43.4
Gross property, plant, and equipment	1,229.2	1,161.8
Less accumulated depreciation	(727.1)	(703.5)
PROPERTY, PLANT, AND EQUIPMENT, NET	$502.1	$458.3

Depreciable lives on buildings range between 20-45 years. Depreciable lives on machinery, tools, and equipment range between 3-15 years. The Company recorded depreciation expense of $66.1 million, $57.5 million and $53.4 million for 2018, 2017 and 2016, respectively.

NOTE 9 Other Accrued Liabilities

Other accrued liabilities consist of the following at December 31, (in millions):

	2018	2017
Customer program incentives	$52.4	$41.2
Accrued income taxes	3.4	27.5
Contract liabilities - deferred revenue	27.7	10.2
Customer refund liability	15.3	—
Accrued warranties[1]	33.5	14.0
Other	94.3	82.0
TOTAL	$226.6	$174.9

[1] Refer to Note 21 – Guarantees for additional information regarding warranties.

NOTE 10 Other Non-Current Liabilities

Other non-current liabilities consists of the following at December 31, (in millions):

	2018	2017
Pensions	$177.0	$213.2
Other post-employment benefits	23.7	24.6
Deferred tax liabilities	120.0	23.7
Accrued warranties long-term[1]	59.2	—
Other	116.9	118.0
TOTAL	$496.8	$379.5

[1] Refer to Note 21 – Guarantees for additional information regarding warranties.

NOTE 11 Retirement Benefits

The Company has funded and unfunded non-contributory U.S. and foreign defined benefit pension plans. Benefits under these plans are generally provided based on either years of service and final average pay or a specified dollar amount per year of service. The U.S. defined benefit pension plan has been closed to new participants since 2004, while the Canadian and UK defined benefit pension plans have been closed to new entrants since 2006 and 2007, respectively. These U.S., Canadian and UK employees are eligible instead for defined contribution plans.

The Company also has a number of health care and life insurance benefit plans covering eligible employees who reached retirement age while working for the Company. These benefits have been discontinued for substantially all future retirees. The Company anticipates future cost-sharing charges for its discontinued plans that are consistent with past practices. The Company uses a December 31 measurement date for all of its plans.

In the third quarter of 2018, the Company approved amendments to one of its foreign defined benefit pension plans, which closed the plan to future service accruals effective August 31, 2018. As a result of the amendments, in the third quarter of 2018, the Company recognized a curtailment gain of approximately $4.7 million, net of tax, in Accumulated other comprehensive income. In addition, effective August 31, 2018, the amortization of actuarial gains and losses is being recognized over the remaining life expectancy of the participants of this plan, as all participants are considered inactive as a result of the amendment.

In December 2016, the Company approved amendments to the domestic qualified defined benefit pension plan and non-qualified defined benefit plan, which froze service accruals for active participants effective February 28, 2017 and further will freeze compensation accruals effective December 31, 2020. The Company also froze all accruals in a second non-qualified defined benefit plan effective December 31, 2016.

As a result of these amendments, the Company recognized a $34.1 million curtailment gain in Accumulated other comprehensive income as of December 31, 2016 and also recognized $0.2 million of pension expense in 2016 associated with previously unrecognized prior service costs. In addition, effective January 1, 2017, the amortization of actuarial gains and losses of these plans is being recognized over the remaining life expectancy of participants, as all participants are considered inactive as a result of the amendment.

In 2018 and 2016, we completed transactions with third-party insurers to settle approximately $28 million and $40 million, respectively, of projected benefit obligation of our domestic qualified defined benefit pension plans.

The Company's U.S. defined benefit pension plans were approximately 88% of the $844.3 million total pension benefit obligations at December 31, 2018.

The following table sets forth the reconciliation of beginning and ending balances of the benefit obligations and the plan assets for the Company's defined benefit pension and other benefit plans at December 31, (in millions):

	Pension Benefits		Other Benefits	
	2018	2017	2018	2017
Change in benefit obligation				
Benefit obligation at beginning of year	$956.1	$917.4	$27.0	$26.2
Acquisitions	1.3	—	—	—
Service cost	3.8	5.9	0.1	0.1
Interest cost	34.3	37.2	1.0	1.0
Plan participants' contributions	0.4	0.6	—	—
Amendments	3.6	0.3	—	—
Actuarial loss/(gain)	(72.4)	29.7	(0.5)	1.4
Curtailment gain	(5.7)	—	—	—
Currency impact	(5.7)	9.7	—	—
Other	(0.5)	(0.4)	—	—
Benefits paid	(70.9)	(44.3)	(1.5)	(1.7)
Benefit obligation at end of year	$844.3	$956.1	$26.1	$27.0
Change in plan assets				
Fair value of plan assets at beginning of year	$738.8	$705.1	$—	$—
Acquisitions	1.2	—	—	—
Actual return on plan assets	(27.5)	58.6	—	—
Employer contributions	34.0	9.8	1.5	1.7
Plan participants' contributions	0.4	0.6	—	—
Currency impact	(5.9)	9.0	—	—
Benefits paid	(70.9)	(44.3)	(1.5)	(1.7)
Fair value of plan assets at end of year	$670.1	$738.8	$—	$—
FUNDED STATUS	$(174.2)	$(217.3)	$(26.1)	$(27.0)
Amounts recognized in the consolidated balance sheet consist of:				
Prepaid pensions (included in Other long-term assets)	$8.0	$1.5	$—	$—
Accrued benefit liability (short-term and long-term)	(182.2)	(218.8)	(26.1)	(27.0)
NET AMOUNT RECOGNIZED IN THE CONSOLIDATED BALANCE SHEET	$(174.2)	$(217.3)	$(26.1)	$(27.0)
Amounts recognized in Accumulated other comprehensive loss (income) consist of:				
Net actuarial loss	$240.8	$270.1	$2.4	$3.0
Prior service cost (credit)	4.1	0.6	(1.3)	(2.3)
NET AMOUNT RECOGNIZED IN ACCUMULATED OTHER COMPREHENSIVE LOSS	$244.9	$270.7	$1.1	$0.7

The accumulated benefit obligation for all defined benefit pension plans was $835.6 million and $924.6 million at December 31, 2018 and 2017, respectively. Information with respect to plans with accumulated benefit obligations in excess of plan assets is as follows, (in millions):

	2018	2017
Projected benefit obligation	$744.0	$842.7
Accumulated benefit obligation	$735.4	$826.5
Fair value of plan assets	$561.7	$626.3