

LITTELFUSE INC /DE  
Form 10-K  
February 27, 2017  
**United States**

**Securities and Exchange Commission**

Washington, D.C. 20549

**FORM 10-K**

(Mark one)  Annual Report Pursuant to Section 13  
or 15(d)  
of the Securities Exchange Act of  
1934  
for the fiscal year ended December  
31, 2016  
Or  
 Transition Report Pursuant to Section  
13 or 15(d)  
of the Securities Exchange Act of  
1934  
for the transition period from to

Commission file number 0-20388

**LITTELFUSE, INC.**

(Exact name of registrant as specified in its charter)

Delaware 36-3795742  
(State or other jurisdiction of (I.R.S. Employer Identification No.)  
incorporation or organization)

8755 West Higgins Road, Suite 500  
Chicago, Illinois 60631  
(Address of principal executive offices) (ZIP Code)

773-628-1000

(Registrant's telephone number, including area code)

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

<u>Title of Each Class</u>	<u>Name of Each Exchange</u>
	<u>On Which Registered</u>
Common Stock, \$0.01 par value	NASDAQ Global Select Market <sup>SM</sup>

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

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

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

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

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

Indicate by check mark whether the registrant is a large accelerated filer, an accelerated filer, a non-accelerated filer or a smaller reporting company. See the definitions of "large accelerated filer," "accelerated filer" and "small reporting company" in Rule 12b-2 of the Exchange Act (Check one): Large accelerated filer  Accelerated filer  Non-accelerated filer  Smaller reporting company

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

The aggregate market value of 22,368,817 shares of voting stock held by non-affiliates of the registrant was approximately \$2,607,309,310 based on the last reported sale price of the registrant's Common Stock as reported on the NASDAQ Global Select Market<sup>SM</sup> on July 2, 2016.

As of February 16, 2017, the registrant had outstanding 22,632,855 shares of Common Stock, net of Treasury Shares.

**DOCUMENTS INCORPORATED BY REFERENCE**

Portions of the Littelfuse, Inc. Proxy Statement for the 2017 Annual Meeting of Stockholders (the "Proxy Statement") are incorporated by reference into Part III of this Form 10-K.

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**TABLE OF CONTENTS**

	<b>Page</b>
<b>FORWARD-LOOKING STATEMENTS</b>	3
<b>PART I</b>	
Item 1. Business	3
Item 1A. Risk Factors	9
Item 1B. Unresolved Staff Comments	14
Item 2. Properties	14
Item 3. Legal Proceedings	16
Item 4. Mine Safety Disclosures	16
<b>PART II</b>	
Item 5. Market for Registrant’s Common Equity, Related Stockholder Matters and Issuer Purchases of Equity Securities	16
Item 6. Selected Financial Data	18
Item 7. Management’s Discussion and Analysis of Financial Condition and Results of Operations	18
Item 7A. Quantitative and Qualitative Disclosures About Market Risk	31
Item 8. Financial Statements and Supplementary Data	32
Item 9. Changes in and Disagreements with Accountants on Accounting and Financial Disclosure	65
Item 9A. Controls and Procedures	65
Item 9B. Other Information	66
<b>PART III</b>	
Item 10. Directors, Executive Officers and Corporate Governance	67
Item 11. Executive Compensation	68
Item 12. Security Ownership of Certain Beneficial Owners and Management and Related Stockholder Matters.	69
Item 13. Certain Relationships and Related Transactions, and Director Independence	69
Item 14. Principal Accounting Fees and Services	69
<b>PART IV</b>	
Item 15. Exhibits, Financial Statement Schedules.	70
Schedule II – Valuation and Qualifying Accounts and Reserves	71
Signatures	72
Exhibit Index	73

## **FORWARD-LOOKING STATEMENTS**

Certain statements contained in this Annual Report on Form 10-K that are not historical facts are intended to constitute “forward-looking statements” entitled to the safe-harbor provisions of the Private Securities Litigation Reform Act of 1995 (“PSRLA”). These statements may involve risks and uncertainties, including, but not limited to, risks relating to product demand and market acceptance, economic conditions, the impact of competitive products and pricing, product quality problems or product recalls, capacity and supply difficulties or constraints, coal mining exposures reserves, failure of an indemnification for environmental liability, exchange rate fluctuations, commodity price fluctuations, the effect of the company’s accounting policies, labor disputes, restructuring costs in excess of expectations, pension plan asset returns less than assumed, integration of acquisitions, uncertainties related to political and regulatory changes and other risks that may be detailed in “Item 1A. Risk Factors” below and in the company’s other Securities and Exchange Commission filings.

## **AVAILABLE INFORMATION**

We are subject to the reporting and information requirements of the Securities Exchange Act of 1934, as amended and as a result, are obligated to file annual, quarterly, and current reports, proxy statements, and other information with the United States Securities and Exchange Commission (“SEC”). We make these filings available free of charge on our website (<http://www.littelfuse.com>) as soon as reasonably practicable after we electronically file them with, or furnish them to, the SEC. Information on our website does not constitute part of this Annual Report on Form 10-K. In addition, the SEC maintains a website (<http://www.sec.gov>) that contains our annual, quarterly, and current reports, proxy and information statements, and other information we electronically file with, or furnish to, the SEC. Any materials we file with, or furnish to, the SEC may also be read and/or copied at the SEC’s Public Reference Room at 100 F Street, N.E., Washington D.C. 20549. Information on the operation of the Public Reference Room may be obtained by calling the SEC at 1-800-SEC-0330. Our website address is included in this report for informational purposes only. Our website and the information contained therein or connected thereto are not incorporated into this Annual Report on Form 10-K.

## **PART I**

### **ITEM 1. BUSINESS.**

#### **GENERAL**

Littelfuse, Inc., was incorporated under the laws of the State of Delaware in 1991. References herein to the “company,” “we,” “our” or “Littelfuse” refer to Littelfuse, Inc. and its subsidiaries. References herein to “2016,” “fiscal 2016” or “fiscal year 2016” refer to the fiscal year ended December 31, 2016. References herein to “2015,” “fiscal 2015” or “fiscal year 2015” refer to the fiscal year ended January 2, 2016. References herein to “2014,” “fiscal 2014” or “fiscal year 2014” refer to the fiscal year ended December 27, 2014. The company operates on a 52-53 week fiscal year (4-4-5 basis) ending on the Saturday closest to December 31. Therefore, the financial results of certain fiscal years and the associated 14 week quarters will not be exactly comparable to the prior and subsequent 52 week fiscal years and the associated quarters having only 13 weeks. As a result of using this convention, each of fiscal 2016 and fiscal 2014 contained 52 weeks whereas fiscal 2015 contained 53 weeks.

## OVERVIEW

We are one of the world’s leading suppliers of circuit protection products for the electronics, automotive, and industrial markets, with expanding platforms in sensors and power control components and modules. In addition to circuit protection products and solutions, the company offers electronic reed switches and sensors, automotive sensors for comfort and safety systems and a comprehensive line of highly reliable electromechanical and electronic switch and control devices for commercial and specialty vehicles, as well as protection relays and power distribution centers for the safe control and distribution of electricity. The company has a network of global engineering centers and labs that develop new products and product enhancements, provide customer application support and test products for safety, reliability, and regulatory compliance. The company’s devices protect products in virtually every market that uses electrical energy, from consumer electronics to automobiles to industrial equipment.

### *Segments*

The company conducts its business through three reportable segments which are defined by markets and consist of: Electronics, Automotive, and Industrial. For segment and geographical information and consolidated net sales and operating income see Item 7, *Management’s Discussion and Analysis of Financial Condition and Results of Operations* and Note 14, *Segment Information*, of the Notes to Consolidated Financial Statements included in this Annual Report.

*Electronics Segment:* Provides circuit protection components for overcurrent and overvoltage protection, as well as sensor components and modules to leading global manufacturers of a wide range of electronic products. The segment covers a broad range of end markets, including consumer electronics, telecommunications equipment, medical devices, lighting products, and white goods. The Electronics segment has one of the broadest product offerings in the industry including fuses and protectors, positive temperature coefficient (“PTC”) resettable fuses, varistors, polymer electrostatic discharge (“ESD”) suppressors, discrete TVS diodes, TVS diode arrays protection and switching thyristors, gas discharge tubes, power switching components, fuseholders, reed switch and sensor assemblies, insulated gate bipolar transistors (“IGBT”) blocks, and related accessories. The Electronics segment supplies products to leading manufacturers such as Cisco, Celestica, Delta, Flextronics, Foxconn, Huawei, IBM, Intel, Jabil, LG, Microsoft, Nokia, Panasonic, Quanta, Samsung, Sanmina-SCI, Seagate, Siemens, and Sony, as well as to leading electronics distributors such as Arrow Electronics, Future Electronics, TTI, Mouser Electronics and Digi-Key.



*Automotive Segment:* Provides circuit protection and sensor products to the worldwide automotive original equipment manufacturers (“OEM”) and parts distributors of passenger automobiles, trucks, buses, and off-road equipment. In addition, the company supplies heavy duty power distribution modules, switches and relays to the commercial vehicle industry. The company also sells its fuses, including blade fuses, high current fuses, battery cable protectors, and varistors, in the automotive replacement parts market. In the automotive passenger car and commercial vehicle market, the company’s end customers include worldwide OEMs and Tier One suppliers such as Autoliv, BMW, Caterpillar, Chrysler, Daimler Trucks NA, Delphi, Ford Motor Company, General Motors, Hyundai Group, John Deere, Key Safety Systems, Lear, Navistar, Stabilus, and Volkswagen. The company also supplies wiring harness manufacturers and auto parts suppliers worldwide, including Advance Auto Parts, Alphabet, Continental, Delphi, Lear, O’Reilly Auto Parts, Pep Boys, Sumitomo, Valeo, and Yazaki.

*Industrial Segment:* Provides circuit protection products for industrial and commercial customers. Products include power fuses and other circuit protection devices, including protection and time delay relays, which are used in commercial and industrial buildings and large equipment such as HVAC systems, elevators, and machine tools. The company also supplies industrial ground fault protection in mining and other large industrial operations. In the industrial market, the company supplies representative customers such as Agrium, Corning, Gamesa, LG, Mosaic, Potash Corporation of Saskatchewan, Trane, as well as leading industrial distributors.

### ***Strategy***

In December 2016, we announced a new five-year strategic plan. Building upon our achievements from our previous five-year plan and leveraging our position in global mega trends such as safety, connectivity, and energy efficiency, we are targeting accelerated annual organic growth of 5-7% and annual growth from strategic acquisitions of 5-7%. Our strategic goals include the continued growth of our circuit protection business, accelerated growth in our power control business and the doubling of the sensor platform revenue over the next five years. We expect to do this through content and share gains, targeting underpenetrated geographies and markets, and innovation while continuing to acquire and integrate businesses that fit our strategic focus areas.

### ***Recent Acquisitions***

In 2016, 2015, and 2014, we completed several acquisitions that have broadened our product offerings and contributed to our growth.

*ON Portfolio:* On August 29, 2016, the company acquired certain assets of select businesses (the “ON Portfolio”) of ON Semiconductor Corporation for \$104.0 million. The acquired business, which is included in the Electronics segment, consists of a product portfolio that includes transient voltage suppression (“TVS”) diodes, switching thyristors, and IGBTs for automotive ignition applications. The acquisition expands the company’s offerings in power semiconductor applications as well as increases its presence in the automotive electronics market. The ON Portfolio



products have strong synergies with the company's existing circuit protection business, will strengthen its channel partnerships and customer engagement, and expand its power semiconductor portfolio.

*Menber's:* On April 4, 2016, the company completed the acquisition of Menber's S.p.A. ("Menber's") headquartered in Legnago, Italy for \$19.2 million (net of cash acquired and after settlement of a working capital adjustment). The acquired business is part of the company's commercial vehicle product business within the Automotive segment and specializes in the design, manufacturing, and selling of manual and electrical high current switches and trailer connectors for commercial vehicles. The transaction expands the company's commercial vehicle products business globally.

*PolySwitch:* On March 25, 2016, the company acquired 100% of the circuit protection business ("PolySwitch") of TE Connectivity Ltd. for \$348.3 million (net of cash acquired and after settlement of certain post-closing adjustments). The PolySwitch business, which is split between the Automotive and Electronics segments, has a leading position in polymer based resettable circuit protection devices, with a strong global presence in the automotive, battery, industrial, communications and mobile computing markets. PolySwitch has manufacturing facilities in Shanghai and Kunshan, China, and Tsukuba, Japan. The acquisition allows the company to strengthen its global circuit protection product portfolio, as well as expands its presence in the automotive electronics and battery end markets. The acquisition also significantly increases the company's presence in Japan.

*Sigmar:* On October 1, 2015, the company acquired 100% of Sigmar S.r.l. (“Sigmar”) for \$6.5 million (net of cash acquired and including estimated additional net payments of up to \$0.9 million, a portion of which is subject to the achievement of certain milestones). Located in Ozegna, Italy, Sigmar is a leading global manufacturer of water-in-fuel sensors and also manufactures selective catalytic reduction (“SCR”) quality sensors and diesel fuel heaters for automotive and commercial vehicle applications. The acquisition further expanded the company’s automotive sensor product line offerings within its Automotive segment.

*SymCom:* On January 3, 2014, the company acquired 100% of SymCom, Inc. (“SymCom”) for \$52.8 million (net of cash acquired). Located in Rapid City, South Dakota, SymCom provides overload relays and pump controllers primarily to the industrial market. The acquisition allows the company to strengthen its position in the relay products market by adding new products and new customers within its Industrial segment.

### ***Sales and Operations***

The company operates in three geographic regions: the Americas, Europe, and Asia-Pacific. The company manufactures products and sells to customers in all three regions.

Net sales by segment for the periods indicated are as follows:

	<b>Fiscal Year</b>		
<b>(in thousands)</b>	<b>2016</b>	<b>2015</b>	<b>2014</b>
Electronics	\$535,191	\$405,497	\$410,065
Automotive	415,200	339,957	325,415
Industrial	105,768	122,410	116,515
Total	\$1,056,159	\$867,864	\$851,995

Net sales in the company’s three geographic regions, based upon the shipped-to destination, are as follows:

	<b>Fiscal Year</b>		
<b>(in thousands)</b>	<b>2016</b>	<b>2015</b>	<b>2014</b>
Americas	\$411,105	\$401,173	\$377,660
Europe	200,277	152,661	163,918
Asia-Pacific	444,777	314,030	310,417
Total	\$1,056,159	\$867,864	\$851,995

The company's products are sold worldwide through distributors, a direct sales force and manufacturers' representatives. For the fiscal year 2016, approximately 66% of the company's net sales were to customers outside the United States ("U.S."), including approximately 25% to China.

The company manufactures many of its products on fully integrated manufacturing and assembly equipment. The company maintains product quality through a Global Quality Management System with most manufacturing sites certified under ISO 9001:2000. In addition, several of the Littelfuse manufacturing sites are also certified under TS 16949 and ISO 14001.

Additional information regarding the company's sales by geographic area and long-lived assets in different geographic areas is in Note 14, *Segment Information*, of the Notes to Consolidated Financial Statements included in this Annual Report.

## **BUSINESS ENVIRONMENT**

### ***Electronics Segment***

Electronic circuit protection, sensing, and control products are used to protect circuits in a multitude of electronic systems. The company's product offering includes a complete line of overcurrent and overvoltage solutions including (i) fuses and protectors, (ii) PTC resettable fuses, (iii) varistors, (iv) polymer ESD suppressors, (v) discrete TVS diodes, TVS diode arrays, protection and switching thyristors, (vi) gas discharge tubes, (vii) power switching components, (viii) fuseholders, (ix) reed switch and sensor assemblies, (x) IGBT blocks, and (xi) related accessories.

Electronic fuses and protectors are devices that contain an element that melts in an overcurrent condition. Electronic miniature and subminiature fuses are designed to provide circuit protection in the limited space requirements of electronic equipment. The company's fuses are used in a wide variety of electronic products, including mobile phones, flat-screen TVs, computers, and telecommunications equipment. The company markets these products under trademarked brand names including PICO® II and NANO2® SMF.

Resettable fuses are PTC polymer devices that limit the current when an overcurrent condition exists and then reset themselves once the overcurrent condition has cleared. The company's product line offers both radial leaded and surface mount products. Varistors are ceramic-based, high-energy absorption devices that provide transient overvoltage and surge suppression for automotive, telecommunication, consumer electronics, and industrial applications. The company's product line offers both radial leaded and multilayer surface mount products.



Polymer ESD suppressors are polymer-based devices that protect an electronic system from failure due to rapid transfer of electrostatic charge to the circuit. The company's PULSE-GUARD® line of ESD suppressors is used in PC and PC peripherals, digital consumer electronics, and wireless applications.

Discrete diodes, diode arrays, and protection thyristors are fast switching silicon semiconductor structures. Discrete diodes protect a wide variety of applications from overvoltage transients such as ESD, inductive load switching or lightning, while diode arrays are used primarily as ESD suppressors. Protection thyristors are commonly used to protect telecommunications circuits from overvoltage transients such as those resulting from lightning. Applications include telephones, modems, data transmission lines, and alarm systems. The company markets these products under trademarked brand names including TECCOR®, SIDACtor®, Batrax®, and SPA®.

Gas discharge tubes are very low capacitance devices designed to suppress any transient voltage event that is greater than the breakover voltage of the device. These devices are primarily used in telecommunication interface and conversion equipment applications as protection from overvoltage transients such as lightning.

Power switching components, such as switching thyristors and IGBTs, are used to regulate energy to various types of loads most commonly found in industrial and home applications. These components are easily activated from simple control circuits or interfaced to computers for more complex load control. Typical applications include heating, cooling, battery chargers and lighting.

Magnetic sensing products are used to monitor, sense, and measure magnetic fields in a number of applications. The company's product offerings include a line of reed switches, reed based sensors, and hall effect sensors. Reed switches are non-contact magnetically operated devices that provide an output based on the electrical load during the presence of magnetic field. They are used in a wide variety of applications including security, medical, fluid monitoring, telephones, fitness equipment, metering, toys, white goods, and consumer and industrial controls. Reed switch sensors utilize reed switch technology in various packaging configurations with custom enclosures, terminations, and connectors to provide an application specific product as a final assembly. Key applications include fluid level monitoring, position sensing, fluid flow, and proximity sensing. Hall effect sensors utilize hall chip technology to sense magnetic fields to provide ratio metric output based on magnetic fields. Key applications include motor speed sensing, directional sensing, rotation, and linear sensing.

In addition to the above products, the company is also a supplier of fuse holders, fuse blocks (including OMNI-BLOK®), and fuse clips primarily to customers that purchase circuit protection devices from the company.

### *Automotive Segment*

Fuses are extensively used in automobiles, trucks, buses, and off-road equipment to protect electrical circuits and the wires that supply electrical power to operate lights, heating, air conditioning, radios, windows, and other controls. Currently, a typical automobile contains 30 to 100 fuses, depending upon the options installed. The fuse content per vehicle is expected to continue to grow as more electronic features are included in automobiles and as a result of vehicle electrification such as 48 volt, hybrid, and battery electric vehicles, for which the company also supplies.

The company is a primary supplier of automotive fuses to worldwide automotive OEMs, through automotive fuse sales made to Tier One suppliers, main-fuse box, and wire harness manufacturers that incorporate the fuses into their products, as well as automotive component parts manufacturers, and automotive parts distributors. The company also sells its fuses in the replacement parts market, with its products being sold through merchandisers, discount stores, and service stations, as well as under private label by national firms.

The company invented and owns U.S. and foreign patents related to blade-type fuses, which is the standard and most commonly used fuse in the automotive industry. The company's automotive fuse products are marketed under trademarked brand names, including ATO®, MINI®, MIDI®, MEGA®, Masterfuse®, JCASE®, and CABLE PRO®.

Products sold into the market include speed, position, and direction sensors, occupant safety sensors, solar sensors, fluid level, and quality sensors, fuel heating systems, rotary sensors for comfort applications, and water in fuel sensors. A majority of the company's automotive sensor sales are made to Tier One suppliers and distributors.

The company has expanded the Automotive segment into the commercial vehicle market with various acquisitions, also expanding the company's portfolio of power control products. Additional products in this market include: power distribution modules, low current switches, high current switches, solenoids and relays, electronic switches, battery management products, ignition key switches, and trailer connectors. Custom and market products are sold directly to a mix of OEMs, Tier One suppliers, aftermarket channels, as well as through general distribution. The company owns U.S. and foreign patents related to high current switching, power distribution modules, and switching.

### *Industrial Segment*

The company manufactures and sells a broad range of low-voltage and medium-voltage circuit protection products to electrical distributors and their customers in the construction, OEM and industrial maintenance, repair and operating supplies (“MRO”) markets. The company also designs and manufactures portable custom electrical equipment for the mining and utility industry in Canada as well as protection relays for the global mining, oil and gas, and general industrial markets.

Power fuses are used to protect circuits in various types of industrial equipment and in industrial and commercial buildings. They are rated and listed under one of many Underwriters Laboratories’ fuse classifications. Major applications for power fuses include protection from overload and short-circuit currents in solar, motor branch circuits, heating and cooling systems, control systems, lighting circuits, solar and electrical distribution networks.

The company’s POWR-GARD® product line features the Indicator® series power fuse used in both the OEM and MRO markets. The Indicator® technology provides visual blown-fuse indication at a glance, reducing maintenance and downtime on production equipment. The Indicator® product offering is widely used in motor protection and industrial control panel applications.

Protection relays are used to protect personnel and equipment in mining, oil and gas, and industrial environments from excessive currents, over voltages, and electrical shock hazards called ground faults. Major applications for protection relays include protection of motor, transformer, and power-line distribution circuits. Ground-fault relays are used to protect personnel and equipment in wet environments such as underground mining or water treatment applications where there is a greater risk for electricity to come in contact with water and create a shock hazard.

Littelfuse custom-engineered electrical equipment is designed and built for use in harsh or demanding environments where standard industrial electrical gear will not meet customer needs for reliability and durability. Portable power substations are used throughout mines to transform voltage from distribution to utilization levels and provide local protection and control for equipment such as mining machines, pumps, fans, conveyors, and other electrical machinery. Custom-built switchgear is used in mining, oil and gas, and power generation where rugged designs, quick turnaround, unique footprints, or arc-resistant equipment is required.

### **PRODUCT DESIGN AND DEVELOPMENT**

The company employs scientific, engineering, and other personnel to continually improve its existing product lines and to develop new products at its research, product design, and development (“R&D”) and engineering facilities in Champaign and Mt. Prospect, Illinois, Fremont, California, Rapid City, South Dakota, Canada, China, Japan, Italy, the Philippines, Taiwan, Lithuania, Germany, and Mexico. The Product & Development Technology departments maintain a staff of engineers, chemists, material scientists and technicians whose primary responsibility is to design and develop new products.

Proposals for the development of new products are initiated primarily by sales, marketing, and product management personnel with input from customers. The entire product development process usually ranges from a few months to 18 months based on the complexity of development, with continuous efforts to reduce the development cycle. During fiscal years 2016, 2015, and 2014, the company expended \$42.2 million, \$30.8 million, and \$31.1 million, respectively, on R&D.

## **PATENTS, TRADEMARKS, AND OTHER INTELLECTUAL PROPERTY**

The company generally relies on patents, trademarks, licenses, and nondisclosure agreements to protect its intellectual property and proprietary products. In cases where it is deemed necessary by management, key employees are required to sign an agreement that they will maintain the confidentiality of the company’s proprietary information and trade secrets.

The company owns a large portfolio of patents worldwide and new products are continually being developed to replace older products. The company regularly applies for patent protection on such new products. Although, in the aggregate, the company’s patents are important in the operation of its businesses, the company believes that the loss by expiration or otherwise of any one patent or group of patents would not materially affect its business.

## **MANUFACTURING**

The company performs the majority of its own fabrication, stamps some of the metal components used in its fuses, holders and switches from raw metal stock and makes its own contacts and springs. In addition, the company fabricates silicon wafers for certain applications and performs its own plating (silver, nickel, zinc, tin, and oxides). Thermoplastic molded component requirements are met through the company’s in-house molding capabilities. After components are stamped, molded, plated, and readied for assembly, final assembly is accomplished on fully automatic and semi-automatic assembly machines. Quality assurance and operations personnel, using techniques such as statistical process control, perform tests, checks and measurements during the production process to maintain the highest levels of product quality and customer satisfaction.



The principal raw materials for the company's products include copper and copper alloys, heat-resistant plastics, zinc, melamine, glass, silver, gold, raw silicon, solder, and various gases. The company uses a single source for several heat-resistant plastics and for zinc, but believes that suitable alternative heat-resistant plastics and zinc are available from other sources at comparable prices. All other raw materials are purchased from a number of readily available outside sources.

## **MARKETING**

The company's sales and marketing staff maintains relationships with major OEMs and global distributors. The company's sales, marketing and engineering personnel also interact directly with OEM engineers to ensure appropriate sensor design, circuit protection and reliability within the OEM's parameters. The company also markets its products indirectly through a worldwide organization of over 60 manufacturers' representatives and distributes through an extensive network of electronics, automotive and electrical distributors.

### *Electronics Segment*

The company sells a majority of its Electronics segment products through distribution, including global distributors such as Arrow Electronics, Future Electronics and TTI, Inc, with most of the remainder sold directly to OEMs. In the Americas, the company maintains a direct sales staff and utilizes manufacturers' representatives to sell its electronics products in the U.S. and to call on major U.S. and international OEMs and distributors. In Canada, the company utilizes manufacturers' representatives and distributors. In Europe and Asia-Pacific regions, the company also maintains a direct sales staff and utilizes distributors.

### *Automotive Segment*

The company maintains a direct sales force to service all the major automotive and commercial vehicle OEMs, system suppliers, and Tier One suppliers in the U.S. The company also has manufacturers' representatives that sell the company's products to aftermarket fuse retailers and commercial vehicle product OEMs.

In Europe, the company uses both a direct sales force and manufacturers' representatives to service its OEMs, major system suppliers and aftermarket distribution customers. In the Asia-Pacific region, the company uses both a direct sales force and distributors to supply to major OEM system suppliers and Tier One suppliers.

### *Industrial Segment*

The company markets and sells its power fuses and protection relays through manufacturers' representatives across North America. These representatives sell power fuse products through an electrical and industrial distribution network comprised of over 2,500 distributor buying locations. These distributors have customers that include electrical contractors, municipalities, utilities and factories (including both MRO and OEM).

The company's field sales force (including regional sales managers and application engineers) and manufacturers' representatives call on both distributors and end-users (consulting engineers, municipalities, utilities, and OEMs) in an effort to educate these customers on the capabilities and characteristics of the company's products.

## **CUSTOMERS**

The company sells to over 6,000 customers and distributors worldwide. No single customer accounted for more than 10% of net sales during any of the last three years. During fiscal 2016, 2015, and 2014, net sales to customers outside the U.S. accounted for approximately 66%, 60%, and 63%, respectively, of the company's total net sales.

## **COMPETITION**

The company's products compete with similar products of other manufacturers, some of which may have substantially greater financial resources than the company. In the electronics market, the company's competitors include Eaton Corporation, Bel Fuse Inc., Bourns Inc., EPCOS, ON Semiconductor Corporation, STMicroelectronics NV, Semtech Corporation, and Vishay Intertechnology Inc. In the automotive market, the company's competitors include Amphenol Corporation, Eaton Corporation, Pacific Engineering, MTA, CTS Corporation, Amphenol, Sensata Technologies Holding NV, and TE Connectivity Ltd. In the industrial market, the company's major competitors include Eaton Corporation, GE Multilin, and Mersen. The company believes that it competes on the basis of innovative products, the breadth of its product line, the quality and design of its products, and the responsiveness of its customer service, in addition to price.

## **BACKLOG**

The backlog of unfilled orders at December 31, 2016 was approximately \$110.3 million, compared to \$96.4 million at January 2, 2016. Substantially all of the orders currently in backlog are scheduled for delivery in 2017.

## **EMPLOYEES**

As of December 31, 2016, the company employed approximately 10,300 employees worldwide. Approximately 1,900 employees in Mexico are covered by collective bargaining agreements. In Mexico the company has two separate collective bargaining agreements, one for 1,200 employees in Piedras Negras, expiring January 31, 2018 and the second for 720 employees in Matamoros, expiring January 1, 2018. Approximately 18% of the company's total workforce was employed under collective bargaining agreements at December 31, 2016. Overall, the company has historically maintained satisfactory employee relations and considers employee relations to be good.

## **ENVIRONMENTAL REGULATION**

The company is subject to numerous foreign, federal, state, and local regulations relating to air and water quality, the disposal of hazardous waste materials, safety and health. Compliance with applicable environmental regulations has not significantly changed the company's competitive position, capital spending or earnings in the past and the company does not presently anticipate that compliance with such regulations will change its competitive position, capital spending or earnings for the foreseeable future.

The company employs a chemical engineer to monitor regulatory matters and believes that it is currently in compliance in all material respects with applicable environmental laws and regulations.

Littelfuse GmbH, which was acquired by the company in May 2004, is responsible for maintaining closed coal mines from legacy operations. The company is compliant with German regulations pertaining to the maintenance of the mines and has an accrual related to certain of these coal mine shafts based on an engineering study estimating the cost of remediating the dangers (such as a shaft collapse) of certain of these closed coal mine shafts in Germany. The accrual is reviewed annually and calculated based upon the cost of remediating the shafts. Further information regarding the coal mine liability accrual is provided in Note 1, *Summary of Significant Accounting Policies and Other Information*, of the Notes to Consolidated Financial Statements included in this Annual Report.

**ITEM 1A. RISK FACTORS.**

Our business, financial condition, and results of operations are subject to various risks and uncertainties, including the risk factors we have identified below. Any of the following risk factors could materially and adversely affect our business, financial condition, or results of operations. These factors are not necessarily listed in order of importance.

***Our industry is subject to intense competitive pressures.***

We operate in markets that are highly competitive. We compete on the basis of price, quality, service, and / or brand name across the industries and markets we serve. Competitive pressures could affect the prices we are able to charge our customers or the demand for our products.

We may not always be able to compete on price, particularly when compared to manufacturers with lower cost structures. Some of our competitors have substantially greater sales, financial and manufacturing resources and may have greater access to capital than Littelfuse. As other companies enter our markets or develop new products, competition may further intensify. Our failure to compete effectively could materially adversely affect our business, financial condition, and results of operations.

***We may be unable to manufacture and deliver products in a manner that is responsive to our customers' needs.***

The end markets for our products are characterized by technological change, frequent new product introductions and enhancements, changes in customer requirements and emerging industry standards. The introduction of products embodying new technologies and the emergence of new industry standards could render our existing products obsolete and unmarketable before we can recover any or all of our research, development, and commercialization expenses on capital investments. Furthermore, the life cycles of our products may change and are difficult to estimate.

Our future success will depend upon our ability to manufacture and deliver products in a manner that is responsive to our customers' needs. We will need to develop and introduce new products and product enhancements on a timely basis that keep pace with technological developments and emerging industry standards and address increasingly sophisticated requirements of our customers. We invest heavily in research and development without knowing that we will recover these costs. Our competitors may develop products or technologies that will render our products non-competitive or obsolete. If we cannot develop and market new products or product enhancements in a timely and cost-effective manner, our business, financial condition, and results of operations could be materially adversely affected.



***Our business may be interrupted by labor disputes or other interruptions of supplies.***

A work stoppage could occur at certain of our facilities, most likely as a result of disputes under collective bargaining agreements or in connection with negotiations of new collective bargaining agreements. In addition, we may experience a shortage of supplies for various reasons, such as financial distress, work stoppages, natural disasters or production difficulties that may affect one of our suppliers. A significant work stoppage, or an interruption or shortage of supplies for any reason, if protracted, could substantially adversely affect our business, financial condition, and results of operations. The transfer of our manufacturing operations and changes in our distribution model could disrupt operations for a limited time.

***Our revenues may vary significantly from period to period.***

Our revenues may vary significantly from one accounting period to another due to a variety of factors including:

changes in our customers' buying decisions;

changes in demand for our products;

changes in our distributor inventory stocking;

our product mix;

our effectiveness in managing manufacturing processes;

costs and timing of our component purchases;

the effectiveness of our inventory control;

the degree to which we are able to utilize our available manufacturing capacity;

our ability to meet delivery schedules;

general economic and industry conditions;

local conditions and events that may affect our production volumes, such as labor conditions and political instability;  
and

seasonality of certain product lines.

***The bankruptcy or insolvency of a major customer could adversely affect us.***

The bankruptcy or insolvency of a major customer could result in lower sales revenue and cause a material adverse effect on our business, financial condition, and results of operations. In addition, the bankruptcy or insolvency of a major U.S. auto manufacturer or significant supplier likely could lead to substantial disruptions in the automotive supply base, resulting in lower demand for our products, which likely would cause a decrease in sales revenue and have a substantial adverse impact on our business, financial condition and results of operations.

***Our ability to manage currency or commodity price fluctuations or supply shortages is limited.***

As a resource-intensive manufacturing operation, we are exposed to a variety of market and asset risks, including the effects of changes in commodity prices, foreign currency exchange rates, and interest rates. We have multiple sources of supply for the majority of our commodity requirements. However, significant shortages that disrupt the supply of raw materials or result in price increases could affect prices we charge our customers, our product costs, and the competitive position of our products and services. We monitor and manage these exposures as an integral part of our overall risk management program, which recognizes the unpredictability of markets and seeks to reduce the potentially adverse effects on our results. Nevertheless, changes in currency exchange rates, commodity prices and interest rates cannot always be predicted. In addition, because of intense price competition and our high level of fixed costs, we may not be able to address such changes even if they are foreseeable. Substantial changes in these rates and prices could have a material adverse effect on our results of operations and financial condition. In addition, significant portions of our revenues and earnings are exposed to changes in foreign currency rates. As we operate in multiple foreign currencies, changes in those currencies relative to the U.S. dollar will impact our revenues and expenses. The impact of possible currency devaluation in countries experiencing high inflation rates or significant exchange fluctuations can impact our results and financial guidance. For additional discussion of interest rate, currency or commodity price risk, see Item 7A, *Quantitative and Qualitative Disclosures about Market Risks*.

***A significant fluctuation between the U.S. dollar and other currencies could adversely impact the Company's revenue and earnings.***

Although the company's financial results are reported in U.S. dollars, the majority of the company's operations consist of manufacturing and sales activities in foreign countries. The company's most significant net long exposure is to the



euro. The company's most significant net short exposures are to the Chinese renminbi, Mexican peso, and Philippine peso. Changes in foreign exchange rates and in particular, an increase in the value of the U.S. dollar against foreign currencies, could have an adverse effect on profitability and financial condition.

*We are exposed to political, economic, and other risks that arise from operating a multinational business.*

We have significant operating activities in numerous countries around the globe that contribute significantly to our revenues and earnings. Serving a global customer base and remaining competitive in the global marketplace requires the company to place our production in countries outside the U.S., including emerging markets, to capitalize on market opportunities and maintain a cost-efficient structure. In addition, we source a significant amount of raw materials and other components from third-party suppliers in low-cost countries. Our operating activities are subject to a number of risks generally associated with multi-national operations, including risks relating to the following:

general economic conditions;

currency fluctuations and exchange restrictions;

import and export duties and restrictions;

the imposition of tariffs and other import or export barriers;

compliance with regulations governing import and export activities;

current and changing regulatory requirements;

political and economic instability;

potentially adverse income tax consequences;

transportation delays and interruptions;

labor unrest;

natural disasters;

terrorist activities;

public health concerns;

difficulties in staffing and managing multi-national operations; and

limitations on our ability to enforce legal rights and remedies.

Any of these factors could have a material adverse effect on our business, financial condition and results of operations.

***We engage in strategic acquisitions and may not realize the anticipated benefits of the acquisitions and / or may encounter difficulties in integrating these businesses.***

We are a company that seeks to grow through strategic acquisitions. We have in the past acquired a number of businesses or companies and additional product lines and assets. We intend to continue to expand and diversify our operations with additional future acquisitions.

An acquired business, technology, service or product could under-perform relative to our expectations and the price paid for it, or not perform in accordance with our anticipated timetable. This could cause our financial results to differ from expectations in any given fiscal period, or over the long term. The success of these transactions also depends on our ability to integrate the assets and personnel acquired in these acquisitions. We may encounter difficulties in integrating acquisitions with our operations and may not realize the degree or timing of the benefits that we anticipated from an acquisition.

We may also discover liabilities or deficiencies associated with the companies or assets we acquire that were not identified in advance, which may result in significant unanticipated costs. The effectiveness of our due diligence review and our ability to evaluate the results of such due diligence are dependent upon the accuracy and completeness of statements and disclosures made or actions taken by the companies we acquire or their representatives, as well as the limited amount of time in which acquisitions are executed. In addition, we may fail to accurately forecast the financial impact of an acquisition transaction, including tax and accounting charges. Acquisitions may also result in our recording of significant additional expenses to our results of operations and recording of substantial intangible assets on our balance sheet upon closing. Any of these factors may adversely affect our financial condition or results of operations.

***Reorganization activities may lead to additional costs and material adverse effects.***

In the past we have taken actions to restructure and optimize our production and manufacturing capabilities and efficiencies through relocations, consolidations, plant closings or asset sales. In the future we may take additional restructuring actions including the consolidating, closing or selling of additional facilities. These actions could result in impairment charges and various charges for such items as idle capacity, disposition costs and severance costs, in addition to normal or attendant risks and uncertainties. We may be unsuccessful in any of our current or future efforts to restructure or consolidate our business. Our plans to minimize or eliminate any loss of revenues during restructuring or consolidation may not be achieved. These activities may have a material adverse effect upon our business, financial condition or results of operations.

***Environmental liabilities could adversely impact our financial position.***

Foreign, federal, state and local laws and regulations impose various restrictions and controls on the discharge of materials, chemicals and gases used in our manufacturing processes or in our finished goods. These environmental regulations have required us to expend a portion of our resources and capital on relevant compliance programs. Under these laws and regulations, we could be held financially responsible for remedial measures if our current or former properties are contaminated or if we send waste to a landfill or recycling facility that becomes contaminated, even if we did not cause the contamination. We may be subject to additional common law claims if we release substances that damage or harm third parties. In addition, future changes in environmental laws or regulations may require additional investments in capital equipment or the implementation of additional compliance programs. Any failure to comply with new or existing environmental laws or regulations could subject us to significant liabilities and could have a material adverse effect on our business, financial condition or results of operations.

In the conduct of our manufacturing operations, we have handled and do handle materials that are considered hazardous, toxic or volatile under federal, state, and local laws. The risk of accidental release of such materials cannot be completely eliminated. In addition, we operate or own facilities located on or near real property that was formerly owned and operated by others. Certain of these properties were used in ways that involved hazardous materials. Contaminants may migrate from, within or through these properties. These releases or migrations may give rise to claims. Where third parties are responsible for contamination, the third parties may not have funds, or not make funds available when needed, to pay remediation costs imposed upon us under environmental laws and regulations.

The company is responsible for the maintenance of discontinued coal mining operations in Germany. The risk of environmental remediation exists and the company is in the process of remediating the mines considered to be the most at risk.

***Disruptions in our manufacturing, supply or distribution chain could result in an adverse impact on results of operations.***

We source materials and sell product through various international network channels. A disruption could occur within our manufacturing, distribution or supply chain network. This could include damage or destruction due to various causes including natural disasters or political instability which would cause one or more of these network channels to become non-operational. This could adversely affect our ability to manufacture or deliver our products in a timely manner, impair our ability to meet customer demand for products and result in lost sales or damage to our reputation. Such a disruption could have a material adverse effect upon our business, financial condition or results of operations.

***We derive a substantial portion of our revenues from customers in the automotive industry and we are susceptible to trends and factors affecting this industry including industry cyclicity, and unexpected product recalls as well as the success of our customers' products.***

Net sales to the automotive industry represent a substantial portion of our revenues. Factors negatively affecting this industry and the demand for products also negatively affect our business, financial condition or results of operations. Any adverse occurrence, including industry slowdown, recession, political instability, costly or constraining regulations, tax policies and regulations, armed hostilities, terrorism, excessive inflation, prolonged disruptions in one or more of our customers' production schedules, unexpected product recalls or labor disturbances, that results in significant decline in the volume of sales in these industries, or in an overall downturn in the business and operations of our customers in these industries, could materially adversely affect our business, financial condition or results of operations. To the extent that demand for certain of our customers' products declines, the demand for our products may decline. Reduced demand relating to general economic conditions, consumer preferences, or interest rates may have a material adverse effect upon our business, financial condition or results of operations.

***The inability to maintain access to capital markets may adversely affect our business and financial results.***

Our ability to invest in our businesses, make strategic acquisitions, and refinance maturing debt obligations may require access to the capital markets and sufficient bank credit lines to support short-term borrowings. If we are unable to access the capital markets or bank credit facilities, we could experience a material adverse effect on our business, financial condition, and results of operations.

***Fixed costs may reduce operating results if our sales fall below expectations.***

Our expense levels are based, in part, on our expectations for future sales. Many of our expenses, particularly those relating to capital equipment and manufacturing overhead, are relatively fixed. We might be unable to reduce spending quickly enough to compensate for reductions in sales. Accordingly, shortfalls in sales could materially and adversely affect our operating results.

***The volatility of our stock price could affect the value of an investment in our stock and our future financial position.***

The market price of our stock can fluctuate widely. Between January 2, 2016 and December 31, 2016, the closing sale price of our common stock ranged between a low of \$90.61 and a high of \$156.54. The volatility of our stock price may be related to any number of factors, such as volatility in the financial markets, general macroeconomic conditions, industry conditions, analysts' expectations concerning our results of operations, or the volatility of our revenues as discussed above under "Our Revenues May Vary Significantly from Period to Period." The historic market price of our common stock may not be indicative of future market prices. We may not be able to sustain or increase the value of our common stock. Declines in the market price of our stock could adversely affect our ability to retain personnel with stock incentives, to acquire businesses or assets in exchange for stock and/or to conduct future financing activities with or involving our common stock.

***Customer demands and new regulations related to conflict-free minerals may force us to incur additional expenses.***

The Dodd-Frank Wall Street Reform and Consumer Protection Act requires disclosure of use of "conflict" minerals mined from the Democratic Republic of Congo and adjoining countries and efforts to prevent the use of such minerals. In the semiconductor industry, these minerals are most commonly found in metals. As there may be only a limited number of suppliers offering "conflict free" metals, we cannot be certain that we will be able to obtain necessary metals in sufficient quantities or at competitive prices. Also, we may face challenges with our customers and suppliers if we are unable to sufficiently verify that the metals used in our products are "conflict free."

***We are exposed to, and may be adversely affected by, potential security breaches or other disruptions to our information technology systems and data security.***

We rely on our information technology systems and networks in connection with many of our business activities. Some of these networks and systems are managed by third-party service providers and are not under our direct

control. Our operations routinely involve receiving, storing, processing and transmitting sensitive information pertaining to our business, customers, dealers, suppliers, employees, and other sensitive matters. As with most companies, we have experienced cyber-attacks, attempts to breach our systems, and other similar incidents, none of which have been material. Any future cyber incidents could, however, materially disrupt operational systems; result in loss of trade secrets or other proprietary or competitively sensitive information; compromise personally identifiable information regarding customers or employees; and jeopardize the security of our facilities. A cyber incident could be caused by malicious outsiders using sophisticated methods to circumvent firewalls, encryption, and other security defenses. Because techniques used to obtain unauthorized access or to sabotage systems change frequently and generally are not recognized until they are launched against a target, we may be unable to anticipate these techniques or to implement adequate preventative measures. Information technology security threats, including security breaches, computer malware, and other cyber-attacks are increasing in both frequency and sophistication and could create financial liability, subject us to legal or regulatory sanctions or damage our reputation with customers, dealers, suppliers, and other stakeholders. We continuously seek to maintain a robust program of information security and controls, but the impact of a material information technology event could have a material adverse effect on our competitive position, reputation, results of operations, financial condition, and cash flows.

***Lapses in disclosure controls and procedures or internal control over financial reporting could materially and adversely affect our operations, profitability or reputation.***

We are committed to maintaining high standards of internal control over financial reporting and disclosure controls and procedures. Nevertheless, lapses or deficiencies in disclosure controls and procedures or in our internal control over financial reporting may occur from time to time.

There can be no assurance that our disclosure controls and procedures will be effective in the future or that a material weakness or significant deficiency in internal control over financial reporting will not exist. Any such lapses or deficiencies may materially and adversely affect our business and results of operations or financial condition, restrict our ability to access the capital markets, require us to expend significant resources to correct the lapses or deficiencies, expose us to regulatory or legal proceedings, subject us to fines, penalties, judgments or losses not covered by insurance, harm our reputation, or otherwise cause a decline in investor confidence.

***The company's effective tax rate could materially increase as a consequence of various factors, including U.S. and/or international tax legislation, mix of the company's earnings by jurisdiction, and U.S. and foreign jurisdictional tax audits.***

The company is subject to taxes in the U.S. and numerous foreign jurisdictions. Therefore, it is subject to changes in tax laws in each of these jurisdictions and such changes could have a material adverse affect on the company's effective tax rate and cash flows. As a U.S. company with significant non-U.S. operations (generally taxed at rates that are lower than the U.S. statutory rate), it is particularly susceptible to changes in U.S. tax rules. Various U.S. corporate tax legislative proposals are under consideration, some of which may have a material adverse effect on the company's effective tax rate and cash flows. In addition, certain foreign jurisdictions are considering tax legislation based upon recommendations made by the Organisation for Economic Co-operation and Development in connection with its *Base Erosion and Profit Shifting* study. The outcome of these legislative developments could have a material adverse effect on the company's effective tax rate and cash flows.

The tax rates applicable in the jurisdictions within which the company operates vary widely. Therefore, the company's effective tax rate may be adversely affected by changes in the mix of its earnings by jurisdiction.

The company is also subject to examination of its tax returns by the U.S. Internal Revenue Service and other tax authorities and governmental bodies. The company regularly assesses the likelihood of an adverse outcome resulting from these examinations to determine the adequacy of its provision for income taxes. However, there can be no assurance as to the outcome of these examinations.

***Failure to attract and retain qualified personnel could affect our business results.***

Our success, both generally and in connection with mergers and acquisitions, depends on our ability to attract, retain, and motivate 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 could impede our ability to deliver our growth objectives and execute our strategy. Competition for qualified employees among companies that rely heavily upon engineering and technology is at times intense, and the loss of qualified employees could hinder our ability to conduct research activities successfully and develop marketable products.

***We may not be successful protecting our patents and trademarks.***



We consider our intellectual property, including patents, trade names, and trademarks, to be of significant value to our business as a whole. Our products are manufactured, marketed, and sold under a portfolio of patents, trademarks, licenses, and other forms of intellectual property, some of which expire or are allowed to lapse at various dates in the future. We develop and acquire new intellectual property on an ongoing basis and consider all of our intellectual property to be valuable. The company's policy is to file applications and obtain patents for the great majority of its novel and innovative new products including product modifications and improvements. Based on the broad scope of our product lines, management believes that the loss or expiration of any single intellectual property right would not have a material adverse effect upon our business, financial condition or results of operations; however, multiple losses or expirations could have a material adverse effect upon our business, financial condition or results of operations.

#### **ITEM 1B. UNRESOLVED STAFF COMMENTS.**

None.

#### **ITEM 2. PROPERTIES.**

The company's operations are located in 51 owned or leased facilities worldwide, totaling approximately 2.8 million square feet. The company's corporate headquarters is located in the U.S. in Chicago, Illinois. The company has North American manufacturing facilities in Saskatoon, Canada, Piedras Negras, Mexico, Melchor Muzquiz, Mexico, Matamoros, Mexico, and Rapid City, South Dakota. The company has European manufacturing facilities in Kaunas, Lithuania, and Legnago and Ozegna, Italy. Asia-Pacific operations include sales and distribution centers located in Singapore, Taiwan, Japan, China, and Korea, with manufacturing plants located in the Philippines, Japan, and various cities in China.

The company does not believe that it will encounter any difficulty in renewing its existing leases upon the expiration of their current terms. Management believes that the company's facilities are adequate to meet its requirements for the foreseeable future.

The following table provides certain information concerning the company's facilities at December 31, 2016, and the use of these facilities during fiscal year 2016:

<b>Location</b>	<b>Use</b>	<b>Size (sq. ft.)</b>	<b>Lease/ Own</b>	<b>Lease Expiration Date</b>	<b>Primary Product</b>
Chicago, Illinois	Administrative, Engineering, Research and Development and Testing	54,838	Leased	2024	Auto, Electronics, and Industrial
Mount Prospect, Illinois	Engineering and Research and Development	23,515	Leased	2018	Auto and Electronics
Champaign, Illinois	Research and Development	18,908	Leased	2025	Auto and Electronics
Lake Mills, Wisconsin	Administrative, Engineering, Sales, and Research and Development	65,000	Leased	2020	Electronics
Troy, Michigan	Sales	4,461	Leased	2021	Auto
Rapid City, South Dakota	Manufacturing and Administrative	230,000	Owned	—	Industrial
Waltham, Massachusetts	Administrative, Engineering, and Research and Development	3,858	Leased	2022	Auto
Fremont, CA	Research and Development	18,000	Leased	2023	Electronics
Bellingham, Washington	Sales and Research and Development	2,000	Leased	2017	Auto
Melchor Muzquiz, Mexico	Manufacturing	39,364	Leased	2019	Auto
Piedras Negras, Mexico	Administrative, Manufacturing	99,822	Leased	2017	Auto
Piedras Negras, Mexico	Manufacturing	291,860	Owned	—	Auto and Industrial
Matamoros, Mexico	Administrative, Logistics, Manufacturing, Engineering, Testing, and Distribution	104,000	Owned	—	Auto
Eagle Pass, Texas	Distribution	7,600	Leased	2017	Auto, Electronics, and Industrial
Saskatoon, Canada	Administrative, Manufacturing, Engineering, and Research and Development	88,390	Owned	—	Industrial
Sao Paulo, Brazil	Sales	3,229	Leased	2017	Electronics and Auto
Manaus, Brazil	Warehouse	2,152	Leased	2017	Electronics and Auto
Swindon, U.K.	Administrative	304	Leased	2017	Electronics
Norwich, U.K.	Engineering	7,964	Leased	2020	Auto
Deventer, The Netherlands	Administrative	1,076	Leased	2017	—
Essen, Germany	Leased to third party	37,244	Owned	—	—
Essen, Germany	Administrative	3,703	Leased	2017	Auto and Electronics

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Bremen, Germany	Administrative	13,455	Leased	2021	Auto, Electronics, and Industrial
Lauf, Germany	Administrative	1,362	Leased	2018	Electronic
Taufkirchen, Germany	Administrative	318	Leased	2017	Electronic
Lenzenburg, Switzerland	Administrative	215	Leased	2017	Auto
Arstad, Sweden	Sales	328	Leased	2017	Auto
Kaunas, Lithuania	Administrative, Manufacturing, Research and Development, and Engineering	43,239	Owned	—	Auto
Kaunas, Lithuania	Manufacturing	84,712	Leased	2021	Auto
Kaunas, Lithuania	Research and Development	4,596	Leased	2017	Auto
Ozegna, Italy	Administrative, Manufacturing, and Research and Development	32,292	Leased	2021	Auto
Legnago, Italy	Administrative, Manufacturing, and Research and Development	96,875	Leased	2022	Auto
Singapore	Sales and Distribution	1,572	Leased	2018	Electronics
Taipei, Taiwan	Sales	7,876	Leased	2017	Electronics
Seoul, Korea	Sales	3,643	Leased	2017	Electronics
Lipa City, Philippines	Manufacturing	116,046	Owned	—	Electronics
Lipa City, Philippines	Manufacturing	105,827	Owned	—	Electronics
Dongguan, China	Administrative and Manufacturing	264,792	Leased	2023	Electronics
Suzhou, China	Manufacturing	143,458	Owned	—	Auto and Electronics
Beijing, China	Sales	452	Leased	2017	Electronics
Shenzhen, China	Sales	3,100	Leased	2017	Electronics
Shanghai, China	Sales	6,324	Leased	2018	Auto and Electronics
Chu-Pei City, Taiwan	Research and Development	10,505	Leased	2019	Electronics
Wuxi, China	Manufacturing	221,214	Owned	—	Electronics
Hong Kong, China	Sales	743	Leased	2017	Auto, Electronics, and Industrial
Tsukuba, Japan	Manufacturing	80,500	Owned	—	Auto and Electronics
Tokyo, Japan	Sales	4,123	Leased	2019	Auto and Electronics
Shanghai, China	Manufacturing	87,737	Leased	2021	Auto and Electronics
Shanghai, China	Warehouse	35,015	Leased	2017	Auto and Electronics
Kunshan, China	Manufacturing	293,282	Owned	—	Auto and Electronics
Kunshan, China	Warehouse	2,687	Owned	—	Auto and Electronics

Properties with lease expirations in 2017 may be renewed at various times throughout the year. The company does not anticipate any material impact as a result of such expirations.

**ITEM 3. LEGAL PROCEEDINGS.**

The company is not a party to any material legal proceedings, other than routine litigation incidental to our business.

**ITEM 4. MINE SAFETY DISCLOSURES.**

Not applicable.

**PART II**

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

**Market Information**

Shares of the company’s common stock are traded under the symbol “LFUS” on the NASDAQ Global Select Market.

The table below provides information with respect to the company’s quarterly stock prices and cash dividends declared and paid for each quarter during fiscal 2016 and 2015:

	2016				2015			
	4Q	3Q	2Q	1Q	4Q	3Q	2Q	1Q
High	\$156.54	\$130.79	\$123.15	\$124.59	\$114.90	\$97.96	\$102.78	\$103.08
Low	124.32	113.42	106.26	90.61	87.32	82.53	93.31	89.11
Close	151.77	128.81	116.56	123.40	107.01	89.09	97.76	98.36
Dividends	0.33	0.33	0.29	0.29	0.29	0.29	0.25	0.25

**Number of Holders**

As of February 16, 2017, there were 76 holders of record of the company's common stock.

### **Dividend Policy**

The company expects that its practice of paying quarterly dividends on its common stock will continue although future dividend policy will be determined by the Board of Directors based upon its evaluation of earnings, cash availability, and general business prospects. Currently, there are restrictions on the payment of dividends contained in the company's credit agreements that relate to the maintenance of certain financial ratios. However, the company expects to continue paying cash dividends on a quarterly basis for the foreseeable future.

### **Recent Sales of Unregistered Securities**

There were no sales of unregistered securities by us or affiliates during the three months ended December 31, 2016.

### **Purchases of Equity Securities**

The company's Board of Directors authorized the repurchase of up to 1,000,000 shares of the company's common stock under a program for the period May 1, 2016 to April 30, 2017. The company did not repurchase any shares of its common stock during fiscal 2016 and 1,000,000 shares may yet be purchased under the program as of December 31, 2016.

The table below presents shares of the company's common stock which were acquired by the company during the three months ended December 31, 2016:

<b>Period</b>	<b>Total number of shares purchased</b>	<b>Average price paid per share</b>	<b>Total number of shares purchased as part of publicly</b>	<b>Maximum number (or approximate dollar value) of shares that</b>
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			<b>announced plans</b>	<b>may yet be purchased</b>
			<b>or programs</b>	<b>under the plans or programs</b>
October 1 through October 31	—	—	—	1,000,000
November 1 through November 30	—	—	—	1,000,000
December 1 through December 31	—	—	—	1,000,000
Total	—	—	—	1,000,000

## Stock Performance Graph

*The following stock performance graph and related information shall not be deemed “soliciting material” or “filed” with the Securities and Exchange Commission, nor shall such information be incorporated by reference into any future filings under the Securities Act of 1933 or Securities Exchange Act of 1934, each as amended, except to the extent that the company specifically incorporates it by reference into such filing.*

The following stock performance graph compares the five-year cumulative total return on Littelfuse common stock to the five-year cumulative total returns on the Russell 2000 Index and the Dow Jones Electrical Components and Equipment Industry Group Index. The company believes that the Russell 2000 Index and the Dow Jones Electrical Components and Equipment Industry Group Index represent a broad market index and peer industry group for total return performance comparison. The stock performance shown on the graph below represents historical stock performance and is not necessarily indicative of future stock price performance.

The Dow Jones Electrical Components and Equipment Industry Group Index includes the common stock of A. O. Smith Corp.; AAON, Inc.; American Superconductor Corp.; AMETEK, Inc.; Amphenol Corp.; Arrow Electronics, Inc.; Avnet, Inc.; AVX Corp.; Capstone Turbine Corp.; CTS Corp.; General Cable Corp.; Hubbell Inc. Class B; Jabil

Circuit, Inc.; KEMET Corp.; Littelfuse, Inc.; Methode Electronics, Inc.; Plexus Corp.; Powerwave Technologies, Inc.; Regal-Beloit Corp.; Vicor Corp.; and Vishay Intertechnology, Inc.

In the case of the Russell 2000 Index and the Dow Jones Electrical Components and Equipment Industry Group Index, a \$100 investment made on December 31, 2011 and reinvestment of all dividends is assumed. In the case of the company, a \$100 investment made on December 31, 2011 is assumed. Returns for the company's fiscal years presented above are as of the last day of the respective fiscal year which was, December 29, 2012, December 28, 2013, December 27, 2014, January 2, 2016, and December 31, 2016 for the fiscal years 2012, 2013, 2014, 2015, and 2016, respectively.



**ITEM 6. SELECTED FINANCIAL DATA.**

The information presented below provides selected financial data of the company during the past five fiscal years and should be read in conjunction with Item 7, *Management's Discussion and Analysis of Financial Condition and Results of Operations*, and Item 8, *Financial Statements and Supplementary Data*, for the respective years presented:

<b>(in thousands, except per share data)</b>	<b>2016</b>	<b>2015</b>	<b>2014</b>	<b>2013</b>	<b>2012</b>
Net sales	\$1,056,159	\$867,864	\$851,995	\$757,853	\$667,913
Gross profit	413,117	330,499	324,428	296,232	258,467
Operating income	130,644	104,157	133,830	129,881	106,870
Net income	104,488	80,866	98,100	87,814	74,370
Per share of common stock:					
Income from continuing operations					
- Basic	4.63	3.58	4.35	3.94	3.41
- Diluted	4.60	3.56	4.32	3.90	3.37
Cash dividends paid	1.24	1.08	0.94	0.84	0.76
Cash and cash equivalents	275,124	328,786	297,571	305,192	235,404
Total assets	1,491,194	1,065,475	1,069,859	1,024,373	777,728
Short-term debt	6,250	87,000	88,500	126,000	84,000
Long-term debt, less current portion	447,892	83,753	105,691	93,750	—

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

Management's Discussion and Analysis of Financial Condition and Results of Operations ("MD&A") is designed to provide information that is supplemental to, and should be read together with, our consolidated financial statements and the accompanying notes. Information in MD&A is intended to assist the reader in obtaining an understanding of (i) our consolidated financial statements, (ii) the changes in certain key items within those financial statements from year-to-year, (iii) the primary factors that contributed to those changes, and (iv) any changes in known trends or uncertainties that we are aware of and that may have a material effect on our future performance. In addition, MD&A provides information about our segments and how the results of those segments impact our results of operations and financial condition as a whole.

**Executive Overview**

Littelfuse is one of the world's leading suppliers of circuit protection products for the electronics, automotive, and industrial markets, with expanding platforms in sensor and power control components and modules. In addition to

circuit protection products and solutions, the company offers electronic reed switches and sensors, automotive sensors for comfort and safety systems and a comprehensive line of highly reliable electromechanical and electronic switch and control devices for commercial and specialty vehicles, as well as protection relays and power distribution centers for the safe control and distribution of electricity. The company has a network of global engineering centers and labs that develop new products and product enhancements, provides customer application support and test products for safety, reliability, and regulatory compliance. The company's devices protect products in virtually every market that uses electrical energy, from various electronic devices to automobiles to industrial equipment.

The company conducts its business through three reportable segments, which are defined by markets and consist of Electronics, Automotive, and Industrial. The company's customer base includes OEMs, Tier One automotive suppliers, and distributors.

## **Executive Summary**

We experienced strong performance improvements in 2016 including crossing the milestone of \$1 billion in revenue and recognizing record earnings and cash flow. We made substantial progress in growth from our strategic 2016 acquisitions which contributed approximately \$250 million in annualized revenue. We are well positioned for success with our updated strategy, which focuses on accelerated organic growth, while continuing to add acquisitions aligned to our core circuit protection, sensor, and power control platforms.

For 2016, we recognized net sales of \$1,056.2 million, a 22% increase versus the prior year period. Acquisitions contributed significantly to the growth in revenue. Organic growth was due to growth in most end markets across our electronics segment as well as our automotive fuses and sensor business. This was partially offset by declines in our industrial segment and our commercial vehicle products business within our automotive segment.

We recognized Net Income of \$104.5 million, an increase of 29.2%. Diluted EPS was \$4.60, a 29.2% increase over last year.

## **Business Outlook and Key Trends & Events**

We continually look for ways to improve the efficiency and performance of our operations. Certain trends have affected our results of operations for 2016 compared to 2015 and 2014. These trends, as well as the key trends that we expect will impact our future results of operations, are as follows.

**Business Acquisitions** – The company continues to review its existing product portfolio and looks for additional strategic acquisitions that complement existing product offerings or provide for further expansion of its portfolio. During 2016 and 2015, the company completed the following acquisitions:

On August 29, 2016, the company acquired the ON portfolio for \$104.0 million. The acquired business, which is included in the Electronics segment, consists of a product portfolio that includes TVS diodes, switching thyristors and IGBTs for automotive ignition applications. This transaction expands the company's presence in each of these product categories.

On April 4, 2016, the company acquired 100% of Menber's for \$19.2 million, net of cash acquired and after settlement of a working capital adjustment. Located in Legnago, Italy, Menber's specializes in the design, manufacturing, and selling of manual and electrical battery switches and trailer connectors for commercial vehicles. The acquisition expands the company's commercial vehicle platform globally.

On March 25, 2016, the company acquired PolySwitch, the circuit protection business of TE Connectivity Ltd., for \$348.3 million, net of cash acquired and after settlement of certain post-closing adjustments. PolySwitch has operations in Fremont, California and manufacturing facilities in Shanghai and Kunshan, China, and Tsukuba, Japan. The acquisition allows the company to strengthen its global circuit protection product portfolio, as well as strengthen its presence in the automotive electronics and battery end markets. The acquisition also significantly increases the company's presence in Japan.

On October 1, 2015, the company acquired 100% of Sigmar. The total purchase price for Sigmar was \$6.5 million, net of cash acquired and including estimated additional net payments of up to \$0.9 million, a portion of which is subject to the achievement of certain milestones. Located in Ozegna, Italy, Sigmar is a leading global manufacturer of water-in-fuel and SCR quality sensors, as well as diesel fuel heaters, solenoid valves, and rotating oil filters for automotive and commercial vehicle applications. The acquisition further expands the company's automotive sensor product line offerings.

**Financing** – The company increased its already strong liquidity position during 2016. Cash flow from operations was \$180.1 million for 2016, which was a 9% increase compared to the prior year. In March 2016, the company completed the refinancing of its credit facility, increasing capacity to \$700 million with the potential for future increases of up to an additional \$150 million and extending the maturity to March 2021. In December 2016, the company completed a private placement of approximately \$350 million of senior notes denominated in both U.S.

dollars and Euros, a portion of which was funded in December with the remaining funding occurring in February 2017. The senior notes range from five to twelve year maturities and have an average interest rate of approximately 2.25%.

**Asset Impairment** – During 2016, the potash mining industry experienced a continued decline in market pricing. Due to this continuing decline in potash pricing, the custom products reporting unit recognized charges of \$14.8 million to write down the reporting unit's carrying value. The charges included a goodwill impairment loss of \$8.8 million and intangible assets impairments aggregating \$6.0 million, including a \$3.8 million reduction of the custom products trade names to a \$0.7 million remaining value and a \$2.2 million reduction of the reporting unit's customer relationships to zero value.

**Outlook** – Sales for the first quarter of 2017 are expected to be in the range of \$277 to \$287 million which represents 29% revenue growth over the first quarter of 2016, at the midpoint of the range.

### **Results of Operations — 2016 compared with 2015**

The following table summarizes the company's consolidated results of operations for periods presented. The fiscal year 2016 includes approximately \$50.0 million of non-segment charges. These included \$14.8 million of charges related to the impairment of the custom products reporting unit, \$21.4 million of acquisition and integration costs associated with the company's 2016 acquisitions, primarily PolySwitch, \$7.8 million of non-cash fair value step-up inventory charges relating to the company's 2016 acquisitions, primarily PolySwitch, as described in Note 3, *Acquisitions*, of the Notes to Consolidated Financial Statements included in this Annual Report, \$1.9 million in charges related to the closure of the company's manufacturing facility in Denmark, \$1.6 million related to the company's transfer of its reed sensor manufacturing operations from the U.S. and China to the Philippines, and \$2.5 million related to restructuring costs.

Fiscal year 2015 includes approximately \$45.2 million of other non-segment charges. These included \$5.2 million related to the company's transfer of its reed sensor manufacturing operations from the U.S. and China to the Philippines, \$3.6 million related to restructuring, \$4.6 million related to acquisition costs and \$31.9 million of expense related to the planned termination of the U.S. pension as described in Note 10, *Benefit Plans*, of the Notes to Consolidated Financial Statements included in this Annual Report.

Fiscal year 2016 also included approximately \$0.5 million in foreign currency expenses primarily attributable to changes in the value of the euro, Philippine peso and Chinese renminbi against the U.S. dollar, while fiscal year 2015 also included \$1.5 million in foreign currency gains primarily attributable to changes in the value of both the euro and Philippine peso against the U.S. dollar.

(in thousands, except % change)	Fiscal Year		% Change
	2016	2015	
Sales	\$1,056,159	\$867,864	22%
Gross profit	413,117	330,499	25%
Operating expenses	282,473	226,342	25%
Operating income	130,644	104,157	25%
Other expense (income), net	(1,730 )	(5,417 )	(68%)
Income before income taxes	123,274	106,948	15%
Income taxes	18,786	26,082	(28%)
Net income	104,488	80,866	29%

### *Sales*

Net sales for 2016 of \$1,056.2 million increased \$188.3 million, or 22%, compared to the prior year, reflecting \$170.2 million of incremental revenues from businesses acquired over the previous two years as well as organic growth in the Electronics and Automotive segments, partially offset by lower sales from the Industrial segment due to weaker end markets. The company also experienced \$7.3 million in unfavorable foreign currency effects in 2016 compared to 2015 primarily resulting from sales denominated in Chinese renminbi.

The increase in sales in 2016 reflects a \$75.2 million, or 22%, increase in Automotive segment sales and a \$129.7 million, or 32%, increase in Electronics segment sales, partially offset by a \$16.6 million, or 14%, decrease in Industrial segment sales.

### *Gross Profit*

Gross profit was \$413.1 million, or 39.1% of sales, in 2016, compared to \$330.5 million, or 38.1% of sales, in 2015. Gross profit for 2016 was negatively impacted by \$10.8 million of charges primarily related to the inventory step-up from the acquisition of PolySwitch and to a lesser extent the ON Portfolio and Member's acquisitions. Gross profit for 2015 was negatively impacted by \$5.2 million of charges related to the transfer of the company's reed switch production from the U.S. and China to the Philippines.

### ***Operating Expenses***

Total operating expense was \$282.5 million, or 26.7% of net sales, for 2016 compared to \$226.3 million, or 26.1% of net sales, for 2015. Operating expense in 2016 included \$39.1 million of charges primarily consisting of acquisition and integration costs of \$21.4 million and \$14.8 million of charges related to the impairment of the custom products reporting unit. Operating expense in 2015 included \$39.9 million of charges, primarily related to the U.S. pension settlement of \$31.9 million and restructuring and acquisition costs of \$8.0 million.

### ***Operating Income***

Operating income was \$130.6 million, or 12.4% of net sales, in 2016 compared to \$104.2 million, or 12.0% of net sales, in the prior year. The increase in operating income in the current year was due primarily to higher revenue as well as the factors affecting operating expenses discussed above.

Interest expense was \$8.6 million in 2016 compared to \$4.1 million in 2015 and is primarily related to the company's increased borrowing to fund acquisitions.

Foreign exchange (gain) loss was \$0.5 million of loss in 2016 compared to \$1.5 million of gain in 2015. The fluctuation in foreign exchange was primarily attributable to changes in the value of the euro, Philippine peso and Chinese renminbi against the U.S. dollar in 2016 and 2015.

***Other Expense (Income), Net***

Other expense (income), net, consisting of interest income, royalties and non-operating income was \$1.7 million of income in 2016 compared to \$5.4 million of income in 2015. The year-over-year decrease in income primarily reflects lower interest income in 2016.

***Income Taxes***

Income tax expense was \$18.8 million with an effective tax rate of 15.2% in 2016 compared to income tax expense of \$26.1 million with an effective tax rate of 24.4% in 2015. The effective tax rates for these periods are lower than the U.S. statutory tax rate primarily due to income earned in lower tax jurisdictions and, with respect to the 2016 period, a one-time deduction with respect to the stock of one of the company's affiliates partially offset by the impact of the impairment of goodwill for which no tax benefit was recorded and taxes on unremitted earnings, and, with respect to the 2015 period, the impact of a pension settlement partially offset by the impact from the restructuring of the legal ownership of the company's Mexican manufacturing operations.

**Segment Information**

The company reports its operations by the following segments: Electronics, Automotive and Industrial. Segment information is described more fully in Note 14, *Segment Information*, of the Notes to Consolidated Financial Statements included in this Annual Report.

The following table is a summary of the company's net sales by segment:

(in millions)	Fiscal Year		
	2016	2015	Change
Electronics	\$535.2	\$405.5	\$ 129.7
Automotive	415.2	340.0	75.2
Industrial	105.8	122.4	(16.6 )
Total	\$1,056.2	\$867.9	\$ 188.3

***Electronics Segment***

The Electronics segment, which accounted for approximately 51% of total sales in 2016, has produced modest organic revenue growth over the last few years. In 2016, sales increased \$129.7 million, or 32%, compared to the prior year, reflecting \$110.0 million of sales from businesses acquired in 2016 as well as organic growth in sensor products and to a lesser extent passive and semiconductor products. Operating margins also improved in 2016 compared to 2015 due to better leverage from the higher sales, as well as favorable product and regional mix.

Fourth quarter 2016 sales were unseasonably strong due to higher demand in some markets including electric vehicle, mobile phone charging and base stations, along with an earlier than usual Chinese New Year. The book-to-bill ratio of 1.05 at the end of the fourth quarter is primarily due to stronger than normal seasonal trends.

### ***Automotive Segment***

The Automotive segment, which accounted for approximately 39% of total sales in 2016, has been the company's fastest growing business over the last few years. In 2016, sales increased \$75.2 million, or 22%, compared to the prior year, reflecting \$60.2 million of incremental sales from businesses acquired in 2016 and the fourth quarter of 2015 as well as organic growth related to sensor and passenger car products. These increases in sales were partially offset by lower sales of legacy commercial vehicle products, reflecting weakness in the North American heavy truck, construction, and agricultural end markets.

The segment realized growth in fuse content which was driven by more sophisticated electronics in vehicles and sales of our high-current products, especially the Masterfuse® line. Also contributing to segment performance was our automotive sensor business which experienced strong growth in sales and a significant improvement in margins. Sales in China were strong due to the Chinese government's tax incentives for smaller cars driving higher growth in the China car industry.

### ***Industrial Segment***

The Industrial segment, which accounted for approximately 10% of total sales in 2016, experienced a sales decrease of 14% over the prior year with declines across all businesses. The company also divested certain non-core product lines during 2016. See Note 4, *Divestitures*, for additional information. The company's power fuse business has benefited from a strong U.S. solar market in recent years; however, this market slowed in the second half of 2016. Sales in the protection relay business continued to be impacted by weakness in the heavy industrial and oil and gas markets, as those customers have restricted their capital spending. In the custom products business, the company continued to see a decline in the potash market, which has resulted in the aforementioned impairment charge in the third quarter of 2016. It is possible that we could recognize impairment charges for the relays reporting unit if we have declines in profitability or projected future operating results due to changes in volume, market pricing, cost, or the business environment.





## Geographic Sales Information

Sales by geography represent sales to customer or distributor locations. The following table is a summary of the company's net sales by geography:

(in millions)	Fiscal Year		
	2016	2015	Change
Americas	\$411.1	\$401.2	\$9.9
Europe	200.3	152.7	47.6
Asia-Pacific	444.8	314.0	130.8
Total	\$1,056.2	\$867.9	\$188.3

### *Americas*

Sales in the Americas increased \$9.9 million, or 2%, in 2016 compared to 2015, primarily due to acquisitions and increased demand for Electronics products, partially offset by lower Industrial sales. Electronics sales increased \$23.3 million, or 20%, primarily due to acquisitions as well as increased sales for passive and sensor products. Industrial sales decreased \$14.0 million, or 13%, resulting from decreases in demand for power fuses, custom products, and relay products.

### *Europe*

European sales increased \$47.6 million, or 31%, in 2016 compared to 2015 primarily due to acquisitions and increased demand for Automotive and Electronics products, partially offset by lower Industrial sales. Automotive sales increased \$26.8 million, or 27%, in 2016 primarily due to acquisitions and increased sales for sensor products. Electronics sales increased \$22.4 million, or 46%, primarily due to acquisitions as well as increased sales for the passive and sensor products. Industrial sales decreased \$1.5 million, or 24%, in 2016 primarily from lower sales of fuse and relay products.

### *Asia-Pacific*

Asia-Pacific sales increased \$130.8 million, or 42%, in 2016 compared to 2015, primarily due to acquisitions and increased demand for Automotive and Electronics products offset by lower Industrial sales. Excluding currency

effects, Asia-Pacific sales increased \$136.2 million, or 43%. Electronics sales increased \$84.0 million, or 35%, primarily due to acquisitions as well as increased sales for passive and sensor products. Excluding currency effects, Electronics sales increased \$86.3 million, or 36%. Automotive sales increased \$47.8 million, or 72%, primarily due to acquisitions as well as increased sales for passenger car and sensor products, partially offset by net unfavorable currency effects. Excluding currency effects, Automotive sales increased \$51.1 million, or 77%. Industrial sales decreased \$1.2 million, or 13%.

## Results of Operations — 2015 compared with 2014

The following table summarizes the company's consolidated results of operations for the periods presented. The fiscal year 2015 includes approximately \$45.2 million of other non-segment charges. These included \$4.6 million in acquisition-related costs primarily related to the transaction and integration planning costs for the PolySwitch acquisition, \$5.2 million in charges related to the transfer of the company's reed switch manufacturing operations from its Lake Mills, Wisconsin and Suzhou, China locations to the Philippines, \$3.6 million in internal restructuring costs that will improve the company's worldwide legal structure and \$31.9 million in U.S. pension settlement and wind-up costs.

Fiscal year 2015 also included \$1.5 million in foreign currency gains primarily attributable to changes in the value of both the euro and Philippine peso against the U.S. dollar while fiscal year 2014 included \$3.9 million in foreign currency losses primarily related to the value of the Philippine peso against the U.S. dollar.

(in thousands, except % change)	Fiscal Year		% Change
	2015	2014	
Sales	\$867,864	\$851,995	2%
Gross profit	330,499	324,428	2%
Operating expenses	226,342	190,598	19%
Operating income	104,157	133,830	(22%)
Other expense (income), net	(5,417 )	(6,644 )	(18%)
Income before income taxes	106,948	131,646	(19%)
Net income	80,866	98,100	(18%)

### ***Sales***

Net sales increased \$15.9 million, or 2%, to \$867.9 million for 2015 compared to \$852.0 million in 2014 due primarily to strong growth in the Automotive segment and improvement in the Industrial segment partially offset by lower sales in the Electronics segment. The company also experienced \$38.9 million in unfavorable foreign currency effects in 2015 compared to 2014 primarily resulting from sales denominated in the euro. Excluding currency effects, net sales increased \$54.7 million, or 6%, in 2015 compared to 2014.

The increase in sales in 2015 reflects a \$14.5 million, or 4%, increase in Automotive segment sales and a \$5.9 million, or 5%, increase in Industrial segment sales, partially offset by a \$4.6 million, or 1%, decrease in Electronics segment sales.

### ***Gross Profit***

Gross profit was \$330.5 million, or 38.1% of sales, in 2015, compared to \$324.4 million, or 38.1% of sales, in 2014. Gross profit for 2015 was negatively impacted by \$5.3 million of charges related to costs incurred to transfer of the company's reed switch production from the U.S. and China to the Philippines. Gross profit for 2014 was negatively impacted by \$2.8 million for accounting adjustments related to the SymCom inventory which had been stepped up to fair value at the acquisition date as required by purchase accounting rules. Additionally, 2014 gross profit was negatively impacted by \$2.7 million in severance charges. These severance charges primarily related to post-Hamlin acquisition reorganization changes. Excluding the impact of these charges, gross profit was \$335.8 million, or 38.7% of sales, in 2015 compared to \$329.9 million, or 38.7% of sales, in 2014.

### ***Operating Expenses***

Total operating expense was \$226.3 million, or 26.1% of net sales, for 2015 compared to \$190.6 million, or 22.4% of net sales, for 2014. Operating expense in 2015 included \$39.9 million of charges that primarily related to U.S. pension settlement and wind-up costs of \$31.9 million and restructuring and acquisition costs of \$8.0 million. Operating expense in 2014 included \$3.5 million in restructuring, acquisition, and impairment costs, \$2.2 million of which was to effect changes in the company's legal structure. Excluding these charges, total operating expense was \$186.4 million, or 21.5% of net sales, for 2015 compared to \$187.1 million, or 22.0% of net sales, in 2014.

### ***Operating Income***

Operating income was \$104.2 million, or 12.0% of net sales, in 2015 compared to \$133.8 million, or 15.7% of net sales, in the prior year. The decrease in operating income in the current year was due primarily to the factors affecting operating expenses discussed above.

Interest expense was \$4.1 million in 2015 compared to \$4.9 million in 2014 and is primarily related to the company's increased borrowings to fund acquisitions. The lower interest expense in 2015 resulted from lower average debt balances compared to the prior year.

Foreign exchange (gain) loss was \$1.5 million of gain in 2015 compared to \$3.9 million of loss in 2014. The fluctuation in foreign exchange was primarily attributable to changes in the value of both the euro and the Philippine peso against the U.S. dollar in 2015 and 2014.

#### ***Other Expense (Income), Net***

Other expense (income), net, consisting of interest income, royalties, and non-operating income was \$5.4 million of income in 2015 compared to \$6.6 million of income in 2014. The year-over-year decrease in income primarily reflects lower interest income in 2015.

#### ***Income Taxes***

Income tax expense was \$26.1 million in 2015 compared to \$33.5 million in 2014. The 2015 effective income tax rate was 24.4% compared to 25.5% in 2014. The lower effective tax rate in 2015 is primarily related to more income earned in lower-tax jurisdictions in 2015 compared to 2014 and the impact of a pension settlement, partially offset by the impact from the restructuring of the legal ownership of the company's Mexican manufacturing operations.

## Segment Information

The following table is a summary of the company's net sales by segment:

(in millions)	Fiscal Year		
	2015	2014	Change
Electronics	\$405.5	\$410.1	\$ (4.6 )
Automotive	340.0	325.4	14.6
Industrial	122.4	116.5	5.9
Total	\$867.9	\$852.0	\$ 15.9

### *Electronics Segment*

The decrease in Electronics sales primarily resulted from net unfavorable currency effects of \$11.7 million in 2015. Excluding currency effects, Electronics sales increased \$7.2 million, or 2%, compared to 2014 reflecting solid growth for passive components offset by lower sensor sales. Strong sales of electronic products in Europe and China helped to offset continued adjustments in channel inventory and capacity constraints for our electronic sensor products as the company continues to transfer production from the U.S. and China to the Philippines.

### *Automotive Segment*

The increase in Automotive sales was primarily due to strong growth for automotive sensor products. Sales in the commercial vehicle market were up slightly compared to 2014 as continued strength in the heavy truck market was offset by general market weakness in construction, agriculture, and the global mining industry. Automotive sales were negatively impacted by net unfavorable currency effects of \$22.4 million in 2015 compared to 2014, primarily resulting from sales denominated in the euro. Excluding currency effects, Automotive sales increased \$37.0 million, or 11% compared to 2014.

### *Industrial Segment*

The increase in Industrial sales was primarily from higher custom and power fuse sales which were offset by lower relay sales. The Industrial segment experienced net unfavorable currency effects of \$4.7 million, primarily from sales denominated in Canadian dollars and the euro. Excluding currency effects, Industrial sales increased \$10.6 million, or

9%, compared to 2014. The increase in fuse sales is primarily due to continuing strength in the solar market, while higher custom product sales benefited from some recovery in the potash mining end market.

## Geographic Sales Information

Sales by geography represent sales to customer or distributor locations. The following table is a summary of the company's net sales by and geography:

(in millions)	Fiscal Year		Change
	2015	2014	
Americas	\$401.2	\$377.7	23.5
Europe	152.7	163.9	(11.2 )
Asia-Pacific	314.0	310.4	3.6
Total	\$867.9	\$852.0	15.9

### *Americas*

Sales in the Americas increased \$23.5 million, or 6%, in 2015 compared to 2014 due primarily to growth in all segments offset by \$3.6 million in unfavorable currency effects resulting from sales denominated in Canadian dollars. Excluding currency effects, Americas sales increased \$27.1 million, or 7%. Automotive sales increased \$15.1 million, or 9% primarily reflecting strong growth in the automotive sensor and passenger vehicle markets. Electronics sales increased \$3.2 million, or 3%, primarily reflecting higher demand for passive products. Industrial sales increased \$5.2 million, or 5%, resulting from increases in demand for power fuses and custom products.

### *Europe*

European sales decreased \$11.3 million, or 7%, in 2015 compared to 2014 primarily due to net unfavorable currency effects of \$32.8 million primarily from sales denominated in the euro. Excluding currency effects, European sales increased \$21.5 million, or 13%, reflecting strong demand across all segments. Automotive sales decreased \$6.9 million, or 7%, in 2015 reflecting net unfavorable currency effects. Excluding currency effects, Automotive sales increased \$14.2 million, or 13%, reflecting strong demand for automotive sensor products. Electronics sales decreased \$3.7 million, or 7%, reflecting the impact of net unfavorable currency effects. Excluding currency effects, Electronics sales increased \$6.6 million, or 13%, reflecting strong demand for semiconductor products. Industrial sales decreased \$0.7 million, or 10%, in 2015 primarily from the impact of net unfavorable currency effects. Excluding currency effects, Industrial sales increased \$0.7 million, or 10%.





### *Asia-Pacific*

Asia-Pacific sales increased \$3.6 million, or 1%, in 2015 compared to 2014 primarily due to increased demand for Automotive and Industrial products offset by lower Electronics sales. Net unfavorable currency effects amounted to \$2.5 million. Excluding currency effects, Asia-Pacific sales increased \$6.1 million, or 2%. Electronics sales decreased \$4.1 million, or 2%, reflecting weakness in the Taiwan, Japan, and Korea markets. Automotive sales increased \$6.4 million, or 11%, reflecting continued increased demand for passenger vehicles in China as well as gains in market share. Industrial sales increased \$1.4 million, or 19%.

### **Liquidity and Capital Resources**

As of December 31, 2016, \$266.7 million of the \$275.1 million of the company's cash and cash equivalents was held by foreign subsidiaries. Of the \$266.7 million held by foreign subsidiaries, at least \$50 million can be repatriated with minimal tax consequences, considering both U.S. and foreign taxes. Other than amounts which can be repatriated with minimal tax consequences, the company expects to maintain its foreign cash balances for local operating requirements, to provide funds for future capital expenditures and for potential acquisitions and does not expect to repatriate these funds to the U.S.

The company has historically supported its liquidity needs through cash flows from operations. Management expects that the company's (i) current level of cash, cash equivalents, and marketable securities, (ii) current and forecasted cash flows from operations, (iii) availability under existing funding arrangements, and (iv) access to capital in the capital markets will provide sufficient funds to support the company's operations, capital expenditures, investments, and debt obligations on both a short-term and long-term basis.

### *Revolving Credit Facility/Term Loan*

On March 4, 2016, the company entered into a new five-year credit agreement with a group of lenders for up to \$700.0 million and terminated the company's previous credit agreement. The new credit agreement consists of an unsecured revolving credit facility of \$575.0 million and an unsecured term loan credit facility of up to \$125.0 million. In addition, the company has the ability, from time to time, to increase the size of the revolving credit facility and the term loan facility by up to an additional \$150.0 million, in the aggregate, in each case in minimum increments of \$25.0 million, subject to certain conditions and the agreement of participating lenders. For the term loan credit facility, the company is required to make quarterly principal payments of \$1.6 million through March 31, 2018 and \$3.1 million from June 30, 2018 through December 31, 2020 with the remaining balance due on March 4, 2021.

Outstanding borrowings under the credit agreement bear interest, at the company's option, at either LIBOR, fixed for interest periods of one, two, three or six month periods, plus 1.00% to 2.00%, or at the bank's Base Rate, as defined, plus 0.00% to 1.00%, based upon the company's Consolidated Leverage Ratio, as defined. The company is also required to pay commitment fees on unused portions of the credit agreement ranging from 0.15% to 0.30%, based on the Consolidated Leverage Ratio, as defined. The effective interest rate on outstanding borrowings under the credit facility was 2.27% at December 31, 2016. As of December 31, 2016, the company had \$0.1 million outstanding in letters of credit and had available \$462.4 million of borrowing capacity under the revolving credit facility. Further information regarding the company's credit agreement is provided in Note 8, *Debt*, of the Notes to Consolidated Financial Statements included in this Annual Report.

### *Senior Notes*

On December 8, 2016, the company entered into a Note Purchase Agreement, pursuant to which the company issued and sold €212 million aggregate principal amount of senior notes in two series. The funding date for the Euro denominated senior notes occurred on December 8, 2016 for €117 million in aggregate amount of 1.14% Senior Notes, Series A, due December 8, 2023, and €95 million in aggregate amount of 1.83% Senior Notes, Series B due December 8, 2028 (together, the "Euro Senior Notes"). Interest on the Euro Senior Notes is payable semiannually on June 8 and December 8, commencing June 8, 2017.

On December 8, 2016, the company entered into a Note Purchase Agreement, pursuant to which the company issued and sold \$125 million aggregate principal amount of senior notes in two series. On February 15, 2017, \$25 million in aggregate principal amount of 3.03% Senior Notes, Series A, due February 15, 2022, and \$100 million in aggregate principal amount of 3.74% Senior Notes, Series B, due February 15, 2027 (together, the "U.S. Senior Notes," and together with the Euro Senior Notes, the "Senior Notes") were funded. Interest on the U.S. Senior Notes will be payable semiannually on February 15 and August 15, commencing August 15, 2017. Further information regarding the company's Senior Notes is provided in Note 8, *Debt*, of the Notes to Consolidated Financial Statements included in this Annual Report.

*Cash Flow Overview*

<b>(in millions)</b>	<b>Fiscal Year</b>	
	<b>2016</b>	<b>2015</b>
Net cash provided by operating activities	\$180.1	\$165.8
Net cash provided used in investing activities	(511.2)	(44.2)
Net cash provided by (used in) financing activities	284.2	(67.6)
Effect of exchange rate changes on cash and cash equivalents	(6.8 )	(22.8)
Increase (decrease) in cash and cash equivalents	(53.7 )	31.2
Cash and cash equivalents at beginning of period	328.8	297.6
Cash and cash equivalents at end of period	\$275.1	\$328.8

*Cash Flow from Operating Activities*

Net cash provided by operating activities increased \$14.3 million in 2016 compared to 2015. Cash provided by operating activities in 2016 included \$104.5 million in net income, \$83.0 million in non-cash adjustments (primarily \$53.1 million in depreciation and amortization) and \$7.4 million of unfavorable changes in operating assets and liabilities.

Changes in operating assets and liabilities (including short-term and long-term items) that negatively impacted cash flows in 2016 consisted of changes in accounts receivable (\$25.2 million), accrued taxes (\$18.1 million) and prepaid expenses and other (\$0.3 million). The increase in accounts receivable reflects increased sales in 2016 compared to the prior year. Positively impacting cash flows were changes in inventory (\$8.5 million), accrued expenses including post-retirement (\$2.3 million), accounts payable (\$19.2 million) and accrued payroll and severance (\$6.1 million).

*Cash Flow from Investing Activities*

Net cash used in investing activities increased \$467.1 million in 2016 compared to 2015 primarily due to the acquisitions of PolySwitch (\$344.5 million, net of cash acquired), the ON portfolio business (\$104.0 million), and Member's (\$19.2 million).

*Cash Flow from Financing Activities*

Net cash provided by financing activities increased \$351.9 million in 2016 compared to 2015. The increase was primarily due to an increase in net proceeds from debt of \$314.8 million in 2016 compared to 2015. In March the company replaced its credit agreement with a new agreement and in December the company received proceeds from the issuance of senior notes. Also contributing to the increase in comparative periods was the use of cash for the share repurchase in 2015 of \$31.3 million. Information regarding the company's debt is provided in Note 8, *Debt*, of the Notes to Consolidated Financial Statements included in this Annual Report.

<b>(in millions)</b>	<b>Fiscal Year</b>	
	<b>2015</b>	<b>2014</b>
Net cash provided by operating activities	\$165.8	\$153.1
Net cash used in investing activities	(44.2 )	(104.0)
Net cash used in financing activities	(67.6 )	(43.2 )
Effect of exchange rate changes on cash and cash equivalents	(22.8 )	(13.5 )
Increase (decrease) in cash and cash equivalents	31.2	(7.6 )
Cash and cash equivalents at beginning of period	297.6	305.2
Cash and cash equivalents at end of period	\$328.8	\$297.6

#### *Cash Flow from Operating Activities*

Net cash provided by operating activities increased \$12.7 million in 2015 compared to 2014. Net cash provided by operating activities in 2015 was approximately \$165.8 million and included \$80.9 million in net income, \$82.2 million in non-cash adjustments (primarily \$41.7 million in depreciation and amortization) and \$2.7 million of favorable changes in operating assets and liabilities.

Changes in operating assets and liabilities (including short-term and long-term items) that negatively impacted cash flows in 2015 consisted of changes in accounts receivable (\$14.4 million), inventory (\$3.6 million). Increases in accounts receivable and inventory resulted from higher sales volumes in 2015. Positively impacting cash flows were changes in accrued expenses including post-retirement (\$6.5 million), accounts payable (\$2.6 million), accrued payroll and severance (\$5.9 million), accrued taxes (\$0.6 million), and prepaid expenses and other (\$5.2 million).

#### *Cash Flow from Investing Activities*

Net cash used in investing activities decreased \$59.8 million in 2015 compared to 2014 primarily due to less cash used for business acquisitions in 2015 compared to 2014. In 2014 the company acquired Symcom for \$52.8 million, net of cash acquired while in 2015 the company paid \$4.6 million, net of cash acquired, toward the acquisition of Sigmar.



*Cash Flow from Financing Activities*

Net cash used in financing activities increased \$24.4 million in 2015 compared to 2014 primarily due to increased use of cash for the repurchase of stock. The company's Board of Directors authorized the repurchase of up to 1,000,000 shares of the company's common stock under a program for the period May 1, 2015 to April 30, 2016. The company repurchased 350,000 shares of its common stock during 2015 under this program.

*Capital Resources*

We expend capital to support our operating and strategic plans. Such expenditures include strategic acquisitions, investments to maintain capital assets, develop new products or improve existing products, and to enhance capacity or productivity. Many of the associated projects have long lead-times and require commitments in advance of actual spending.

*Share Repurchase Program*

The company's Board of Directors authorized the repurchase of up to 1,000,000 shares of the company's common stock under a program for the period May 1, 2016 to April 30, 2017. The company did not repurchase any shares of its common stock during fiscal 2016 and the full 1,000,000 shares may yet be purchased under the program as of December 31, 2016.

**Contractual Obligations and Commitments**

The following table summarizes contractual obligations and commitments as of December 31, 2016:

<b>(in thousands)</b>	<b>Total</b>	<b>Less than 1 Year</b>	<b>1 to 3 Years</b>	<b>3 to 5 Years</b>	<b>Greater than 5 Years</b>
Revolving credit facility	\$ 112,500	\$ —	\$ —	\$ 112,500	\$ —
Term loan	120,313	6,250	23,437	90,626	—

Entrusted loan	3,522	—	3,522	—	—
Euro Senior Notes, Series A	122,313	—	—	—	122,313
Euro Senior Notes, Series B	99,314	—	—	—	99,314
Interest payments	52,002	8,611	16,534	11,614	15,243
Supplemental Executive Retirement Plan	2,470	1,886	359	63	162
Operating lease payments	39,322	11,971	11,112	8,214	8,025
Purchase obligations	90,712	90,712	—	—	—
Total	\$642,468	\$119,430	\$54,964	\$223,017	\$245,057

### Off-Balance Sheet Arrangements

As of December 31, 2016, the company did not have any off-balance sheet arrangements, as defined under SEC rules. Specifically, the company was not liable for guarantees of indebtedness owed by third parties, the company was not directly liable for the debt of any unconsolidated entity and the company did not have any retained or contingent interest in assets. The company does not participate in transactions that generate relationships with unconsolidated entities or financial partnerships, such as entities often referred to as structured finance or special purpose entities.

### Recent Accounting Pronouncements

In May 2014, the FASB issued ASU No. 2014-09, "Revenue from Contracts with Customers" (Topic 606) which supersedes the revenue recognition requirements in ASC 605, "Revenue Recognition." This ASU provides a single comprehensive model for entities to use in accounting for revenue arising from contracts with customers and will supersede most current revenue recognition guidance. The guidance permits two implementation approaches, one requiring retrospective application of the new standard with restatement of prior years and one requiring prospective application of the new standard with disclosure of results under old standards. In August, 2015, the FASB issued ASU No. 2015-14, which postponed the effective date of ASU No. 2014-09 to fiscal years, and interim periods within those fiscal years, beginning after December 15, 2017, with early adoption permitted on the original effective date of fiscal years beginning after December 15, 2016. The company is in the process of performing its initial assessment of the potential impact on its consolidated financial statements and has not concluded on its adoption methodology. While the company is currently assessing the impact of the new standards, the company's revenue is primarily generated from the sale of finished products to customers. Sales predominantly contain a single delivery element and revenue is recognized at a single point in time when ownership, risks, and rewards transfer. These are largely un-affected by the new standard. The company does not expect this new guidance to have a material impact on the amount of overall sales recognized; however, the timing of sales on certain projects may be affected. The company has not yet quantified this potential impact.

In February 2016, the FASB issued ASU No. 2016-02, "Leases" (Topic 842). This ASU requires lessees to recognize, on the balance sheet, assets and liabilities for the rights and obligations created by leases of greater than twelve months. The accounting by lessors will remain largely unchanged. The ASU is effective for fiscal years, and interim periods within those fiscal years, beginning after December 15, 2018, with early adoption permitted. Adoption will require a modified retrospective transition. The company is currently evaluating the impact of this ASU on its consolidated financial statements.

In January 2017, the FASB issued ASU No. 2017-04, "Intangibles-Goodwill and Other" (Topic 350). This ASU modifies the concept of impairment from the condition that exists when the carrying amount of goodwill exceeds its implied fair value to the condition that exists when the carrying amount of a reporting unit exceeds its fair value. An entity no longer will determine goodwill impairment by calculating the implied fair value of goodwill by assigning the fair value of a reporting unit to all of its assets and liabilities as if that reporting unit had been acquired in a business combination. Because the update will eliminate Step 2 from the goodwill impairment test, it should reduce the cost and complexity of evaluating goodwill for impairment. This ASU is effective for annual or any interim goodwill impairment tests in fiscal years beginning after December 15, 2020, with early adoption is permitted for interim or annual goodwill impairment tests performed on testing dates after January 1, 2017.

### **Critical Accounting Policies and Estimates**

Certain of the accounting policies as discussed below require the application of significant judgment by management in selecting the appropriate estimates and assumptions for calculating amounts to record in the financial statements. Actual results could differ from those estimates and assumptions, impacting the reported results of operations and financial position. Significant accounting policies are more fully described in the Notes to Consolidated Financial Statements included elsewhere in this Annual Report. Certain accounting policies, however, are considered to be critical in that they are most important to the depiction of the company's financial condition and results of operations and their application requires management's subjective judgment in making estimates about the effect of matters that are inherently uncertain. The company believes the following accounting policies are the most critical to aid in fully understanding and evaluating its reported financial results, as they require management's most difficult, subjective or complex judgments, resulting from the need to make estimates about the effect of matters that are inherently uncertain. The company has reviewed these critical accounting policies and related disclosures with the Audit Committee of its Board of Directors.

#### ***Net Sales***

***Revenue Recognition:*** The company recognizes revenue on product sales in the period in which the sales process is complete. This generally occurs when persuasive evidence of an arrangement exists, products are shipped (FOB origin) to the customer in accordance with the terms of the sale, the risk of loss has been transferred, collectability is reasonably assured and the pricing is fixed and determinable. At the end of each period, for those shipments where



title to the products and the risk of loss and rewards of ownership do not transfer until the product has been received by the customer, the company adjusts sales and cost of sales for the delay between the time that the products are shipped and when they are received by the customer. The company's distribution channels are primarily through direct sales and independent third party distributors.

*Revenue and Billing:* The company accepts orders from customers based on long term purchasing contracts and written sales agreements. Contract pricing and selling agreement terms are based on market factors, costs, and competition. Pricing normally is negotiated as an adjustment (premium or discount) from the company's published price lists. The customer is invoiced when the company's products are shipped to them in accordance with the terms of the sales agreement.

*Returns and Credits:* Some of the terms of the company's sales agreements and normal business conditions provide customers (distributors) the ability to receive price adjustments on products previously shipped and invoiced. This practice is common in the industry and is referred to as a "ship and debit" program. This program allows the distributor to debit the company for the difference between the distributors' contracted price and a lower price for specific transactions. Under certain circumstances (usually in a competitive situation or large volume opportunity), a distributor will request authorization to reduce its price to its buyer. If the company approves such a reduction, the distributor is authorized to "debit" its account for the difference between the contracted price and the lower approved price. The company establishes reserves for this program based on historic activity and actual authorizations for the debit and recognizes these debits as a reduction of revenue.

*Return to Stock:* The company has a return to stock policy whereby a customer with previous authorization from Littelfuse management can return previously purchased goods for full or partial credit. The company establishes an estimated allowance for these returns based on historic activity. Sales revenue and cost of sales are reduced to anticipate estimated returns.

*Volume Rebates:* The company offers incentives to certain customers to achieve specific quarterly or annual sales targets. If customers achieve their sales targets, they are entitled to rebates. The company estimates the future cost of these rebates and recognizes this estimated cost as a reduction to revenue as products are sold.

*Allowance for Doubtful Accounts:* The company evaluates the collectability of its trade receivables based on a combination of factors. The company regularly analyzes its significant customer accounts and, when the company becomes aware of a specific customer's inability to meet its financial obligations, the company records a specific reserve for bad debt to reduce the related receivable to the amount the company reasonably believes is collectible. The company also records allowances for all other customers based on a variety of factors including the length of time the receivables are past due, the financial health of the customer, macroeconomic considerations and past experience. Historically, the allowance for doubtful accounts has been adequate to cover bad debts. If circumstances related to specific customers change, the estimates of the recoverability of receivables could be further adjusted.

### ***Inventory***

The company performs regular detailed assessments of inventory, which include a review of, among other factors, demand requirements, product life cycle and development plans, component cost trends, product pricing, shelf life, and quality issues. Based on the analysis, the company records adjustments to inventory for excess quantities, obsolescence or impairment when appropriate to reflect inventory at net realizable value. Historically, inventory reserves have been adequate to reflect inventory at net realizable values. During 2016, the company was required to step up the value of inventory acquired in business combinations to its selling prices less the cost to sell under business combination accounting. This step-up was approximately \$7.8 million for the PolySwitch, ON portfolio, and Member's acquisitions in 2016.

### ***Goodwill and Other Intangible Assets***

The company annually tests goodwill for impairment on the first day of its fiscal fourth quarter or at an interim date if there is an event or change in circumstances that indicates the asset may be impaired. Management determines the fair value of each of its reporting units by using a discounted cash flow model (which includes forecasted five-year income statement and working capital projections, a market-based weighted average cost of capital and terminal values after five years) to estimate market value. In addition, the company compares its derived enterprise value on a consolidated basis to the company's market capitalization as of its test date to ensure its derived value approximates the market value of the company when taken as a whole.

Due to negative events in the potash market in 2016, management revisited its long term projections and conducted a step one goodwill impairment analysis for its custom products reporting unit in the third quarter of 2016. The reporting unit failed the step one test and management conducted a step two analysis with the revised projections. The fair value of the unit was estimated using the expected present value of future cash flows over a seven year forecast period and appraisal of certain assets. As a result, the company recognized a charge for goodwill impairment of \$8.8 million as it wrote off the entire goodwill balance. In addition, the company recognized intangible assets impairments aggregating \$6.0 million, including a \$3.8 million reduction of the custom products trade names to a \$0.7 million remaining value and a \$2.2 million reduction of the reporting unit's customer relationships to zero value.

As of the most recent annual test conducted on October 2, 2016, the company had seven reporting units for goodwill testing purposes and concluded the fair value of each of the reporting units exceeded its carrying value of invested capital and therefore, no potential goodwill impairment existed. Specifically, the company noted that the excess of fair value over the carrying value of invested capital, was 65%, 154%, 218%, 132%, 70%, 15%, and 150% for its reporting units; electronics (non-silicon), electronics (silicon), passenger car, commercial vehicle products, sensors, relays, and power fuse, respectively, at October 2, 2016.

Certain key assumptions used in the annual test included a discount rate of 9.8% and a long-term growth rate of 3.0% which were used for all reporting units except for relays which had a discount rate of 10.3% as a result of a 0.5% premium factor.

In addition, the company performed a sensitivity test at October 2, 2016 that showed either a 100 basis point increase in its discount rate or a 100 basis point decrease in the long-term growth rate for each reporting unit would not have changed the company's conclusion that no potential goodwill impairment existed at October 2, 2016.

The company will continue to perform a goodwill impairment test as required on an annual basis and on an interim basis, if certain conditions exist. Factors the company considers important, which could result in changes to its estimates, include underperformance relative to historical or projected future operating results and declines in acquisitions and trading multiples. Due to the diverse end user base and non-discretionary product demand, the company does not believe its future operating results will vary significantly relative to its historical and projected future operating results. However, it is possible that we could recognize impairment charges for the relays reporting unit if we have declines in profitability or projected future operating results due to changes in volume, market pricing, cost, or the business environment. As of the 2016 annual test date, the relays reporting unit had \$41.4 million of goodwill and intangible assets.

### ***Long-Lived Assets***

The company evaluates long-lived asset groups on an ongoing basis. Long-lived asset groups are reviewed for impairment whenever events or changes in circumstances indicate that the carrying amount of the related asset may not be recoverable. Recoverability of assets to be held and used is measured by a comparison of the carrying amount of the asset to future undiscounted cash flows expected to be generated by the asset group. If it is determined to be impaired, the impairment recognized is measured by the amount by which the carrying value of the asset exceeds its fair value. The company's estimates of future cash flows from such assets could be impacted if it underperforms relative to historical or projected future operating results. The company did not record asset impairment charges in 2016 or 2015, but did recognize asset impairment charges of \$0.3 million in 2014.

### ***Environmental Liabilities***

Environmental liabilities are accrued based on estimates of the probability of potential future environmental exposure. Costs related to on-going maintenance of environmental sites are expensed as incurred. If actual or estimated probable future losses exceed the company's recorded liability for such claims, it would record additional charges as other expense during the period in which the actual loss or change in estimate occurred. The company evaluates its reserve for coal mine remediation annually utilizing a third party expert.

### ***Pension and Supplemental Executive Retirement Plan***

Littelfuse has a number of company-sponsored defined benefit plans primarily in Europe and the Asia-Pacific region. The company recognizes the full unfunded status of these plans on the balance sheet. Actuarial gains and losses and prior service costs and credits are recognized as a component of accumulated other comprehensive income. Accounting for pensions requires estimating the future benefit cost and recognizing the cost over the employee's expected period of employment with the company. Certain assumptions are required in the calculation of pension costs and obligations. These assumptions include the discount rate, salary scales and the expected long-term rate of return on plan assets. The discount rate is intended to represent the rate at which pension benefit obligations could be settled by purchase of an annuity contract. These assumptions are subject to change based on stock and bond market returns and other economic factors. Actual results that differ from the company's assumptions are accumulated and amortized over future periods and, therefore, generally affect its recognized expense and accrued liability in such future periods. While the company believes that its assumptions are appropriate given current economic conditions and its actual experience, significant differences in results or significant changes in the company's assumptions may materially affect its pension obligations and related future expense. During 2015, the company settled its U.S. defined benefit pension plan as described in Note 10, *Benefit Plans*, of the Notes to Consolidated Financial Statements included in this Annual Report. Further information regarding these plans is also provided in Note 10, *Benefit Plans*, of the Notes to Consolidated Financial Statements included in this Annual Report.

### ***Equity-based Compensation***

Equity-based compensation expense is recorded for stock-option awards and restricted share units based upon the fair values of the awards. The fair value of stock-option awards is estimated at the grant date using the Black-Scholes option pricing model, which includes assumptions for volatility, expected term, risk-free interest rate and dividend yield. Expected volatility is based on implied volatilities from traded options on Littelfuse stock, historical volatility of Littelfuse stock and other factors. Historical data is used to estimate employee termination experience and the expected term of the options. The risk-free interest rate is based on the U.S. Treasury yield curve in effect at the time of grant. The company initiated a quarterly cash dividend in 2010 and expects to continue making cash dividend payments in the foreseeable future.

Total equity-based compensation expense for all equity compensation plans was \$12.8 million, \$10.7 million, and \$9.4 million in 2016, 2015, and 2014, respectively. Further information regarding this expense is provided in Note 11, *Shareholders' Equity*, of the Notes to Consolidated Financial Statements included in this Annual Report.

### ***Income Taxes***

The company accounts for income taxes using the liability method. Deferred taxes are recognized for the future effects of temporary differences between financial and income tax reporting using tax rates in effect for the years in which the differences are expected to reverse. The company recognizes deferred taxes for temporary differences, operating loss carryforwards and tax credit carryforwards. Deferred tax assets are reduced by a valuation allowance if it is more likely than not that some portion, or all, of the deferred tax assets will not be realized. Federal and state income taxes are provided on the portion of foreign income that is expected to be remitted to the U.S. and be taxable (and foreign income taxes are provided on the portion of foreign income that is expected to be remitted to an upper-tier foreign entity).

The company recognizes the tax benefit from an uncertain tax position only if it is more likely than not that the tax position will be sustained on examination by the taxing authorities, based on the technical merits of the position. The tax benefits recognized in the financial statements from such a position are measured based on the largest benefit that has a greater than 50% likelihood of being realized upon ultimate settlement.

Further information regarding income taxes, including a detailed reconciliation of current year activity, is provided in Note 12, *Income Taxes*, of the Notes to Consolidated Financial Statements included in this Annual Report.



## **ITEM 7A. QUANTITATIVE AND QUALITATIVE DISCLOSURES ABOUT MARKET RISK.**

The company is exposed to market risk from changes in interest rates, foreign exchange rates and commodity prices.

### ***Interest Rates***

The company had \$232.8 million in debt outstanding at December 31, 2016 related to the unsecured revolving credit facility and term loan. Because 100% of this debt has variable interest rates, the company is subject to future interest rate fluctuations in relation to these borrowings which could potentially have a negative impact on cash flows of the company. A prospective increase of 100 basis points in the interest rate applicable to the company's outstanding borrowings under its credit facility would result in an increase of approximately \$2.3 million in annual interest expense. The company is not party to any currency exchange or interest rate protection agreements as of December 31, 2016.

### ***Foreign Exchange Rates***

The majority of the company's operations consist of manufacturing and sales activities in foreign countries. The company has manufacturing facilities in the U.S., Mexico, Canada, China, Italy, Lithuania, Japan and the Philippines. During 2016, sales to customers outside the U.S. were approximately 66% of total net sales. During 2015, sales to customers outside the U.S. were approximately 60% of total net sales. Substantially all sales in Europe are denominated in euros and substantially all sales in the Asia-Pacific region are denominated in U.S. dollars, Japanese yen, Korean won, Chinese renminbi or Taiwanese dollars.

The company's foreign exchange exposures result primarily from sale of products in foreign currencies, foreign currency denominated purchases, external borrowings, inter-company loans, employee-related and other costs of running operations in foreign countries and translation of balance sheet accounts denominated in foreign currencies. The company's most significant net long exposure is to the euro. The company's most significant net short exposures are to the Chinese renminbi, Mexican peso, and Philippine peso. Changes in foreign exchange rates could affect the company's sales, costs, balance sheet values and earnings. The company uses netting and offsetting intercompany account management techniques to reduce known foreign currency exposures where possible.

### ***Commodity Prices***

The company uses various metals in the manufacturing of its products, including copper, zinc, tin, gold, and silver. Prices of these commodities can and do fluctuate significantly, which can impact the company's earnings. The most significant of these exposures is to copper, zinc, gold, and silver, where at current prices and volumes, a 10% price change would affect annual pre-tax profit by approximately \$2.4 million for copper, \$0.9 million for zinc, \$0.2 million for gold, \$0.5 million for silver, and \$0.3 million for tin.

The cost of oil has fluctuated dramatically over the past several years. Consequently, there is a risk that a return to high prices for oil and electricity in 2017 could have a significant impact on the company's transportation and utility expenses.

While the company is exposed to significant changes in certain commodity prices and foreign currency exchange rates, the company actively monitors these exposures and takes various actions to mitigate any negative impacts of these exposures.



**ITEM 8. FINANCIAL STATEMENTS AND SUPPLEMENTARY DATA.**

<b>Index</b>	<b>Page</b>
Report of Independent Registered Public Accounting Firm – Consolidated Financial Statements	33
Report of Independent Registered Public Accounting Firm – Internal Control Over Financial Reporting	34
Consolidated Financial Statements	
Consolidated Balance Sheets	35
Consolidated Statements of Net Income	36
Consolidated Statements of Comprehensive Income	36
Consolidated Statements of Cash Flows	37
Consolidated Statements of Equity	38
Notes to Consolidated Financial Statements	
1. Summary of Significant Accounting Policies and Other Information	39
2. Correction of Immaterial Errors	44
3. Acquisitions	45
4. Divestitures	48
5. Inventories	49
6. Goodwill and Other Intangible Assets	49
7. Lease Commitments	50
8. Debt	50
9. Fair Value of Assets and Liabilities	52
10. Benefit Plans	53
11. Shareholders' Equity	57
12. Income Taxes	58
13. Earnings Per Share	60
14. Segment Information	61
15. Selected Quarterly Financial Data (Unaudited)	64

**Report of Independent Registered Public Accounting Firm**

**The Board of Directors and Shareholders of Littelfuse, Inc.**

We have audited the accompanying consolidated balance sheets of Littelfuse, Inc. (a Delaware corporation) and subsidiaries (the “Company”) as of December 31, 2016 and January 2, 2016, and the related consolidated statements of net income, comprehensive income, equity, and cash flows for each of the three years in the period ended December 31, 2016. Our audits of the basic consolidated financial statements included the financial statement schedule listed in the index appearing under Item 15(a)(2). These financial statements and financial statement schedule are the responsibility of the Company’s management. Our responsibility is to express an opinion on these financial statements and financial statement schedule based on our audits.

We conducted our audits in accordance with the standards of the Public Company Accounting Oversight Board (United States). Those standards require that we plan and perform the audit to obtain reasonable assurance about whether the financial statements are free of material misstatement. An audit includes examining, on a test basis, evidence supporting the amounts and disclosures in the financial statements. An audit also includes assessing the accounting principles used and significant estimates made by management, as well as evaluating the overall financial statement presentation. We believe that our audits provide a reasonable basis for our opinion.

In our opinion, the consolidated financial statements referred to above present fairly, in all material respects, the financial position of Littelfuse, Inc. and subsidiaries as of December 31, 2016 and January 2, 2016, and the results of their operations and their cash flows for each of the three years in the period ended December 31, 2016 in conformity with accounting principles generally accepted in the United States of America. Also in our opinion, the related financial statement schedule, when considered in relation to the basic consolidated financial statements taken as a whole, present fairly, in all material respects, the information set forth therein.

We also have audited, in accordance with the standards of the Public Company Accounting Oversight Board (United States), the Company’s internal control over financial reporting as of December 31, 2016, based on criteria established in the 2013 Internal Control—Integrated Framework issued by the Committee of Sponsoring Organizations of the Treadway Commission (COSO), and our report dated February 27, 2017 expressed an unqualified opinion

/s/ GRANT THORNTON LLP

Chicago, Illinois

February 27, 2017

33

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## Report of Independent Registered Public Accounting Firm

### The Board of Directors and Shareholders of Littelfuse, Inc.

We have audited the internal control over financial reporting of Littelfuse, Inc. (a Delaware corporation) and subsidiaries (the “Company”) as of December 31, 2016, based on criteria established in the 2013 *Internal Control—Integrated Framework* issued by the Committee of Sponsoring Organizations of the Treadway Commission (COSO). The Company’s management is responsible for maintaining effective internal control over financial reporting and for its assessment of the effectiveness of internal control over financial reporting, included in the accompanying Management’s Report on Internal Control over Financial Reporting (“Management’s Report”). Our responsibility is to express an opinion on the Company’s internal control over financial reporting based on our audit. Our audit of, and opinion on, the Company’s internal control over financial reporting does not include the internal control over financial reporting of PolySwitch, Member’s and the ON Portfolio businesses, wholly-owned subsidiaries, whose financial statements reflect total assets and revenues constituting 36 percent and 16 percent, respectively, in aggregate, of the related consolidated financial statement amounts as of and for the year ended December 31, 2016. As indicated in Management’s Report, PolySwitch, Member’s and the ON Portfolio businesses were acquired during 2016. Management’s assertion on the effectiveness of the Company’s internal control over financial reporting excluded internal control over financial reporting of PolySwitch, Member’s and the ON Portfolio businesses.

We conducted our audit in accordance with the standards of the Public Company Accounting Oversight Board (United States). Those standards require that we plan and perform the audit to obtain reasonable assurance about whether effective internal control over financial reporting was maintained in all material respects. Our audit included obtaining an understanding of internal control over financial reporting, assessing the risk that a material weakness exists, testing and evaluating the design and operating effectiveness of internal control based on the assessed risk, and performing such other procedures as we considered necessary in the circumstances. We believe that our audit provides a reasonable basis for our opinion.

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

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

In our opinion, the Company maintained, in all material respects, effective internal control over financial reporting as of December 31, 2016, based on criteria established in the 2013 *Internal Control—Integrated Framework* issued by COSO.

We also have audited, in accordance with the standards of the Public Company Accounting Oversight Board (United States), the consolidated financial statements of the Company as of and for the year ended December 31, 2016, and our report dated February 27, 2017 expressed an unqualified opinion on those financial statements.

/s/ GRANT THORNTON LLP

Chicago, Illinois

February 27, 2017

**CONSOLIDATED BALANCE SHEETS**

<b>(in thousands)</b>	<b>December 31, 2016</b>	<b>January 2, 2016</b>
<b>ASSETS</b>		
Current assets:		
Cash and cash equivalents	\$275,124	\$328,786
Short-term investments	3,690	4,179
Accounts receivable, less allowances (2016 - \$25,874; 2015 - \$17,486)	198,095	142,882
Inventories	114,063	98,629
Prepaid income taxes	11,671	1,510
Prepaid expenses and other current assets	9,438	7,943
Total current assets	612,081	583,929
Property, plant, and equipment:		
Land	9,268	5,236
Buildings	80,553	71,383
Equipment	439,542	382,429
Accumulated depreciation and amortization	(312,188 )	(296,480 )
Net property, plant, and equipment	217,175	162,568
Intangible assets, net of amortization:		
Patents, licenses and software	83,607	20,221
Distribution network	18,995	16,490
Customer relationships, trademarks and tradenames	110,425	54,912
Goodwill	403,544	189,767
Investments	13,933	15,197
Deferred income taxes	20,585	8,333
Other assets	10,849	14,058
Total assets	\$1,491,194	\$1,065,475
<b>LIABILITIES AND EQUITY</b>		
Current liabilities:		
Accounts payable	\$90,712	\$51,658
Accrued payroll	42,810	32,611
Accrued expenses	36,138	24,145
Accrued severance	2,785	3,798
Accrued income taxes	8,846	11,836
Current portion of long-term debt	6,250	87,000
Total current liabilities	187,541	211,048
Long-term debt, less current portion	447,892	83,753
Deferred income taxes	7,066	8,014
Accrued post-retirement benefits	13,398	5,653
Other long-term liabilities	20,366	17,755
Shareholders' equity:		
Common stock, par value \$0.01 per share: 34,000,000 shares authorized; shares issued, 2016 -22,626,922; 2015 -22,420,785	228	224
Treasury stock, at cost: 409,115 and 362,748 shares, respectively	(36,510 )	(32,766 )

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Additional paid-in capital	291,258	259,553
Accumulated other comprehensive income	(74,579 )	(45,673 )
Retained earnings	634,391	557,771
Littelfuse, Inc. shareholders' equity	814,788	739,109
Non-controlling interest	143	143
Total equity	814,931	739,252
Total liabilities and equity	\$1,491,194	\$1,065,475

See accompanying Notes to Consolidated Financial Statements.

**CONSOLIDATED STATEMENTS OF NET INCOME**

(in thousands, except per share data)	Year Ended		
	December 31, 2016	January 2, 2016	December 27, 2014
Net sales	\$1,056,159	\$867,864	\$851,995
Cost of sales	643,042	537,365	527,567
Gross profit	413,117	330,499	324,428
Selling, general, and administrative expenses	206,129	153,714	146,975
Research and development expenses	42,198	30,802	31,122
Pension settlement expenses	—	29,928	—
Amortization of intangibles	19,337	11,898	12,501
Impairment of goodwill and intangible assets	14,809	—	—
Total operating expenses	282,473	226,342	190,598
Operating income	130,644	104,157	133,830
Interest expense	8,628	4,091	4,903
Foreign exchange (gain) loss	472	(1,465 )	3,925
Other expense (income), net	(1,730 )	(5,417 )	(6,644 )
Income before income taxes	123,274	106,948	131,646
Income taxes	18,786	26,082	33,546
Net income	\$104,488	\$80,866	\$98,100
Income per share:			
Basic	\$4.63	\$3.58	\$4.35
Diluted	\$4.60	\$3.56	\$4.32
Weighted-average shares and equivalent shares outstanding:			
Basic	22,559	22,565	22,543
Diluted	22,727	22,719	22,727

**CONSOLIDATED STATEMENTS OF COMPREHENSIVE INCOME**

(in thousands)	Year Ended		
	December 31,	January 2,	December 27,



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	<b>2016</b>	<b>2016</b>	<b>2014</b>
Net income	\$104,488	\$80,866	\$98,100
Other comprehensive income (loss):			
Pension and postemployment liability adjustments (net of tax of \$1,302, \$106 and \$6,308, respectively)	(3,673 )	(1,761 )	(12,475 )
Pension and postemployment reclassification adjustments, (net of tax of \$0, \$746 and \$0, respectively)	412	1,530	—
Unrealized gain (loss) on investments	(815 )	793	1,398
Reclassification of pension settlement costs to expense (net of tax of \$0, \$11,742 and \$0, respectively)	—	21,124	—
Foreign currency translation adjustments	(24,832 )	(46,231)	(30,466 )
Comprehensive income	\$75,580	\$56,321	\$56,557

See accompanying Notes to Consolidated Financial Statements.

## CONSOLIDATED STATEMENTS OF CASH FLOWS

(in thousands)	Year Ended		
	December 31, 2016	January 2, 2016	December 27, 2014
<b>Operating activities</b>			
Net income	\$ 104,488	\$ 80,866	\$ 98,100
Adjustments to reconcile net income to net cash provided by operating activities:			
Depreciation	33,800	29,701	29,374
Amortization of intangibles	19,337	11,898	12,501
Impairment of assets	14,809	—	293
Provision for bad debts	1,769	164	130
Non-cash inventory charge	7,834	—	2,769
Net loss on pension settlement, net of tax	—	19,308	—
Loss on sale of product line	1,391	—	—
Loss on sale of property, plant, and equipment	813	1,253	1,042
Stock-based compensation	11,987	10,266	9,069
Excess tax benefit on share-based compensation	(3,421 )	(1,891 )	(2,843 )
Deferred income taxes	(5,269 )	11,479	(4,488 )
Changes in operating assets and liabilities:			
Accounts receivable	(25,235 )	(14,377 )	(13,062 )
Inventories	8,539	(3,577 )	(2,258 )
Accounts payable	19,190	2,573	17,281
Accrued expenses (including post-retirement)	2,287	6,482	(1,577 )
Accrued payroll and severance	6,131	5,883	2,360
Accrued taxes	(18,062 )	557	769
Prepaid expenses and other	(255 )	5,241	3,681
Net cash provided by operating activities	180,133	165,826	153,141
<b>Investing activities</b>			
Acquisitions of businesses, net of cash acquired	(471,118)	(4,558 )	(56,368 )
Purchases of short-term investments	—	—	(4,331 )
Purchase of cost method investment	—	(3,500 )	—
Proceeds from maturities of short-term investments	345	—	6,770
Decrease (increase) in entrusted loan	5,510	7,811	(17,908 )
Purchases of property, plant, and equipment	(46,228 )	(44,019 )	(32,281 )
Proceeds from sale of property, plant, and equipment	248	102	125
Net cash used in investing activities	(511,243)	(44,164 )	(103,993)
<b>Financing activities</b>			
Proceeds of revolving credit facility	367,000	49,000	97,500
Proceeds of term loan	125,000	—	—
Proceeds of senior notes payable	226,428	—	—
Payments of term loan	(89,688 )	(8,750 )	(5,000 )

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Payments of revolving credit facility	(331,500)	(55,500 )	(135,000)
Proceeds from exercise of stock options	20,494	9,150	14,061
Proceeds (Payments) from entrusted loan	(5,510 )	(7,811 )	17,908
Debt issuance costs	(3,583 )	(42 )	(107 )
Cash dividends paid	(27,866 )	(24,341 )	(21,175 )
Excess tax benefit on share-based compensation	3,421	1,891	2,843
Purchases of common stock	—	(31,252 )	(14,283 )
Net cash provided by (used in) financing activities	284,196	(67,655 )	(43,253 )
Effect of exchange rate changes on cash and cash equivalents	(6,748 )	(22,792 )	(13,516 )
Increase (decrease) in cash and cash equivalents	(53,662 )	31,215	(7,621 )
Cash and cash equivalents at beginning of year	328,786	297,571	305,192
Cash and cash equivalents at end of year	\$275,124	\$328,786	\$297,571

See accompanying Notes to Consolidated Financial Statements.

## CONSOLIDATED STATEMENTS OF EQUITY

<b>Littelfuse, Inc. Shareholders' Equity</b>							
<b>(in thousands)</b>	<b>Common Stock</b>	<b>Add. Paid in Capital</b>	<b>Treasury Stock</b>	<b>Accum. Other Comp. Inc. (Loss)</b>	<b>Retained Earnings</b>	<b>Non- controlling Interest</b>	<b>Total</b>
Balance at December 28, 2013	\$225	\$223,425	\$(2,353 )	\$20,417	\$445,059	\$ 143	\$686,916
Prior period restatement	—	—	—	—	(2,028 )	—	(2,028 )
Balance at December 28, 2013 (restated)	225	223,425	(2,353 )	20,417	443,031	143	684,888
Comprehensive income:							
Net income for the year	—	—	—	—	98,100	—	98,100
Pension liability adjustments,, net	—	—	—	(12,475)	—	—	(12,475 )
Unrealized gain on investments	—	—	—	1,398	—	—	1,398
Foreign currency translation adjustments	—	—	—	(30,466)	—	—	(30,466 )
Comprehensive income							56,557
Stock-based compensation	—	6,926	—	—	—	—	6,926
Withheld 19,439 shares on restricted share units for withholding taxes	—	—	(2,655 )	—	—	—	(2,655 )
Purchase of 161,751 shares of common stock	(2 )	(565 )	(13,716 )	—	—	—	(14,283 )
Stock options exercised, including tax impact of (\$2,143)	3	14,058	—	—	—	—	14,061
Cash dividends paid (\$0.94 per share)	—	—	—	—	(21,175 )	—	(21,175 )
Balance at December 27, 2014	226	243,844	(18,724 )	(21,126)	519,956	143	724,319
Comprehensive income:							
Net income for the year	—	—	—	—	80,866	—	80,866
Pension liability adjustments, net	—	—	—	(1,761 )	—	—	(1,761 )
Pension settlement, including tax impact of (\$11,742)	—	—	—	21,124	—	—	21,124
Pension and postemployment reclassification adjustments, including tax impact of (\$746)	—	—	—	1,530	—	—	1,530
Unrealized gain on investments	—	—	—	793	—	—	793
Foreign currency translation adjustments	—	—	—	(46,231)	—	—	(46,231 )
Comprehensive income							56,321
Stock-based compensation	—	7,782	—	—	—	—	7,782
Withheld 28,286 shares on restricted share units for withholding taxes	—	—	(2,727 )	—	—	—	(2,727 )
Retirement of 214,609 shares of treasury stock	—	—	18,712	—	(18,712 )	—	—

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Purchase 350K shares of common stock	(4 )	(1,221 )	(30,027 )	—	—	—	(31,252 )
Stock options exercised, including tax impact of (\$2,485)	2	9,148	—	—	—	—	9,150
Cash dividends paid (\$1.08 per share)	—	—	—	—	(24,341 )	—	(24,341 )
Balance at January 2, 2016	224	259,553	(32,766 )	(45,671)	557,769	143	739,252
Comprehensive income:							
Net income for the year	—	—	—	—	104,488	—	104,488
Pension and postemployment liability adjustments, net	—	—	—	(3,673 )	—	—	(3,673 )
Pension and postemployment reclassification adjustments, including tax impact of (\$0)	—	—	—	412	—	—	412
Unrealized gain on investments	—	—	—	(815 )	—	—	(815 )
Foreign currency translation adjustments	—	—	—	(24,832)	—	—	(24,832 )
Comprehensive income	—	—	—	—	—	—	75,580
Stock-based compensation	—	7,471	—	—	—	—	7,471
Withheld 31,040 shares on restricted share units for withholding taxes	—	—	(3,744 )	—	—	—	(3,744 )
Stock options exercised, including tax impact of (\$7,400)	4	24,234	—	—	—	—	24,238
Cash dividends paid (\$1.24 per share)	—	—	—	—	(27,866 )	—	(27,866 )
Balance at December 31, 2016	\$228	\$291,258	\$(36,510 )	\$(74,579)	\$634,391	\$ 143	\$814,931

See accompanying Notes to Consolidated Financial Statements.

## NOTES TO CONSOLIDATED FINANCIAL STATEMENTS

### 1. Summary of Significant Accounting Policies and Other Information

#### *Nature of Operations*

Littelfuse, Inc. and subsidiaries (the “company”) design, manufacture, and sell circuit protection devices for use in the automotive, electronics, and industrial markets throughout the world. The company is one of the world’s leading suppliers of circuit protection products for the electronics, automotive, and industrial markets, with expanding platforms in sensors and power control components and modules. In addition to circuit protection products and solutions, the company offers electronic reed switches and sensors, automotive sensors for comfort and safety systems and a comprehensive line of highly reliable electromechanical and electronic switch and control devices for commercial and specialty vehicles, as well as protection relays and power distribution centers for the safe control and distribution of electricity. The company has a network of global engineering centers and labs that develop new products and product enhancements, provides customer application support and test products for safety, reliability, and regulatory compliance. The company’s devices protect products in virtually every market that uses electrical energy, from consumer electronics to automobiles to industrial equipment.

#### *Fiscal Year*

References herein to “2016”, “fiscal 2016” or “fiscal year 2016” refer to the fiscal year ended December 31, 2016. References herein to “2015”, “fiscal 2015” or “fiscal year 2015” refer to the fiscal year ended January 2, 2016. References herein to “2014”, “fiscal 2014” or “fiscal year 2014” refer to the fiscal year ended December 27, 2014. The company operates on a 52-53 week fiscal year (4-4-5 basis) ending on the Saturday closest to December 31. Therefore, the financial results of certain fiscal years and the associated 14 week quarters will not be exactly comparable to the prior and subsequent 52 week fiscal years and the associated quarters having only 13 weeks. As a result of using this convention, each of fiscal 2016 and fiscal 2014 contained 52 weeks whereas fiscal 2015 contained 53 weeks.

#### *Basis of Presentation*

The Consolidated Financial Statements include the accounts of Littelfuse, Inc. and its subsidiaries. All significant intercompany accounts and transactions have been eliminated. The company’s Consolidated Financial Statements were prepared in accordance with generally accepted accounting principles in the United States of America and include the assets, liabilities, sales and expenses of all wholly-owned subsidiaries and majority-owned subsidiaries over which the

company exercises control.

### *Use of Estimates*

The process of preparing financial statements in conformity with U.S. generally accepted accounting principles requires management to make estimates and assumptions that affect the amounts of assets and liabilities at the date of the Consolidated Financial Statements, and the reported amounts of revenues and expenses and the accompanying notes. The company evaluates and updates its assumptions and estimates on an ongoing basis and may employ outside experts to assist in its evaluation, as considered necessary. Actual results could differ from those estimates.

### *Cash Equivalents*

All highly liquid investments, with an original maturity of three months or less when purchased, are considered to be cash equivalents.

### *Short-Term and Long-Term Investments*

The company has determined that certain of its investment securities are to be classified as available-for-sale. Available-for-sale securities are carried at fair value with the unrealized gains and losses reported as a component of "Accumulated Other Comprehensive Income (Loss)." Realized gains and losses and declines in unrealized value judged to be other-than-temporary on available-for-sale securities are included in other expense (income), net. The cost of securities sold is based on the specific identification method. Interest and dividends on securities classified as available-for-sale are included in interest income. Short-term investments, which are primarily certificates of deposits, are carried at cost which approximates fair value.

### *Accounts Receivable*

The company performs credit evaluations of customers' financial condition and generally does not require collateral. Credit losses are provided for in the financial statements based upon specific knowledge of a customer's inability to meet its financial obligations to the company. Historically, credit losses have consistently been within management's expectations and have not been a material amount. A receivable is considered past due if payments have not been received within agreed upon invoice terms. Write-offs are recorded at the time a customer receivable is deemed uncollectible.

The company also maintains allowances against accounts receivable for the settlement of rebates and sales discounts to customers. These allowances are based upon specific customer sales and sales discounts as well as actual historical experience.



## NOTES TO CONSOLIDATED FINANCIAL STATEMENTS

### *Inventories*

Inventories are stated at the lower of cost or market (first in, first out method), which approximates current replacement cost. The company maintains excess and obsolete allowances against inventory to reduce the carrying value to the expected net realizable value. These allowances are based upon a combination of factors including historical sales volume, market conditions, lower of cost or market analysis and expected realizable value of the inventory.

### *Investments*

As of December 31, 2016 the company had investments in Polytronics Technology Corporation Ltd. (“Polytronics”), a Taiwanese publicly traded company and Monolith Semiconductor, Inc. (“Monolith”), a Texas-based startup company.

### *Polytronics*

The company’s Polytronics shares held at the end of fiscal 2016 and 2015 represent approximately 7.2% of total Polytronics shares outstanding. The Polytronics investment is classified as available-for-sale and is carried at fair value with the unrealized gains and losses reported as a component of “Accumulated Other Comprehensive Income (Loss).” The fair value of the Polytronics investment was €10.0 million (approximately \$10.4 million) at December 31, 2016 and €10.7 million (approximately \$11.7 million) at January 2, 2016. Included in 2016 and 2015, other comprehensive income is an unrealized loss of \$0.8 million and an unrealized gain of \$0.9 million, respectively, due to changes in fair market value of the Polytronics investment. The remaining movement year over year was due to the impact of changes in exchange rates.

### *Monolith*

In December 2015, the company invested \$3.5 million in the preferred stock of Monolith, a U.S. start-up company developing silicon carbide technology, which represents approximately 12% of the common stock of Monolith on an as-converted basis. The company accounts for its investment in Monolith under the cost method with any changes in value recorded in other comprehensive income. The value of the Monolith investment was \$3.5 million at December

31, 2016 and January 2, 2016.

### ***Property, Plant, and Equipment***

Land, buildings, and equipment are carried at cost. Depreciation is calculated using the straight-line method with useful lives of 21 years for buildings, seven to nine years for equipment, seven years for furniture and fixtures, five years for tooling and three years for computer equipment.

### ***Goodwill and Indefinite-Lived Intangible Assets***

The company annually tests goodwill and indefinite-lived intangible assets for impairment on the first day of its fiscal fourth quarter or at other dates if there is an event or change in circumstances that indicates the asset may be impaired. Management determines the fair value of each of its reporting units by using a discounted cash flow model (which includes forecasted five-year income statement and working capital projections, a market-based weighted average cost of capital and terminal values after five years) to estimate market value. In addition, the company compares its derived enterprise value on a consolidated basis to the company's market capitalization as of its test date to ensure its derived value approximates the market value of the company when taken as a whole.

Due to negative events in the potash market in 2016, management revisited its long term projections and conducted a step one goodwill impairment analysis for its custom products reporting unit in the third quarter of 2016. The reporting unit failed the step one test and management conducted a step two analysis with the revised projections. The fair value of the unit was estimated using the expected present value of future cash flows over a seven year forecast period and appraisal of certain assets. As a result, the company recognized a charge for goodwill impairment of \$8.8 million as it wrote off the entire goodwill balance. In addition, the company recognized intangible assets impairments aggregating \$6.0 million, including a \$3.8 million reduction of the custom products trade names to a \$0.7 million remaining value and a \$2.2 million reduction of the reporting unit's customer relationships to zero value.

As of the most recent annual test conducted on October 2, 2016, the company had seven reporting units for goodwill testing purposes and concluded the fair value of each of the reporting units exceeded its carrying value of invested capital and therefore, no potential goodwill impairment existed. Specifically, the company noted that the excess of fair value over the carrying value of invested capital, was 65%, 154%, 218%, 132%, 70%, 15%, and 150% for its reporting units; electronics (non-silicon), electronics (silicon), passenger car, commercial vehicle products, sensors, relays, and power fuse, respectively, at October 2, 2016.

Certain key assumptions used in the annual test included a discount rate of 9.8% and a long-term growth rate of 3.0% which were used for all reporting units except for relays which had a discount rate of 10.3% as a result of a 0.5% premium factor.



## NOTES TO CONSOLIDATED FINANCIAL STATEMENTS

The company will continue to perform a goodwill and indefinite-lived intangible asset impairment test as required on an annual basis and on an interim basis, if certain impairment conditions exist. Factors the company considers important, which could result in changes to its estimates, include underperformance relative to historical or projected future operating results and declines in acquisitions and trading multiples. Due to the diverse end user base and non-discretionary product demand, the company does not believe its future operating results will vary significantly relative to its historical and projected future operating results. However, it is possible that we could recognize impairment charges for the relays reporting unit if we have declines in profitability or projected future operating results due to changes in volume, market pricing, cost, or the business environment. As of the 2016 annual test date, the relays reporting unit had \$41.4 million of goodwill and intangible assets.

### *Other Intangible Assets*

Customer relationships, trademarks and tradenames are amortized using the straight-line method over estimated useful lives that have a range of five to 20 years. Patents, licenses and software are amortized using the straight-line method or an accelerated method over estimated useful lives that have a range of five to 17 years. The distribution networks are amortized on either a straight-line or accelerated basis over estimated useful lives that have a range of three to 20 years. Other intangible assets are also tested for impairment when there is a significant event that may cause the asset to be impaired. As described above, in 2016 the company recognized an impairment charge of \$2.2 million to reduce the custom products reporting unit's customer relationships to zero value.

### *Environmental Liabilities*

Environmental liabilities are accrued based on engineering studies estimating the cost of remediating sites. Expenses related to on-going maintenance of environmental sites are expensed as incurred. If actual or estimated probable future losses exceed the company's recorded liability for such claims, the company would record additional charges during the period in which the actual loss or change in estimate occurred.

### *Pension and Other Post-retirement Benefits*

Accounting for pensions requires estimating the future benefit cost and recognizing the cost over the employee's expected period of employment with the company. Certain assumptions are required in the calculation of pension costs and obligations. These assumptions include the discount rate, salary scales and the expected long-term rate of

return on plan assets. The discount rate is intended to represent the rate at which pension benefit obligations could be settled by purchase of an annuity contract. These assumptions are subject to change based on stock and bond market returns and other economic factors. Actual results that differ from the company's assumptions are accumulated and amortized over future periods and therefore generally affect its recognized expense and accrued liability in such future periods. While the company believes that its assumptions are appropriate given current economic conditions and its actual experience, significant differences in results or significant changes in the company's assumptions may materially affect its pension obligations and related future expense. During 2015, the company terminated the U.S. defined benefit pension plan which resulted in a settlement of the plan's liabilities resulting in a pre-tax charge of \$29.9 million. See Note 10, *Benefit Plans*, for additional information.

### ***Revenue Recognition***

The company recognizes revenue on product sales in the period in which the sales process is complete. This generally occurs when persuasive evidence of an arrangement exists, products are shipped (FOB origin) to the customer in accordance with the terms of the sale, the risk of loss has been transferred, collectability is reasonably assured, and the pricing is fixed and determinable.

At the end of each period, for those shipments where title to the products and the risk of loss and rewards of ownership do not transfer until the product has been received by the customer, the company adjusts revenues and cost of sales for the delay between the time that the products are shipped and when they are received by the customer. The company's distribution channels are primarily through direct sales and independent third party distributors.

### ***Revenue and Billing***

The company accepts orders from customers based on long term purchasing contracts and written sales agreements. Contract pricing and selling agreement terms are based on market factors, costs, and competition. Pricing normally is negotiated as an adjustment (premium or discount) from the company's published price lists. The customer is invoiced when the company's products are shipped to them in accordance with the terms of the sales agreement.

### ***Returns and Credits***

Some of the terms of the company's sales agreements and normal business conditions provide customers (distributors) the ability to receive price adjustments on products previously shipped and invoiced. This practice is common in the industry and is referred to as a "ship and debit" program. This program allows the distributor to debit the company for the difference between the distributors' contracted price and a lower price for specific transactions. Under certain circumstances (usually in a competitive situation or large volume opportunity), a distributor will request authorization to reduce its price to its buyer. If the company approves such a reduction, the distributor is authorized to "debit" its

account for the difference between the contracted price and the lower approved price. The company establishes reserves for this program based on historic activity and actual authorizations for the debit and recognizes these debits as a reduction of revenue.

## NOTES TO CONSOLIDATED FINANCIAL STATEMENTS

### *Return to Stock*

The company has a return to stock policy whereby a customer with prior authorization from Littelfuse management can return previously purchased goods for full or partial credit. The company establishes an estimated allowance for these returns based on historic activity. Sales revenue and cost of sales are reduced to anticipate estimated returns.

### *Volume Rebates*

The company offers incentives to certain customers to achieve specific quarterly or annual sales targets. If customers achieve their sales targets, they are entitled to rebates. The company estimates the future cost of these rebates and recognizes this estimated cost as a reduction to revenue as products are sold.

### *Allowance for Doubtful Accounts*

The company evaluates the collectability of its trade receivables based on a combination of factors. The company regularly analyzes its significant customer accounts and, when the company becomes aware of a specific customer's inability to meet its financial obligations, the company records a specific reserve for bad debt to reduce the related receivable to the amount the company reasonably believes is collectible. The company also records allowances for all other customers based on a variety of factors including the length of time the receivables are past due, the financial health of the customer, macroeconomic considerations and past experience. Accounts receivable balances that are deemed to be uncollectible, are written off against the reserve on a case-by-case basis. Historically, the allowance for doubtful accounts has been adequate to cover bad debts. If circumstances related to specific customers change, the estimates of the recoverability of receivables could be further adjusted. However, due to the company's diverse customer base and lack of credit concentration, the company does not believe its estimates would be materially impacted by changes in its assumptions.

### *Advertising Costs*

The company expenses advertising costs as incurred, which amounted to \$2.9 million, \$2.3 million, and \$2.8 million in 2016, 2015, and 2014, respectively, and are included as a component of selling, general, and administrative

expenses.

### ***Shipping and Handling Fees and Costs***

Amounts billed to customers related to shipping and handling is classified as revenue. Costs incurred for shipping and handling of \$9.1 million \$7.0 million, and \$6.7 million in 2016, 2015, and 2014, respectively, are classified in selling, general, and administrative expenses.

### ***Foreign Currency Translation / Remeasurement***

The company's foreign subsidiaries use the local currency or the U.S. dollar as their functional currency, as appropriate. Assets and liabilities are translated using exchange rates at the balance sheet date, and revenues and expenses are translated at weighted average rates. The amount of foreign currency gain or loss from remeasurement recognized in the income statement was a loss of \$0.5 million in 2016, a gain of \$1.5 million in 2015, and a loss of \$3.9 million in 2014. Adjustments from the translation process are recognized in "Shareholders' equity" as a component of "Accumulated other comprehensive income."

### ***Stock-based Compensation***

The company recognizes compensation expense for the cost of awards of equity compensation using a fair value method. Benefits of tax deductions in excess of recognized compensation expense are reported as both operating and financing cash flows. See Note 11, *Shareholders' Equity*, for additional information on stock-based compensation.

### ***Coal Mining Liability***

Included in other long-term liabilities is an accrual related to former coal mining operations at Littelfuse GmbH (formerly known as Heinrich Industries, AG) for the amounts of €1.4 million (\$1.5 million) and €1.8 million (\$2.0 million) at December 31, 2016 and January 2, 2016, respectively. Management, in conjunction with an independent third-party, performs an annual evaluation of the former coal mining operations in order to develop an estimate of the probable future obligations in regard to remediating the dangers (such as a shaft collapse) of abandoned coal mine shafts in the former coal mining operations. Management accrues for costs associated with such remediation efforts based on management's best estimate when such costs are probable and reasonably able to be estimated. The ultimate determination can only be done after respective investigations because the concrete conditions are mostly unknown at this time. The accrual is not discounted as management cannot reasonably estimate when such remediation efforts will take place.





## NOTES TO CONSOLIDATED FINANCIAL STATEMENTS

### *Other Expense (Income), Net*

Other expense (income), net generally consists of interest income, royalties, and non-operating income.

### *Income Taxes*

The company accounts for income taxes using the liability method. Deferred taxes are recognized for the future effects of temporary differences between financial and income tax reporting using enacted tax rates in effect for the years in which the differences are expected to reverse. The company recognizes deferred taxes for temporary differences, operating loss carryforwards and tax credit carryforwards. Deferred tax assets are reduced by a valuation allowance if it is more likely than not that some portion, or all, of the deferred tax assets will not be realized. Federal and state income taxes are provided on the portion of foreign income that is expected to be remitted to the U.S. and be taxable.

### *Reclassifications*

Certain amounts presented in the 2015 financial statements have been reclassified to conform to the 2016 presentation. In April 2015, the Financial Accounting Standards Board (the "FASB") issued Accounting Standards Update ("ASU") No. 2015-03, *Interest - Imputation of Interest* (Subtopic 835-30): Simplifying the Presentation of Debt Issuance Costs. The amendments in this ASU require that debt issuance costs related to a recognized debt liability be presented in the balance sheet as a direct deduction from the carrying amount of that debt liability, consistent with debt discounts. The amended guidance is effective for financial statements issued for fiscal years beginning after December 15, 2015, including interim periods within those fiscal years. The amended guidance is to be applied on a retrospective basis. The company adopted the new guidance on January 3, 2016 and has made the corresponding reclassification on its balance sheet for the fiscal year ended January 2, 2016. The adoption of the new guidance had no effect on the company's net income, cash flows or shareholders' equity. Additionally, the company has reclassified a portion of its current tax position at January 2, 2016 to more accurately reflect its prepaid/liability position at a jurisdictional level.

### *Recently Issued Accounting Standards*

In May 2014, the FASB issued ASU No. 2014-09, "Revenue from Contracts with Customers" (Topic 606) which supersedes the revenue recognition requirements in ASC 605, "Revenue Recognition." This ASU provides a single comprehensive model for entities to use in accounting for revenue arising from contracts with customers and will supersede most current revenue recognition guidance. The guidance permits two implementation approaches, one requiring retrospective application of the new standard with restatement of prior years and one requiring prospective application of the new standard with disclosure of results under old standards. In August, 2015, the FASB issued ASU No. 2015-14, which postponed the effective date of ASU No. 2014-09 to fiscal years, and interim periods within those fiscal years, beginning after December 15, 2017, with early adoption permitted on the original effective date of fiscal years beginning after December 15, 2016. The company is in the process of performing its initial assessment of the potential impact on its consolidated financial statements and has not concluded on its adoption methodology. While the company is currently assessing the impact of the new standards, the company's revenue is primarily generated from the sale of finished products to customers. Those sales predominantly contain a single delivery element and revenue is recognized at a single point in time when ownership, risks, and rewards transfer. These are largely un-affected by the new standard. The company does not expect this new guidance to have a material impact on the amount of overall sales recognized; however, the timing of sales on certain projects may be affected. The company has not yet quantified this potential impact.

In February 2016, the FASB issued ASU No. 2016-02, "Leases" (Topic 842). This ASU requires lessees to recognize, on the balance sheet, assets and liabilities for the rights and obligations created by leases of greater than twelve months. The accounting by lessors will remain largely unchanged. The ASU is effective for fiscal years, and interim periods within those fiscal years, beginning after December 15, 2018, with early adoption permitted. Adoption will require a modified retrospective transition. The company is currently evaluating the impact of this ASU on its consolidated financial statements.

In January 2017, the FASB issued ASU No. 2017-04, "Intangibles-Goodwill and Other" (Topic 350). This ASU modifies the concept of impairment from the condition that exists when the carrying amount of goodwill exceeds its implied fair value to the condition that exists when the carrying amount of a reporting unit exceeds its fair value. An entity no longer will determine goodwill impairment by calculating the implied fair value of goodwill by assigning the fair value of a reporting unit to all of its assets and liabilities as if that reporting unit had been acquired in a business combination. Because the update will eliminate Step 2 from the goodwill impairment test, it should reduce the cost and complexity of evaluating goodwill for impairment. This ASU is effective for annual or any interim goodwill impairment tests in fiscal years beginning after December 15, 2020, with early adoption is permitted for interim or annual goodwill impairment tests performed on testing dates after January 1, 2017.

**NOTES TO CONSOLIDATED FINANCIAL STATEMENTS****2. Correction of immaterial errors**

In the second quarter of 2016, management determined that the company may incur additional income taxes and interest in a foreign jurisdiction with respect to the 2011 through 2015 fiscal years. The cumulative adjustment for this income tax (including interest of \$1.5 million) as of January 2, 2016, is approximately \$4.9 million. The adjustment applicable to 2015, 2014, 2013, 2012, and 2011 was \$1.6 million, \$1.3 million, \$1.0 million, \$0.9 million, and \$0.1 million, respectively.

Pursuant to the guidance of Staff Accounting Bulletin ("SAB") No. 99, Materiality, the company concluded that the errors were not material to any of its applicable prior period annual and quarterly financial statements. Although the errors were immaterial to prior periods, the prior period annual and interim financial statements were revised, in accordance with SAB No. 108, Considering the Effects of Prior Year Misstatements when Quantifying Misstatements in Current Year Financial Statements, due to the significance of the out-of-period correction. The adjustment for each year has been treated as applicable to the fourth quarter of each year.

The following is a reconciliation of the effects of the adjustments to the previously reported balance sheet at January 2, 2016 follows:

(in thousands)	January 2, 2016		
	Previously Reported	Adjustment	As Revised
Other long-term liabilities	\$12,809	\$ 4,946	\$17,755
Total shareholders' equity	744,198	(4,946 )	739,252

The following is a reconciliation of the effects of the adjustments to the previously reported statements of net income for the years ended January 2, 2016 and December 27, 2014 follows:

(in thousands except per share amounts)	Year Ended January 2, 2016			Year Ended December 27, 2014		
	Previously Reported	Adjustment	As Revised	Previously Reported	Adjustment	As Revised
Income taxes	\$24,482	\$ 1,600	\$ 26,082	\$32,228	\$ 1,318	\$ 33,546

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Net income	82,466	(1,600	)	80,866	99,418	(1,318	)	98,100
Income per share:								
Basic	\$3.65	\$ (0.07	)	\$3.58	\$4.41	\$ (0.06	)	\$4.35
Diluted	\$3.63	\$ (0.07	)	\$3.56	\$4.37	\$ (0.05	)	\$4.32

The following is a reconciliation of the effects of the adjustments to the previously reported statements of cash flows for the years ended January 2, 2016 and December 27, 2014 follows:

(in thousands)	Year Ended January 2, 2016			Year Ended December 27, 2014				
	Previously	Adjustment	As Revised	Previously	Adjustment	As Revised		
	Reported			Reported				
Net income	\$82,466	\$ (1,600	)	\$80,866	\$99,418	\$ (1,318	)	\$98,100
Accrued taxes	(1,043	)	1,600	557	(549	)	1,318	769
Net cash provided by operating activities	165,826	—		165,826	153,141	—		153,141

The following is a reconciliation of the effects of the adjustments to the previously reported statements of equity for the years ended January 2, 2016 and December 27, 2014 follows:

(in thousands)	Year Ended January 2, 2016			Year Ended December 27, 2014				
	Previously	Adjustment	As Revised	Previously	Adjustment	As Revised		
	Reported			Reported				
Net income	\$82,466	\$ (1,600	)	\$80,866	\$99,418	\$ (1,318	)	\$98,100
Comprehensive income	57,921	(1,600	)	56,321	57,875	(1,318	)	56,557
Retained earnings	562,717	(4,946	)	557,771	523,302	(3,346	)	519,956
Total shareholders' equity	744,198	(4,946	)	739,252	727,665	(3,346	)	724,319

**NOTES TO CONSOLIDATED FINANCIAL STATEMENTS**

The following is a reconciliation of the effects of the adjustments to the previously reported statement of equity at December 28, 2013 follows:

(in thousands)	December 28, 2013		
	Previously Reported	Adjustment	As Revised
Retained earnings	\$445,059	\$ (2,028 )	\$443,031
Total shareholders' equity	686,916	(2,028 )	684,888

**3. Acquisitions**

The company accounts for acquisitions using the acquisition method in accordance with ASC 805, "Business Combinations," in which assets acquired and liabilities assumed are recorded at fair value as of the date of acquisition. The operating results of the acquired business are included in the company's consolidated financial statements from the date of the acquisition.

*ON Portfolio*

On August 29, 2016, the company acquired certain assets of select businesses (the "ON Portfolio") of ON Semiconductor Corporation for \$104.0 million. The company funded the acquisition with available cash and proceeds from its credit facility. The acquired business, which is included in the Electronics segment, consists of a product portfolio that includes transient voltage suppression ("TVS") diodes, switching thyristors and insulated gate bipolar transistors ("IGBTs") for automotive ignition applications. The acquisition expands the company's offerings in power semiconductor applications as well as increases its presence in the automotive electronics market. The ON Portfolio products have strong synergies with the company's existing circuit protection business and will strengthen its channel partnerships and customer engagement.

The following table summarizes the purchase price allocation of the fair value of assets acquired and liabilities assumed in the ON Portfolio acquisition:

<b>(in thousands)</b>	<b>Purchase Price</b>
	<b>Allocation</b>
Total purchase consideration:	
Cash	\$ 104,000
Allocation of consideration to assets acquired and liabilities assumed:	
Current assets, net	\$ 4,816
Customer relationships	31,800
Patented and unpatented technologies	8,800
Non-compete agreement	2,500
Goodwill	56,084
	\$ 104,000

All the ON Portfolio business goodwill and other assets were recorded in the Electronics segment and are reflected in the Americas and Europe geographic areas. The customer relationships are being amortized over 13.5 years. The patented and unpatented technologies are being amortized over 6-8.5 years. The non-compete agreement is being amortized over 4 years. The goodwill resulting from this acquisition consists largely of the company's expected future product sales and synergies from combining the ON Portfolio products with the company's existing power semiconductor product portfolio. \$7.3 million of goodwill for the above acquisition is expected to be deductible for tax purposes.

As required by purchase accounting rules, the company recorded a \$0.7 million step-up of inventory to its fair value as of the acquisition date based on the preliminary valuation. All of the step-up was amortized as a non-cash charge to cost of goods sold during 2016, as the acquired inventory was sold, and reflected as other non-segment costs.

Included in the company's consolidated statement of net income for the year ended December 31, 2016 are net sales of approximately \$21.8 million since the August 29, 2016 acquisition of the ON Portfolio business.

#### *Member's*

On April 4, 2016, the company completed the acquisition of Member's S.p.A. ("Member's") headquartered in Legnago, Italy for \$19.2 million, net of acquired cash and after settlement of a working capital adjustment. The company funded the acquisition with cash on hand and borrowings under the company's revolving credit facility. The acquired business is part of the company's commercial vehicle product business within the Automotive segment and specializes in the design, manufacturing, and selling of manual and electrical high current switches and trailer connectors for commercial vehicles. The acquisition expands the company's commercial vehicle products business globally.





**NOTES TO CONSOLIDATED FINANCIAL STATEMENTS**

The following table summarizes the preliminary purchase price allocation of the fair value of assets acquired and liabilities assumed in the Member's acquisition:

<b>(in thousands)</b>	<b>Purchase Price  Allocation</b>
Total purchase consideration:	
Cash, net of acquired cash	\$ 19,162
Preliminary allocation of consideration to assets acquired and liabilities assumed:	
Current assets, net	\$ 12,919
Property, plant, and equipment	1,693
Customer relationships	3,050
Patented and unpatented technologies	224
Trademarks and tradenames	1,849
Goodwill	8,091
Current liabilities	(7,220 )
Other non-current liabilities	(1,444 )
	<b>\$ 19,162</b>

All Member's goodwill and other assets and liabilities were recorded in the Automotive segment and reflected in the Europe geographic area. The customer relationships are being amortized over 10 years. The patented and unpatented technologies are being amortized over 5 years. The trademarks and tradenames are being amortized over 10 years. The goodwill resulting from this acquisition consists largely of the company's expected future product sales and synergies from combining Member's products with the company's existing automotive product portfolio. Goodwill for the above acquisition is not expected to be deductible for tax purposes.

As required by purchase accounting rules, the company recorded a \$0.2 million step-up of inventory to its fair value as of the acquisition date based on the preliminary valuation. The step-up was amortized as a non-cash charge to cost of goods sold during 2016, as the acquired inventory was sold, with the charge reflected as other non-segment costs.

Included in the company's consolidated statements of net income for the year ended December 31, 2016 are net sales of approximately \$17.3 million since the April 4, 2016 acquisition of Member's.

On March 25, 2016, the company acquired 100% of the circuit protection business (“PolySwitch”) of TE Connectivity Ltd. for \$348.3 million, net of acquired cash and after settlement of certain post-closing adjustments. At December 31, 2016, \$344.5 million of the \$348.3 million purchase price has been paid with the remaining consideration expected to be paid by the second quarter of 2017. The company funded the acquisition with available cash on hand and borrowings under the company’s revolving credit facility. The PolySwitch business, which is split between the Automotive and Electronics segments, has a leading position in polymer based resettable circuit protection devices, with a strong global presence in the automotive, battery, industrial, communications and mobile computing markets. PolySwitch has manufacturing facilities in Shanghai and Kunshan, China and Tsukuba, Japan. The acquisition allows the company to strengthen its global circuit protection product portfolio, as well as strengthen its presence in the automotive electronics and battery end markets. The acquisition also significantly increases the company’s presence in Japan.

**NOTES TO CONSOLIDATED FINANCIAL STATEMENTS**

The following table summarizes the purchase price allocation of the fair value of assets acquired and liabilities assumed in the PolySwitch acquisition:

<b>(in thousands)</b>	<b>Purchase Price  Allocation</b>
Total purchase consideration:	
Original consideration	\$ 350,000
Post closing consideration adjustment received	(1,708 )
Acquired cash	(3,810 )
Acquired cash to be returned to seller	3,810
Total purchase consideration	\$ 348,292
Allocation of consideration to assets acquired and liabilities assumed:	
Current assets, net	\$ 60,228
Property, plant, and equipment	51,613
Land lease	4,290
Patented and unpatented technologies	56,425
Customer relationships	39,720
Goodwill	165,088
Other long-term assets	11,228
Current liabilities	(35,280 )
Other non-current liabilities	(5,020 )
	\$ 348,292

All PolySwitch goodwill and other assets and liabilities were recorded in the Electronics and Automotive segments and reflected in all geographic areas. The customer relationships are being amortized over 15 years. The patented and unpatented technologies are being amortized over 10 years. The goodwill resulting from this acquisition consists largely of the company's expected future product sales and synergies from combining PolySwitch products with the company's existing automotive and electronics product portfolio. \$103.8 million and \$61.3 million of the goodwill for the above acquisition has been assigned to the Electronics and Automotive segments, respectively, with \$64.9 million expected to be deductible for tax purposes.

As required by purchase accounting rules, the company recorded a \$6.9 million step-up of inventory to its fair value as of the acquisition date based on the preliminary valuation. The step-up was amortized as a non-cash charge to cost of goods sold during the second quarter of 2016, as the acquired inventory was sold, and reflected as other non-segment costs.

Included in the company's consolidated statements of net income for the year ended December 31, 2016 are net sales of approximately \$126.5 million since the March 25, 2016 acquisition of PolySwitch.

*Sigmar S.r.l*

On October 1, 2015, the company acquired 100% of Sigmar S.r.l. ("Sigmar"). The total purchase price for Sigmar was \$6.5 million, net of cash acquired and including estimated additional net payments of up to \$0.9 million, a portion of which is subject to the achievement of certain milestones.

Located in Ozegna, Italy, Sigmar is a leading global manufacturer of water-in-fuel sensors and also manufactures selective catalytic reduction ("SCR") quality sensors and diesel fuel heaters for automotive and commercial vehicle applications. The acquisition further expanded the company's automotive sensor product line offerings within its Automotive segment. The company funded the acquisition with available cash.

**NOTES TO CONSOLIDATED FINANCIAL STATEMENTS**

The following table summarizes the purchase price allocation of the fair value of assets acquired and liabilities assumed in the Sigmar acquisition:

<b>(in thousands)</b>	<b>Purchase Price</b>
	<b>Allocation</b>
Total purchase consideration:	
Cash, net of acquired cash	\$ 5,558
Estimated additional consideration payable	901
Total purchase consideration	\$ 6,459
Allocation of consideration to assets acquired and liabilities assumed:	
Current assets, net	\$ 2,519
Property, plant, and equipment	1,097
Goodwill	4,084
Patents	2,845
Current liabilities	(1,518 )
Other non-current liabilities	(2,568 )
	\$ 6,459

All Sigmar goodwill and other assets and liabilities were recorded in the Automotive segment and reflected in the Europe geographic area. The patents are being amortized over 10 years. The goodwill resulting from this acquisition consists largely of the company's expected future product sales and synergies from combining Sigmar's products with the company's existing automotive product offerings. Goodwill for the above acquisition is not expected to be deductible for tax purposes.

*Pro Forma Results*

The following table summarizes, on a pro forma basis, the combined results of operations of the company and the acquired PolySwitch and the ON Portfolio businesses as though the acquisitions had occurred as of December 28, 2014. The company has not included pro forma results of operations for Menber's or Sigmar as these results were not material to the company. The pro forma amounts presented are not necessarily indicative of either the actual consolidated results had the PolySwitch or ON Portfolio acquisitions occurred as of December 28, 2014 or of future consolidated operating results.

(in thousands, except per share amounts)	For the Year Ended	
	2016	2015
Net sales	\$1,130,645	\$1,104,838
Income before income taxes	143,110	120,370
Net income	124,388	92,983
Net income per share — basic	5.51	4.12
Net income per share — diluted	5.47	4.09

Pro forma results presented above primarily reflect: (i) incremental depreciation relating to fair value adjustments to property, plant, and equipment; (ii) amortization adjustments relating to fair value estimates of intangible assets; (iii) incremental interest expense on assumed indebtedness; and (iv) additional cost of goods sold relating to the capitalization of gross profit as part of purchase accounting recognized for purposes of the pro forma as if it was recognized during the company's first quarter of 2015. Pro forma adjustments described above have been tax affected using the company's effective rate during the respective periods.

The historical PolySwitch and ON Portfolio business results for the years ended December 31, 2016 and January 2, 2016 do not include a provision for income taxes. Income tax expense for the historical PolySwitch business was only provided at the end of the business's fiscal year ended September 25, 2015. Income tax expense for the historical ON Portfolio business was not provided on a standalone basis.

#### 4. Divestitures

During the first quarter of 2016, the company sold its tangible and intangible assets relating to a marine product line that it acquired as part of its acquisition of Selco A/S in 2011. In connection with this sale, the company recorded a loss on sale of the product line of \$1.4 million reflected within selling, general, and administrative expenses for the year ended December 31, 2016. This loss was recognized as an "other" charge for segment reporting purposes.

## NOTES TO CONSOLIDATED FINANCIAL STATEMENTS

### 5. Inventories

The components of inventories at December 31, 2016 and January 2, 2016 are as follows:

(in thousands)	2016	2015
Raw materials	\$32,231	\$33,599
Work in process	23,354	16,479
Finished goods	58,478	48,551
Total	\$114,063	\$98,629

### 6. Goodwill and Other Intangible Assets

The amounts for goodwill and changes in the carrying value by segment are as follows at December 31, 2016 and January 2, 2016:

(in thousands)	2016	Additions		2015	Additions		2014
		(Reductions) <sup>(a)</sup>	Adjustments <sup>(c)</sup>		(Reductions) <sup>(b)</sup>	Adjustments <sup>(c)</sup>	
Electronics	\$215,765	\$ 162,172	\$ (4,653 )	\$58,246	\$ (524 )	\$ (1,740 )	\$60,510
Automotive	144,585	70,762	(6,439 )	80,262	1,994	(3,449 )	81,717
Industrial	43,194	(8,794 )	729	51,259	—	(2,770 )	54,029
Total	\$403,544	\$ 224,140	\$ (10,363 )	\$189,767	\$ 1,470	\$ (7,959 )	\$196,256

(a) The net additions of \$224,140 resulted primarily from the acquisitions of PolySwitch, ON and Member's, partially offset by the impairment of custom products reporting unit goodwill.

(b) Electronics reduction resulted from reclassification of goodwill to customer relationships. Automotive addition of \$2.0 million resulted from business acquisitions.

(c) Adjustments reflect the impact of changes in foreign exchange rates.

The company recognized a goodwill impairment charge of \$8.8 million in 2016, but none in 2015 and 2014. The charge related to the custom products reporting unit in the Industrial segment.

For intangible assets with definite lives, the company recorded amortization expense of \$19.3 million, \$11.9 million, and \$12.5 million in 2016, 2015, and 2014, respectively. Additionally for 2016, the company recognized an impairment charge of \$6.0 million. The details of other intangible assets and related future amortization expense of existing intangible assets at December 31, 2016 and January 2, 2016 are as follows:

(in thousands)	2016			2015		
	Weighted Gross		Accumulated Amortization	Weighted Gross		Accumulated Amortization
	Average Carrying	Useful Life		Average Carrying	Useful Life	
Patents, licenses and software	11.4	\$ 131,611	\$ 48,004	11.6	\$ 61,297	\$ 41,076
Distribution network	12.1	49,150	30,155	12.4	45,564	29,074
Customer relationships, trademarks and tradenames	14.4	150,227	40,463	13.0	81,233	30,534
Tradenames(a)	—	4,319	3,659	—	4,213	—
Total	12.9	\$ 335,307	\$ 122,281	12.4	\$ 192,307	\$ 100,684

(a) Tradenames with indefinite lives.

Estimated amortization expense related to intangible assets with definite lives at December 31, 2016 is as follows:

(in thousands)	Estimated Amortization
2017	\$ 23,945
2018	23,497
2019	23,786
2020	23,242
2021	21,816
2022 and thereafter	96,740
	\$ 213,026



**NOTES TO CONSOLIDATED FINANCIAL STATEMENTS****7. Lease Commitments**

The company leases certain office and warehouse space as well as certain machinery and equipment under non-cancellable operating leases. Rent expense under these leases was \$12.6 million, \$11.1 million, and \$8.9 million in 2016, 2015, and 2014, respectively.

Rent expense is recognized on a straight-line basis over the term of the leases. The difference between straight-line basis rent and the amount paid has been recorded as accrued lease obligations. The company also has leases that have lease renewal provisions. As of December 31, 2016, all operating leases outstanding were with third parties. The company did not have any capital leases as of December 31, 2016.

Future minimum payments for all non-cancellable operating leases with initial terms of one year or more at December 31, 2016 are as follows:

<b>(in thousands)</b>	<b>Future Minimum Payments</b>
2017	\$ 11,971
2018	6,149
2019	4,963
2020	4,458
2021	3,756
2022 and thereafter	8,025
	<b>\$ 39,322</b>

**8. Debt**

The carrying amounts of debt at December 31, 2016 and January 2, 2016 are as follows:

<b>(in thousands)</b>	<b>2016</b>	<b>2015</b>
Revolving credit facility	\$112,500	\$77,000
Term loan	120,313	85,000
Entrusted loan	3,522	9,474
Euro Senior Notes, Series A due 2023	122,313	—
Euro Senior Notes, Series B due 2028	99,314	—
Unamortized debt issuance costs	(3,820 )	(721 )
Total debt	454,142	170,753
Less: Current maturities	(6,250 )	(87,000 )
Total long-term debt	\$447,892	\$83,753

#### *Revolving Credit Facility / Term Loan*

On March 4, 2016, the company entered into a new five year credit agreement with a group of lenders for up to \$700.0 million. The new credit agreement consists of an unsecured revolving credit facility of \$575.0 million and an unsecured term loan credit facility of up to \$125.0 million. In addition, the company has the ability, from time to time, to increase the size of the revolving credit facility and the term loan facility by up to an additional \$150.0 million, in the aggregate, in each case in minimum increments of \$25.0 million, subject to certain conditions and the agreement of participating lenders. For the term loan credit facility, the company is required to make quarterly principal payments of \$1.6 million through March 31, 2018 and \$3.1 million from June 30, 2018 through December 31, 2020 with the remaining balance due on March 4, 2021.

Outstanding borrowings under the credit agreement bear interest, at the company's option, at either LIBOR, fixed for interest periods of one, two, three or six month periods, plus 1.00% to 2.00%, or at the bank's Base Rate, as defined, plus 0.00% to 1.00%, based upon the company's Consolidated Leverage Ratio, as defined. The company is also required to pay commitment fees on unused portions of the credit agreement ranging from 0.15% to 0.30%, based on the Consolidated Leverage Ratio, as defined. The credit agreement includes representations, covenants and events of default that are customary for financing transactions of this nature. The effective interest rate on outstanding borrowings under the credit facility was 2.27% at December 31, 2016.

As of December 31, 2016, the company had \$0.1 million outstanding in letters of credit and had available \$462.4 million of borrowing capacity under the revolving credit facility. At December 31, 2016, the company was in compliance with all covenants under the credit agreement.

## NOTES TO CONSOLIDATED FINANCIAL STATEMENTS

The company previously entered into credit agreement with J.P. Morgan Securities LLC on May 31, 2013, for up to \$325.0 million which consisted of an unsecured revolving credit facility of \$225.0 million and an unsecured term loan of \$100.0 million. The credit agreement was for a five year period. On January 30, 2014, the company increased the unsecured revolving credit facility by \$50.0 million, thereby increasing the total revolver borrowing capacity from \$225.0 million to \$275.0 million. Along with entering into the new five year credit agreement on March 4, 2016, the company terminated this credit agreement. At January 2, 2016, the company had available borrowing capacity of \$197.9 million under the credit agreement at an interest rate of LIBOR plus 1.25%, or a total interest rate of 1.68% as of January 2, 2016. For the fiscal years ended January 2, 2016, the company had \$0.1 million outstanding in letters of credit and no amounts were drawn under these lines of credit at January 2, 2016.

### *Senior Notes*

On December 8, 2016, the company entered into a Note Purchase Agreement, pursuant to which the company issued and sold €212 million aggregate principal amount of senior notes in two series. The funding date for the Euro denominated senior notes occurred on December 8, 2016 for €117 million in aggregate amount of 1.14% Senior Notes, Series A, due December 8, 2023, and €95 million in aggregate amount of 1.83% Senior Notes, Series B due December 8, 2028 (together, the “Euro Senior Notes”). Interest on the Euro Senior Notes is payable semiannually on June 8 and December 8, commencing June 8, 2017.

On December 8, 2016, the company entered into a Note Purchase Agreement, pursuant to which the company will issue and sell \$125 million aggregate principal amount of senior notes in two series. On February 15, 2017, \$25 million in aggregate principal amount of 3.03% Senior Notes, Series A, due February 15, 2022, and \$100 million in aggregate principal amount of 3.74% Senior Notes, Series B, due February 15, 2027 (together, the “U.S. Senior Notes,” and together with the Euro Senior Notes, the “Senior Notes”) were funded. Interest on the U.S. Senior Notes will be payable semiannually on February 15 and August 15, commencing August 15, 2017.

The Senior Notes have not been registered under the Securities Act, or applicable state securities laws. The Senior Notes are general unsecured senior obligations and rank equal in right of payment with all existing and future unsecured unsubordinated indebtedness of the company.

The Senior Notes are subject to certain customary covenants, including limitations on the company’s ability, with certain exceptions, to engage in mergers, consolidations, asset sales and transactions with affiliates, to engage in any business that would substantially change the general business of the company, and to incur liens. In addition, the company is required to satisfy certain financial covenants and tests relating to, among other matters, interest coverage

and leverage. At December 31, 2016, the company was in compliance with all covenants under the revolving credit facility and the Senior Notes.

The company may redeem the Senior Notes upon the satisfaction of certain conditions and the payment of a make-whole amount to noteholders, and are required to offer to repurchase the Senior Notes at par following certain events, including a change of control.

#### *Debt Issuance Costs*

The company incurred debt issuance costs of \$1.7 million in relation to the new credit agreement which, along with the remaining balance of debt issuance costs of the previous credit facility, are being amortized over the life of the new credit agreement. This new credit agreement was determined to be a modification under ASC 470-50 of the previous credit agreement. The company additionally incurred debt issuance costs of \$1.8 million in relation to the Senior Notes which are being amortized over the respective lives of the Series A and B of each of the U.S. Senior Notes and Euro Senior Notes.

#### *Entrusted Loan*

During 2014, the company entered into an entrusted loan arrangement (“Entrusted Loan”) of Chinese renminbi 110.0 million (approximately U.S. \$17.9 million) between two of its China legal entities, Littelfuse Semiconductor (“Wuxi”) Company (the “lender”) and Suzhou Littelfuse OVS Ltd. (the “borrower”), utilizing Bank of America, N.A., Shanghai Branch as agent. Direct borrowing and lending between two commonly owned commercial entities was strictly forbidden at the time under China’s regulations requiring the use of a third party agent to enable loans between Chinese legal entities. As a result, the Entrusted Loan is reflected as both a long-term asset and long-term debt on the company’s Consolidated Balance Sheets and is reflected in the investing and financing activities in its Consolidated Statements of Cash Flows. Interest expense and interest income will be recorded between the lender and borrower with no net impact on the company’s Consolidated Statements of Income since the amounts will be offsetting. The loan interest rate per annum is 5.25%. The Entrusted Loan is used to finance the operation and working capital needs of the borrower and matures in November 2019. The balance of the Entrusted Loan was Chinese renminbi 24.5 million (approximately U.S. \$3.5 million) at December 31, 2016.

Interest paid on all company debt was approximately \$8.6 million, \$4.1 million, and \$4.9 million in 2016, 2015, and 2014, respectively.

**NOTES TO CONSOLIDATED FINANCIAL STATEMENTS***Debt Maturities*

Scheduled maturities of the company's long-term debt for each of the five years succeeding December 31, 2016 and thereafter are summarized as follows:

<b>(in thousands)</b>	<b>Scheduled Maturities</b>
2017	\$ 6,250
2018	10,937
2019	16,022
2020	12,500
2021	190,626
2022 and thereafter	221,627
	\$ 457,962

**9. Fair Value of Assets and Liabilities**

Applicable accounting literature establishes a hierarchy for inputs used in measuring fair value that maximizes the use of observable inputs and minimizes the use of unobservable inputs by requiring that the most observable inputs be used when available. Applicable accounting literature defines levels within the hierarchy based on the reliability of inputs as follows:

Level 1—Valuations based on unadjusted quoted prices for identical assets or liabilities in active markets;

Level 2—Valuations based upon quoted prices for *similar* instruments, prices for identical or similar instruments in markets that are not active, or model-derived valuations, all of whose significant inputs are observable, and

Level 3—Valuations based upon one or more significant unobservable inputs.

Following is a description of the valuation methodologies used for instruments measured at fair value and their classification in the valuation hierarchy.

*Investments*

Investments in equity securities listed on a national market or exchange are valued at the last sales price. Such securities are further detailed in Note 1, *Summary of Significant Accounting Policies and Other Information*, and classified within Level 1 of the valuation hierarchy.

There were no changes during 2016 to the company's valuation techniques used to measure asset and liability fair values on a recurring basis. As of December 31, 2016 and January 2, 2016, the company held no non-financial assets or liabilities that are required to be measured at fair value on a recurring basis.

The following table presents assets measured at fair value by classification within the fair value hierarchy as of December 31, 2016:

(in thousands)	Fair Value Measurements Using			Total
	Quoted Prices in Active Markets for Identical Assets (Level 1)	Significant Other Observable Inputs (Level 2)	Significant Unobservable Inputs (Level 3)	
Investment in Polytronics	\$ 10,435	\$ —	\$ —	\$ 10,435

The following table presents assets measured at fair value by classification within the fair value hierarchy as of January 2, 2016:

(in thousands)	Fair Value Measurements Using			Total
	Quoted Prices in Active Markets for	Significant Other Observable Inputs (Level 2)	Significant Unobservable Inputs (Level 3)	

**Identical  
Assets  
(Level  
1)**

Investment in Polytronics	\$ 11,697	\$	—	\$	—	\$ 11,697
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## NOTES TO CONSOLIDATED FINANCIAL STATEMENTS

The company's other financial instruments include cash and cash equivalents, short-term investments, accounts receivable and its long-term debt. Due to their short-term maturity, the carrying amounts of cash and cash equivalents, short-term investments and accounts receivable approximate their fair values. The company's revolving and term loan debt facilities' fair values approximate book value at January 2, 2016 and December 27, 2014, as the rates on these borrowings are variable in nature. The fair values of the company's Euro Senior Notes, Series A and Series B were \$122.6 million and \$99.2 million, respectively, at December 31, 2016 and are considered Level 2 in the valuation hierarchy. Carrying values of the Euro Senior Notes, Series A and Series B were \$122.3 million and 99.3 million, respectively, at December 31, 2016.

### 10. Benefit Plans

The company has company-sponsored defined benefit pension plans covering employees in the U.K., Germany, the Philippines, China, Japan, and France. The amount of the retirement benefits provided under the plans is based on years of service and final average pay.

#### *PolySwitch Acquisition*

During 2016, as a result of the PolySwitch acquisition, past service liabilities were assumed by the company in China, France, Germany, Japan, Mexico, and Taiwan, together with a small amount of plan assets in Taiwan.

#### *Littelfuse Inc. Retirement Plan Termination*

The company received approval from the IRS on April 14, 2015 on its Application for Determination for Terminating Plan to terminate the U.S. defined benefit pension plan, the Littelfuse Inc. Retirement Plan, effective July 30, 2014. All plan liabilities were settled (either via lump sum payout or purchase of a group annuity contract) in the third quarter of 2015. A cash contribution of \$9.1 million was made to the U.S. defined benefit plan's trust in the third quarter of 2015 to fully fund the plan on a buyout basis, and the eventual settlement of the plan's liabilities triggered a settlement charge of \$30.2 million in the third quarter of 2015. In the fourth quarter of 2015 there was an adjustment to the price of the annuity contract which resulted in a refund of premium to the company of \$0.3 million. This refund of premium, effectively a re-measurement gain, was recognized in the fourth quarter of 2015 as a dollar-for-dollar adjustment to the \$30.2 million earnings charge recognized in the third quarter of 2015, resulting in a final settlement loss of \$29.9 million for the fiscal year ended January 2, 2016.



During 2016, there were two further adjustments to the price of the annuity contract. Their combined effect resulted in a further refund of premium to the company of \$0.3 million. This refund of premium was considered additional actual return on the assets during 2016, followed by a negative employer contribution of that same amount in the asset reconciliation table below.

Total pension expense was \$1.5 million, \$32.4 million, and \$0.3 million in 2016, 2015, and 2014, respectively. The changes in pension expense primarily resulted from the termination and settlement of the U.S. plan, together with the effect of the PolySwitch acquisition.

## NOTES TO CONSOLIDATED FINANCIAL STATEMENTS

Benefit plan related information is as follows:

(in thousands)	2016			2015		
	U.S.	Foreign	Total	U.S.	Foreign	Total
Change in benefit obligation:						
Benefit obligation at beginning of year	\$—	\$50,282	\$50,282	\$105,759	\$52,740	\$158,499
Service cost	—	1,509	1,509	750	824	1,574
Interest cost	—	1,662	1,662	3,093	1,735	4,828
Net actuarial loss (gain)	—	10,190	10,190	(9,127 )	648	(8,479 )
Benefits paid from the trust	—	(2,329 )	(2,329 )	(100,475)	(1,732 )	(102,207)
Benefits paid directly by company	—	250	250	—	(410 )	(410 )
Curtailments and settlements	—	(427 )	(427 )	—	(294 )	(294 )
Acquisitions	—	2,023	2,023	—	—	—
Effect of exchange rate movements	—	(7,554 )	(7,554 )	—	(3,229 )	(3,229 )
Benefit obligation at end of year	\$—	\$55,606	\$55,606	\$—	\$50,282	\$50,282
Change in plan assets at fair value:						
Fair value of plan assets at beginning of year	\$—	\$44,629	\$44,629	\$93,991	\$47,593	\$141,584
Actual return on plan assets	341	6,588	6,929	(2,375 )	389	(1,986 )
Employer contributions	(341)	215	(126 )	8,859	1,072	9,931
Benefits paid	—	(2,329 )	(2,329 )	(100,475)	(1,732 )	(102,207)
Acquisitions	—	24	24	—	—	—
Effect of exchange rate movements	—	(6,919 )	(6,919 )	—	(2,693 )	(2,693 )
Fair value of plan assets at end of year	—	42,208	42,208	—	44,629	44,629
Net amount recognized/(unfunded status)	\$—	\$(13,398)	\$(13,398)	\$—	\$(5,653 )	\$(5,653 )
Amounts recognized in the Consolidated Balance Sheet consist of:						
Current portion of accrued benefit liability	\$—	\$—	\$—	\$—	\$—	\$—
Accrued benefit liability	—	(13,398)	(13,398)	—	(5,653 )	(5,653 )
Total liability recognized	—	(13,398)	(13,398)	—	(5,653 )	(5,653 )
Accumulated other comprehensive loss	\$—	\$13,107	\$13,107	\$—	\$9,383	\$9,383

Amounts recognized in accumulated other comprehensive income (loss), pre-tax consist of:

(in thousands)	2016		2015	
	U.S.	Foreign	U.S.	Foreign
Net actuarial loss	\$—	\$13,107	\$—	\$9,383
Prior service (cost)	—	—	—	—

Net amount recognized /occurring, pre-tax \$—\$13,107 \$13,107 \$—\$9,383 \$9,383

The estimated net actuarial loss (gain) which will be amortized from accumulated other comprehensive income (loss) into benefit cost in 2017 is approximately \$0.3 million.

The components of total pension expense (income) for the years 2016, 2015, and 2014 are as follows:

(in thousands)	U.S.		Foreign		
	2016	2015	2016	2015	2014
Components of net periodic benefit cost:					
Service cost	\$—\$750	\$600	\$1,509	\$824	\$925
Interest cost	— 3,093	3,884	1,662	1,735	2,060
Expected return on plan assets	— (2,749 )	(5,646)	(1,935)	(2,346)	(2,292)
Amortization of prior service (credit)	— —	—	—	—	—
Amortization of losses	— 870	549	306	221	216
Total cost (credit) of the plan for the year	— 1,964	(613 )	1,542	434	909
Expected plan participants' contributions	— —	—	—	—	—
Net periodic benefit cost (credit)	— 1,964	(613 )	1,542	434	909
Curtailment/Settlement loss (gain)	— 29,928	—	(36 )	—	—
Total expense (income) for the year	\$—\$31,892	\$(613 )	\$1,506	\$434	\$909

## NOTES TO CONSOLIDATED FINANCIAL STATEMENTS

Weighted average assumptions used to determine net periodic benefit cost for the years 2016, 2015, and 2014 are as follows:

	U.S.		Foreign				
	2015	2014	2016	2015	2014		
Discount rate	—3.9	% 4.8	% 3.7	% 3.7	% 3.7	%	%
Expected return on plan assets	—6.8	% 6.8	% 4.9	% 5.1	% 4.9	%	%
Compensation increase rate	—	—	5.3	% 5.3	% 3.8	%	%
Measurement dates	—12/31/14	12/31/13	12/31/15	12/31/14	12/31/13		

The accumulated benefit obligation for the foreign plans was \$51.3 million and \$46.2 million at December 31, 2016 and January 2, 2016, respectively.

Weighted average assumptions used to determine benefit obligations at year-end 2016, 2015 and 2014 are as follows:

	U.S.		Foreign				
	2015	2014	2016	2015	2014		
Discount rate	—3.9	% 3.9	% 2.6	% 3.8	% 3.7	%	%
Compensation increase rate	—	—	4.5	% 6.2	% 5.3	%	%
Measurement dates	—9/30/15	12/31/14	12/31/16	12/31/15	12/31/14		

Expected benefit payments to be paid to participants for the fiscal year ending are as follows:

	Expected Benefit Payments
	(in thousands)
	(Foreign)
2017	\$ 1,906
2018	1,961
2019	2,040
2020	2,165
2021	2,207

2022-2026 12,789

*Defined Benefit Plan Assets*

Based upon analysis of the target asset allocation and historical returns by type of investment, the company has assumed that the expected long-term rate of return will be 4.9% on foreign plan assets. Assets are invested to maximize long-term return taking into consideration timing of settlement of the retirement liabilities and liquidity needs for benefits payments. Pension plan assets were invested as follows, and were not materially different from the target asset allocation:

	<b>Foreign Asset Allocation</b>			
	<b>2016</b>	<b>2015</b>		
Equity securities	32 %	30 %		
Debt securities	65 %	65 %		
Cash	3 %	5 %		
	100%	100 %		

## NOTES TO CONSOLIDATED FINANCIAL STATEMENTS

The following table presents the company's pension plan assets measured at fair value by classification within the fair value hierarchy as of December 31, 2016:

(in thousands)	Fair Value Measurements Using			Total
	Quoted Prices in Active Markets for Identical Assets (Level 1)	Significant Other Observable Inputs (Level 2)	Significant Unobservable Inputs (Level 3)	
Equities:				
Global Equity 50:50 Index Fund	\$—	\$ 6,321	\$ —	\$6,321
Global Equity 50:50 GBP Hedged Fund	—	6,406	—	6,406
Philippine Stock	906	—	—	906
Fixed income:				
Investment Grade Corporate Bond Funds	5,372	—	—	5,372
Over 15y Gilts Index Fund	—	3,265	—	3,265
Active Corp Bond – Over 10 Yr Fund	—	5,902	—	5,902
Over 5y Index-Linked Gilts Fund	—	10,724	—	10,724
Philippine Long Government Securities	1,133	—	—	1,133
Philippine Long Corporate Bonds	751	—	—	751
Cash and equivalents	476	952	—	1,428
Total pension plan assets	\$8,638	\$ 33,570	\$ —	\$42,208

The following table presents the company's pension plan assets measured at fair value by classification within the fair value hierarchy as of January 2, 2016:

(in thousands)	Fair Value Measurements Using			Total
	Quoted Prices in Active Markets for Identical	Significant Other Observable Inputs (Level 2)	Significant Unobservable Inputs (Level 3)	

	<b>Assets (Level 1)</b>				
<b>Equities:</b>					
Global Equity 50:50 Index Fund	\$—	\$ 12,801	\$	—	\$ 12,801
Philippine Stock	836	—	—	—	836
<b>Fixed income:</b>					
Investment Grade Corporate Bond Funds	6,807	—	—	—	6,807
Over 15y Gilts Index Fund	—	3,428	—	—	3,428
Active Corp Bond – Over 10 Year Fund	—	6,440	—	—	6,440
Over 5y Index-Linked Gilts Fund	—	10,248	—	—	10,248
Philippine Long Government Securities	1,227	—	—	—	1,227
Philippine Long Corporate Bonds	781	—	—	—	781
Cash and equivalents	2,061	—	—	—	2,061
Total pension plan assets	\$ 11,712	\$ 32,917	\$	—	\$ 44,629

### *Defined Contribution Plans*

The company also maintains a 401(k) savings plan covering substantially all U.S. employees. The company matches 100% of the employee's annual contributions for the first 4% of the employee's eligible compensation. Employees are immediately vested in their contributions plus actual earnings thereon, as well as the company contributions. Company matching contributions amounted to \$3.2 million, \$2.8 million, and \$2.1 million in 2016, 2015, and 2014, respectively.

The company has a non-qualified Supplemental Retirement and Savings Plan. The company provides additional retirement benefits for certain management employees and named executive officers by allowing participants to contribute up to 90% of their annual compensation with matching contributions of 4% of the participant's annual compensation in excess of the IRS compensation limits.

## NOTES TO CONSOLIDATED FINANCIAL STATEMENTS

### 11. Shareholders' Equity

*Equity Plans:* The company has equity-based compensation plans authorizing the granting of stock options, restricted shares, restricted share units, performance shares and other stock rights of employees and directors. As of December 31, 2016, there were 0.4 million shares available for issuance of future awards under the company's equity-based compensation plans.

Stock options granted prior to 2002 vested over a five-year period and are exercisable over a ten-year period commencing from the date of vesting. The stock options granted in 2002 through February 2005 vested over a five-year period and are exercisable over a ten-year period commencing from the date of the grant. Stock options granted after February 2005 vest over a three, four or five-year period and are exercisable over either a seven or ten-year period commencing from the date of the grant. Restricted shares and share units granted by the company generally vest over three to four years.

The following table provides a reconciliation of outstanding stock options for the fiscal year ended December 31, 2016.

	Shares Under Option	Weighted Average Price	Weighted Average Remaining Contract Life (Years)	Aggregate Intrinsic Value (000's)
Outstanding January 2, 2016	470,904	\$ 80.53		
Granted	123,435	120.15		
Exercised	(229,319)	73.42		
Forfeited	(8,836 )	87.86		
Outstanding December 31, 2016	356,184	98.65	5.0	\$ 18,920
Exercisable December 31, 2016	112,714	78.16	3.6	8,297

The following table provides a reconciliation of non-vested restricted share and share unit awards for the fiscal year ended December 31, 2016.



		<b>Weighted Average</b>
	<b>Shares</b>	<b>Grant-Date</b>
		<b>Fair Value</b>
Nonvested January 2, 2016	194,461	\$ 89.32
Granted	115,121	117.79
Vested	(93,742 )	84.94
Forfeited	(8,543 )	93.85
Nonvested December 31, 2016	207,297	106.92

The total intrinsic value of options exercised during 2016, 2015, and 2014 was \$13.3 million, \$5.0 million, and \$9.6 million, respectively. The total fair value of shares vested was \$10.7 million, \$8.1 million, and \$7.6 million for 2016, 2015, and 2014, respectively. The total amount of share-based liabilities paid was \$0.6 million, \$0.4 million and \$0.3 million for 2016, 2015, and 2014, respectively.

The company recognizes compensation cost of all share-based awards as an expense on a straight-line basis over the vesting period of the awards. At December 31, 2016, the unrecognized compensation cost for options, restricted shares and performance shares was \$17.0 million before tax, and will be recognized over a weighted-average period of 1.9 years. Compensation cost included as a component of selling, general, and administrative expense for all equity compensation plans discussed above was \$12.8 million, \$10.7 million, and \$9.4 million for 2016, 2015, and 2014, respectively. The total income tax benefit recognized in the Consolidated Statements of Net Income was \$4.4 million, \$3.7 million and \$3.3 million for 2016, 2015, and 2014, respectively.

The company uses the Black-Scholes option valuation model to determine the fair value of awards granted. The weighted average fair value of and related assumptions for options granted are as follows:

	<b>2016</b>	<b>2015</b>	<b>2014</b>
Weighted average fair value of options granted	\$26.06	\$21.99	\$26.25
Assumptions:			
Risk-free interest rate	1.37 %	1.25 %	1.67 %
Expected dividend yield	0.97 %	1.04 %	0.93 %
Expected stock price volatility	26.0 %	28.0 %	33.0 %
Expected life of options (years)	4.6	4.6	4.6

**NOTES TO CONSOLIDATED FINANCIAL STATEMENTS**

Expected volatilities are based on the historical volatility of the company's stock price. The expected life of options is based on historical data for options granted by the company. The risk-free rates are based on yields available at the time of grant on U.S. Treasury bonds with maturities consistent with the expected life assumption.

*Accumulated Other Comprehensive Income (Loss) ("AOCI")*: The following table sets forth the changes in the components of AOCI by component for fiscal years 2016, 2015, and 2014:

<b>(in thousands)</b>	<b>Pension and postretirement liability and reclassification adjustments <sup>(a)</sup></b>	<b>Gain on investments</b>	<b>Foreign currency translation adjustment</b>	<b>Accumulated other comprehensive income (loss)</b>
Balance at December 27, 2014	\$ (29,615 )	\$ 10,791	\$ (2,302 )	\$ (21,126 )
2015 activity	20,893	793	(46,231 )	(24,545 )
Balance at January 2, 2016	(8,722 )	11,584	(48,533 )	(45,671 )
2016 activity	(3,261 )	(815 )	(24,832 )	(28,908 )
Balance at December 31, 2016	\$ (11,983 )	\$ 10,769	\$ (73,365 )	\$ (74,579 )

(a) Net of tax of \$1.1 million, \$0.7 million, and \$12.6 million for 2016, 2015, and 2014, respectively.

*Preferred Stock*: The Board of Directors may authorize the issuance of preferred stock from time to time in one or more series with such designations, preferences, qualifications, limitations, restrictions, and optional or other special rights as the Board may fix by resolution.

The company's Board of Directors authorized the repurchase of up to 1,000,000 shares of the company's common stock under a program for the period May 1, 2016 to April 30, 2017. The company's prior share repurchase authorization of 1,000,000 shares expired on April 30, 2016 with 650,000 shares remaining in the program. The company did not repurchase any shares of its common stock during fiscal 2016 under the either stock repurchase program. The company repurchased 350,000 of its shares in fiscal 2015 under the prior share repurchase program.

**12. Income Taxes**

Domestic and foreign income (loss) before income taxes is as follows:

<b>(in thousands)</b>	<b>2016</b>	<b>2015</b>	<b>2014</b>
Domestic	\$ (9,563 )	\$ 1,313	\$ 35,264
Foreign	132,837	105,635	96,382
Income before income taxes	\$ 123,274	\$ 106,948	\$ 131,646

Federal, state and foreign income tax (benefit) expense consists of the following:

<b>(in thousands)</b>	<b>2016</b>	<b>2015</b>	<b>2014</b>
Current:			
Federal	\$ (3,992 )	\$ (6,686 )	\$ 8,003
State	(648 )	2,078	1,275
Foreign	28,695	19,211	28,756
Subtotal	24,055	14,603	38,034
Deferred:			
Federal and State	(1,594 )	11,330	(1,513 )
Foreign	(3,675 )	149	(2,975 )
Subtotal	(5,269 )	11,479	(4,488 )
Provision for income taxes	\$ 18,786	\$ 26,082	\$ 33,546

The current federal tax benefit for 2016 includes an estimated \$3 million benefit as a result of the anticipated carry-back of the 2016 U.S. federal net operating loss to the 2014 tax year.

The current federal tax benefit for 2015 includes an \$11.7 million benefit reclassified from accumulated other comprehensive income as a result of the company's termination of the U.S. defined benefit pension plan as described in Note 10, *Benefit Plans*.

**NOTES TO CONSOLIDATED FINANCIAL STATEMENTS**

A reconciliation between income taxes computed on income before income taxes at the federal statutory rate and the provision for income taxes is provided below:

<b>(in thousands)</b>	<b>2016</b>	<b>2015</b>	<b>2014</b>
Tax expense at statutory rate of 35%	\$43,146	\$37,432	\$46,076
State and local taxes, net of federal tax benefit	(415 )	1,907	1,186
Foreign income tax rate differential	(25,471)	(18,253)	(13,663)
Impairment of goodwill without tax benefit	3,088	—	—
Tax on unremitted earnings	2,747	—	—
Mexico manufacturing operations restructuring	—	4,841	—
Nondeductible professional fees	313	1,011	—
Tax deduction for stock of foreign subsidiary	(3,896 )	—	—
Other, net	(726 )	(856 )	(53 )
Provision for income taxes	\$18,786	\$26,082	\$33,546

Deferred income taxes are provided for the tax effects of temporary differences between the financial reporting bases and the tax bases of the company's assets and liabilities. Significant components of the company's deferred tax assets and liabilities at December 31, 2016 and January 2, 2016, are as follows:

<b>(in thousands)</b>	<b>2016</b>	<b>2015</b>
Deferred tax assets:		
Accrued expenses	\$31,770	\$19,738
Foreign tax credit carryforwards	6,472	1,529
Accrued restructuring	456	1,115
Capital losses	4,557	4,557
Domestic and foreign net operating loss carryforwards	2,223	684
Gross deferred tax assets	45,478	27,623
Less: Valuation allowance	(6,738 )	(4,557 )
Total deferred tax assets	38,740	23,066
Deferred tax liabilities:		
Tax depreciation and amortization in excess of book	23,471	22,747
Foreign tax on unremitted earnings	1,750	—
Total deferred tax liabilities	25,221	22,747
Net deferred tax assets	\$13,519	\$319

The deferred tax asset valuation allowance is related to a U.S. capital loss carryover and, with respect to 2016, tax attributes of certain foreign subsidiaries which are not expected to be realized. The remaining domestic and foreign net

operating losses either have no expiration date or are expected to be utilized prior to expiration. The foreign tax credit carryforwards begin to expire in 2020. The company paid income taxes of \$35.6 million, \$23.3 million, and \$26.6 million in 2016, 2015, and 2014, respectively.

U.S. income taxes were not provided on a cumulative total of approximately \$498 million of undistributed earnings for certain non-U.S. subsidiaries as of December 31, 2016, and accordingly, no deferred tax liability has been established relative to these earnings. The determination of the deferred tax liability associated with the distribution of these earnings is not practicable. The company accrued \$1.8 million for certain foreign taxes on unremitted earnings of non-U.S. subsidiaries because of anticipated distributions (no U.S. tax is expected to be incurred on such distributions). The company has three subsidiaries in China on "tax holidays." The tax holidays begin to expire in 2017. The company expects to be granted extensions. Such tax holidays contributed \$2.7 million in tax benefits (\$0.12 per diluted share) during 2016 with similar amounts expected in future years while tax holidays are in effect.

**NOTES TO CONSOLIDATED FINANCIAL STATEMENTS**

A reconciliation of the beginning and ending amount of unrecognized tax benefits as of December 31, 2016, January 2, 2016, and December 27, 2014 is as follows:

<b>(in thousands)</b>	<b>Unrecognized Tax Benefits</b>
Balance at December 27, 2014	\$ 2,550
Additions for tax positions taken in the current year	982
Balance at January 2, 2016	3,532
Additions for tax positions taken in the current year	2,696
Additions for tax positions taken in the pre-acquisition periods of acquired subsidiaries	2,491
Settlements	(102 )
Balance at December 31, 2016	\$ 8,617

The company recognizes accrued interest and penalties associated with uncertain tax positions as part of income tax expense. The company recognized interest expense of \$0.9 million, \$0.2 million, and \$0.3 million in 2016, 2015, and 2014 respectively. Accrued interest was \$2.4 million, \$1.5 million, and \$1.3 million as of December 31, 2016, January 2, 2016, and December 27, 2014, respectively.

The amount of unrecognized tax benefits at December 31, 2016 was \$8.6 million. This total represents the amount of tax benefits that, if recognized, would favorably affect the effective income tax rate in future periods. The company does not expect a decrease in unrecognized tax benefits in the next 12 months. None of the positions included in unrecognized tax benefits are related to tax positions for which the ultimate deductibility is highly certain, but for which there is uncertainty about the timing of such deductibility. The U.S. federal statute of limitations remains open for 2013 onward although the company has been audited for 2014 (during 2016) and the audit has been concluded with no additional tax due. Foreign and U.S. state statute of limitations generally range from three to seven years. The German tax authority concluded the examination of the company's tax years 2008 through 2010 with less than \$0.1 million of additional tax due and is currently conducting its examination for tax years 2011 through 2014. The company does not expect to recognize a significant amount of additional tax expense as a result of concluding German tax examination.

**13. Earnings Per Share**

The following table sets forth the computation of basic and diluted earnings per share:

<b>(in thousands, except per share amounts)</b>	<b>2016</b>	<b>2015</b>	<b>2014</b>
<b>Numerator:</b>			
Net income as reported	\$ 104,488	\$ 80,866	\$ 98,100
<b>Denominator:</b>			
Weighted average shares outstanding			
Basic	22,559	22,565	22,543
Effect of dilutive securities	167	154	184
Diluted	22,727	22,719	22,727
<b>Earnings Per Share:</b>			
Basic earnings per share	\$4.63	\$3.58	\$4.35
Diluted earnings per share	\$4.60	\$3.56	\$4.32

Potential shares of common stock attributable to stock options excluded from the earnings per share calculation because their effect would be anti-dilutive were 53,448 shares, 113,130 shares, and 43,693 shares in 2016, 2015, and 2014, respectively.

## NOTES TO CONSOLIDATED FINANCIAL STATEMENTS

### 14. Segment Information

The company and its subsidiaries design, manufacture and sell components and modules for circuit protection, power control and sensing throughout the world. The company reports its operations by the following segments: Electronics, Automotive, and Industrial. An operating segment is defined as a component of an enterprise that engages in business activities from which it may earn revenues and incur expenses, and about which separate financial information is regularly evaluated by the Chief Operating Decision Maker (“CODM”) in deciding how to allocate resources. The CODM is the company’s President and Chief Executive Officer (“CEO”). The CODM allocates resources to and assesses the performance of each operating segment using information about its revenue and operating income (loss) before interest and taxes, but does not evaluate the operating segments using discrete balance sheet information.

Sales, marketing, and research and development expenses are charged directly into each operating segment. Manufacturing, purchasing, logistics, customer service, finance, information technology, and human resources are shared functions that are allocated back to the three operating segments. The company does not report inter-segment revenue because the operating segments do not record it. Certain expenses, determined by the CODM to be strategic in nature and not directly related to segments current results, are not allocated but identified as “Other”. Additionally, the company does not allocate interest and other income, interest expense, or taxes to operating segments. These costs are not allocated to the segments, as management excludes such costs when assessing the performance of the segments. Although the CODM uses operating income (loss) to evaluate the segments, operating costs included in one segment may benefit other segments. Except as discussed above, the accounting policies for segment reporting are the same as for the company as a whole.

*Electronics Segment:* Provides circuit protection components for overcurrent and overvoltage protection, as well as sensor components and modules to leading global manufacturers of a wide range of electronic products. The segment covers a broad range of end markets, including consumer electronics, telecommunications equipment, medical devices, lighting products, and white goods. The Electronics segment supplies circuit protection, sensing and control products to various leading manufacturers. The Electronics segment has one of the broadest product offerings in the industry including fuses and protectors, positive temperature coefficient (“PTC”) resettable fuses, varistors, polymer electrostatic discharge (“ESD”) suppressors, discrete TVS diodes, TVS diode arrays protection and switching thyristors, gas discharge tubes, power switching components, fuseholders, reed switch and sensor assemblies, IGBT blocks, and related accessories.

*Automotive Segment:* Provides circuit protection and sensor products to the worldwide automotive original equipment manufacturers (“OEM”) and parts distributors of passenger automobiles, trucks, buses, and off-road equipment. In addition, the company supplies heavy duty power distribution modules, switches and relays to the commercial vehicle industry. The company also sells its fuses, including blade fuses and high current fuses, battery cable protectors, and varistors, in the automotive replacement parts market. The company also supplies wiring



harness manufacturers and auto parts suppliers worldwide.

*Industrial Segment:* Provides circuit protection products for industrial and commercial customers. Products include power fuses and other circuit protection devices, including protection and time delay relays, which are used in commercial and industrial buildings and large equipment such as HVAC systems, elevators, and machine tools. The company also supplies industrial ground fault protection in mining and other large industrial operations.

**NOTES TO CONSOLIDATED FINANCIAL STATEMENTS**

The company has provided this segment information for all comparable prior periods. Segment information is summarized as follows:

<b>(in thousands)</b>	<b>2016</b>	<b>2015</b>	<b>2014</b>
Net sales			
Electronics	\$535,191	\$405,497	\$410,065
Automotive	415,200	339,957	325,415
Industrial	105,768	122,410	116,515
Total net sales	\$1,056,159	\$867,864	\$851,995
Depreciation and amortization			
Electronics	\$29,141	\$22,936	\$22,177
Automotive	18,107	13,437	14,204
Industrial	5,889	5,268	5,494
Total depreciation and amortization	\$53,137	\$41,641	\$41,875
Operating income (loss)			
Electronics	\$117,088	\$78,194	\$86,981
Automotive	59,905	53,086	45,086
Industrial	3,615	18,094	10,674
Other <sup>(a)</sup>	(49,964 )	(45,217 )	(8,911 )
Total operating income	130,644	104,157	133,830
Interest expense	8,628	4,091	4,903
Foreign exchange loss (gain)	472	(1,465 )	3,925
Other expense (income), net	(1,730 )	(5,417 )	(6,644 )
Income before income taxes	\$123,274	\$106,948	\$131,646

(a) Included in “Other” Operating income (loss) for 2016 are costs related to the impairment of the custom products reporting unit (\$14.8 million), acquisition and integration costs associated with the company’s 2016 acquisitions (\$29.2 million in Cost of sales (“COS”) and SG&A), transfer of the company’s reed switch manufacturing operations from its Lake Mills, Wisconsin and Suzhou, China locations to the Philippines (\$1.6 million in COS), impairment and severance costs related to the closure of the company’s manufacturing facility in Denmark (\$1.9 million in SG&A), and restructuring costs (\$2.5 million in SG&A and R&D).

Included in “Other” Operating income (loss) for 2015 are costs related to the transfer of the company’s reed switch manufacturing operations from its Lake Mills, Wisconsin and Suzhou, China locations to the Philippines (\$5.2 million in COS), acquisition related fees (\$4.6 million included in SG&A), pension settlement and other costs (\$31.9 million in SG&A), and restructuring costs (\$3.6 million in SG&A).

Included in "Other" Operating income (loss) for 2014 are acquisition related fees (\$0.4 million included in SG&A), non-cash charges for the sale of inventory that had been stepped-up to fair value at the acquisition date of SymCom (\$2.8 million included in COS), severance charges (\$2.7 million in COS and \$0.5 million in SG&A), restructuring costs (\$2.2 million in SG&A) and asset impairments (\$0.2 million in Research and development and \$0.1 million in SG&A).

**NOTES TO CONSOLIDATED FINANCIAL STATEMENTS**

The company's significant net sales, long-lived assets and additions to long-lived assets by country for the fiscal years ended 2016, 2015, and 2014 are as follows:

<b>(in thousands)</b>	<b>2016</b>	<b>2015</b>	<b>2014</b>
Net sales			
United States	\$356,674	\$344,305	\$313,762
China	263,701	193,792	189,191
Other countries	435,784	329,767	349,042
Total net sales	\$1,056,159	\$867,864	\$851,995
Long-lived assets			
United States	\$23,731	\$23,965	\$34,179
China	65,345	37,241	40,981
Canada	9,880	10,488	12,899
Other countries	118,219	90,874	70,581
Total long-lived assets	\$217,175	\$162,568	\$158,640
Additions to long-lived assets			
United States	\$4,694	\$8,609	\$9,134
China	13,181	9,710	7,265
Canada	177	506	555
Other countries	28,176	25,194	15,327
Total additions to long-lived assets	\$46,228	\$44,019	\$32,281

For the year ended January 2, 2016, approximately 66% of the company's net sales were to customers outside the United States (exports and foreign operations) including 25% to China. No single customer accounted for more than 10% of net sales during the last three years.

**NOTES TO CONSOLIDATED FINANCIAL STATEMENTS****15. Selected Quarterly Financial Data (Unaudited)**

The quarterly periods for 2016 are for the 13-weeks ended December 31, 2016, October 1, 2016, July 2, 2016, and April 2, 2016, respectively. The quarterly periods listed in the table below for 2015 are for the 14-weeks ended January 2, 2016 and the 13-weeks ended September 26, 2015, June 27, 2015, and March 28, 2015, respectively.

(in thousands, except per share data)

	<b>2016</b>				<b>2015</b>			
	<b>4Q<sup>(a)</sup></b>	<b>3Q<sup>(b)</sup></b>	<b>2Q<sup>(c)</sup></b>	<b>1Q<sup>(d)</sup></b>	<b>4Q<sup>(e)</sup></b>	<b>3Q<sup>(f)</sup></b>	<b>2Q<sup>(g)</sup></b>	<b>1Q<sup>(h)</sup></b>
Net sales	\$284,518	\$280,331	\$271,912	\$219,398	\$220,020	\$215,510	\$222,021	\$210,313
Gross profit	114,337	113,759	97,866	87,155	82,706	86,182	85,281	76,330
Operating income	40,988	27,526	29,702	32,428	29,854	8,584		