



2017
ANNUAL
REPORT



CAUTIONARY STATEMENT REGARDING FORWARD-LOOKING STATEMENTS
UNDER THE PRIVATE SECURITIES LITIGATION REFORM ACT OF 1995 (“PSLRA”)

The statements contained in the letter to shareholders and the other sections of this report and in the Company’s 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 PSLRA. 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” in the Form 10-K and in the Company’s other Securities and Exchange Commission filings.

DEAR SHAREHOLDERS,

In 2017, Littelfuse celebrated its 90th anniversary and another year of tremendous success. Our outstanding team of associates around the world helped our company achieve several major accomplishments:

- + We achieved record sales, adjusted diluted earnings per share and operating cash flow.
- + We increased our investment in Monolith Semiconductor and launched our first products with silicon carbide, a promising semiconductor material.
- + We acquired U.S. Sensor, expanding our existing sensor platform into temperature sensors.
- + We announced the acquisition of IXYS Corporation, the largest in our company's history, which we expect to be a catalyst to accelerate growth across our power control platform.

OUR STRONG PERFORMANCE CONTINUED IN 2017



DAVE HEINZMANN
President and Chief
Executive Officer

Net sales in 2017 were \$1.22 billion, an increase of 16 percent compared to 2016, with 7 percent organic growth. The results were led by strength in the Electronics and Automotive segments. Electronics sales increased 24 percent to \$662 million, with strong growth across most end markets. Automotive sales of \$453 million were up 9 percent, driven by excellent performance in our automotive fuse business and our commercial vehicle products business. Industrial sales increased

1 percent to \$106 million, with key industrial end markets showing initial signs of improvement, which more than offset the impact of the 2016 sale of our e-house business in Canada.

GAAP diluted EPS was \$5.21. Adjusted diluted EPS was \$7.74¹, an increase of 24 percent vs. last year. Cash flow from operating activities was a record \$269 million, a 49 percent increase over last year. Capital expenditures were \$66 million, resulting in record free cash flow² of \$203 million for the year, a growth of 52 percent. We continued to return capital to shareholders through a 12 percent increase in our cash dividend rate. This was our seventh consecutive year of double-digit dividend growth.

ADVANCING OUR STRATEGY

At the intersection of the global megatrends of safety, energy efficiency and the connected world, our strategy is built upon three major areas of expertise that drive our business: **protect, control and sense**. Working with our customers to provide safer, more reliable and more efficient connected products, our strategic plan is to continue growing our circuit protection platform; accelerate the growth of our power control platform; and double the sales of our sensor platform. At our Analyst Day in December 2016, we launched our updated strategy and outlined our five-year roadmap with the following financial targets:

- + Double-digit annual sales growth, with an increased organic growth rate of 5–7% and an additional 5–7% growth from strategic acquisitions;
- + Double-digit annual growth in earnings per share, led by an adjusted operating margin of 17–19%;
- + Free cash flow that exceeds net income; and
- + Balanced capital allocation, returning 40 percent of free cash flow to shareholders through dividends and share repurchases, with the remainder focused on strategic acquisitions.

¹ Adjusted diluted EPS excludes acquisition related expenses, restructuring, impairment and other charges and gains, as applicable. A reconciliation of this non-GAAP financial measure to the most directly comparable financial measure calculated and presented in accordance with GAAP is set forth on page 6.

² Calculated as cash from operating activities less capital expenditures.



INNOVATION

At the foundation of our strategy is our ongoing focus on innovation, one of our core values. We anticipate customer needs and deliver innovative solutions that add value and grow our business. We take a collaborative, partnership-driven approach in the design and development of new products. In 2017, new products accounted for 28 percent of our revenue.

KEY STRATEGIC GROWTH OPPORTUNITIES

In key market niches across our segments, we have identified several strategic growth opportunities that align with our strengths and allow us to grow at a faster pace than the general market. From the Internet of Things (IoT) to industrial and automotive electronics to the increasing need for sensors, our targeted areas for growth are centered on safety, energy efficiency and the connected world.

INTERNET OF THINGS

Trends in connectivity and the IoT are key drivers for our continued growth. Increasingly, the things we use in our day-to-day lives—and the industrial equipment needed to manufacture these things—are connected to the Internet. Common household items—from doorbells and garage door openers to security systems and home appliances—are becoming more and more sophisticated, as are the machines, tooling and factories used in production. They all require circuit protection, power control and sensing technologies while collecting data and sending it to the cloud. IoT extends further to the vehicles we drive. Today's connected vehicles feature innovative telematics systems that reduce unscheduled maintenance and improve reliability. In the future, vehicle-to-vehicle and vehicle-to-infrastructure connectivity will be key enablers in the advancement of autonomous driving technologies. Beyond the added content opportunities in connected devices and vehicles, we also are seeing growth from telecom, datacenters and cloud infrastructure needed to store and analyze the massive amounts of data these products generate.



INDUSTRIAL ELECTRONICS

Another important intersection point that shows solid long-term growth potential is the need for advanced circuit protection and power control technologies in industrial end-markets. With expanding smart grid initiatives and the ongoing emphasis on energy efficiency, there are significant content opportunities for our electronics products. Smart utility meters, outdoor LED lighting, energy storage and electric vehicle (EV) charging stations are all examples of energy efficiency and infrastructure projects that are creating solid demand for our products across a wide range of industrial applications.

Medium- to high-power industrial motors consume a significant percentage of the world's electricity. Achieving even a 5 percent increase in efficiency for these types of applications can drive considerable energy savings. To obtain these types of improvements, industrial applications like elevators, pumping stations, industrial HVAC systems, locomotives and railways as well as renewable energy and energy storage will all need more power semiconductors and more circuit protection technologies. Our acquisition of IXYS fits squarely within our strategy to accelerate growth in these industrial applications through our expanded power control platform. The addition of the IXYS portfolio helps grow our offerings beyond the existing Littelfuse presence in the lower power range, into medium- to high-power semiconductors. IXYS has strong customer relationships with industrial OEMs, which will help to diversify and expand our presence within the industrial electronics markets.

AUTOMOTIVE ELECTRONICS

At the convergence between our electronics products and automotive customers, we continue to invest in automotive electronics. Global auto manufacturers are adding more sophisticated vehicle features to improve safety with advanced driver assistance systems that include adaptive cruise control, lane departure warnings and blind spot monitoring. The increasing focus on driver comfort and convenience is driving mainstream adoption of infotainment and navigation systems, powered tailgates and heated seats and steering wheels to name a few. Across all these applications, today's vehicles require increasingly advanced circuit protection, power control and sensing technologies, extending opportunities to increase our content-per-vehicle.

In addition to safety and comfort, the need for fuel efficiency and performance improvements is also driving the increasing electrification of vehicles and our continued content growth. Automakers are introducing more complex systems with higher power needs that often require multiple batteries or lend themselves to the ongoing evolution toward 48-volt systems. Today's most fuel efficient internal combustion engines rely on electrically-driven systems that help reduce loads previously driven from the vehicle's powertrain.

Innovative vehicle features like ride-leveling, auto start-stop systems and regenerative braking technologies are all driving major improvements in performance and efficiency—and an increased demand for our products.



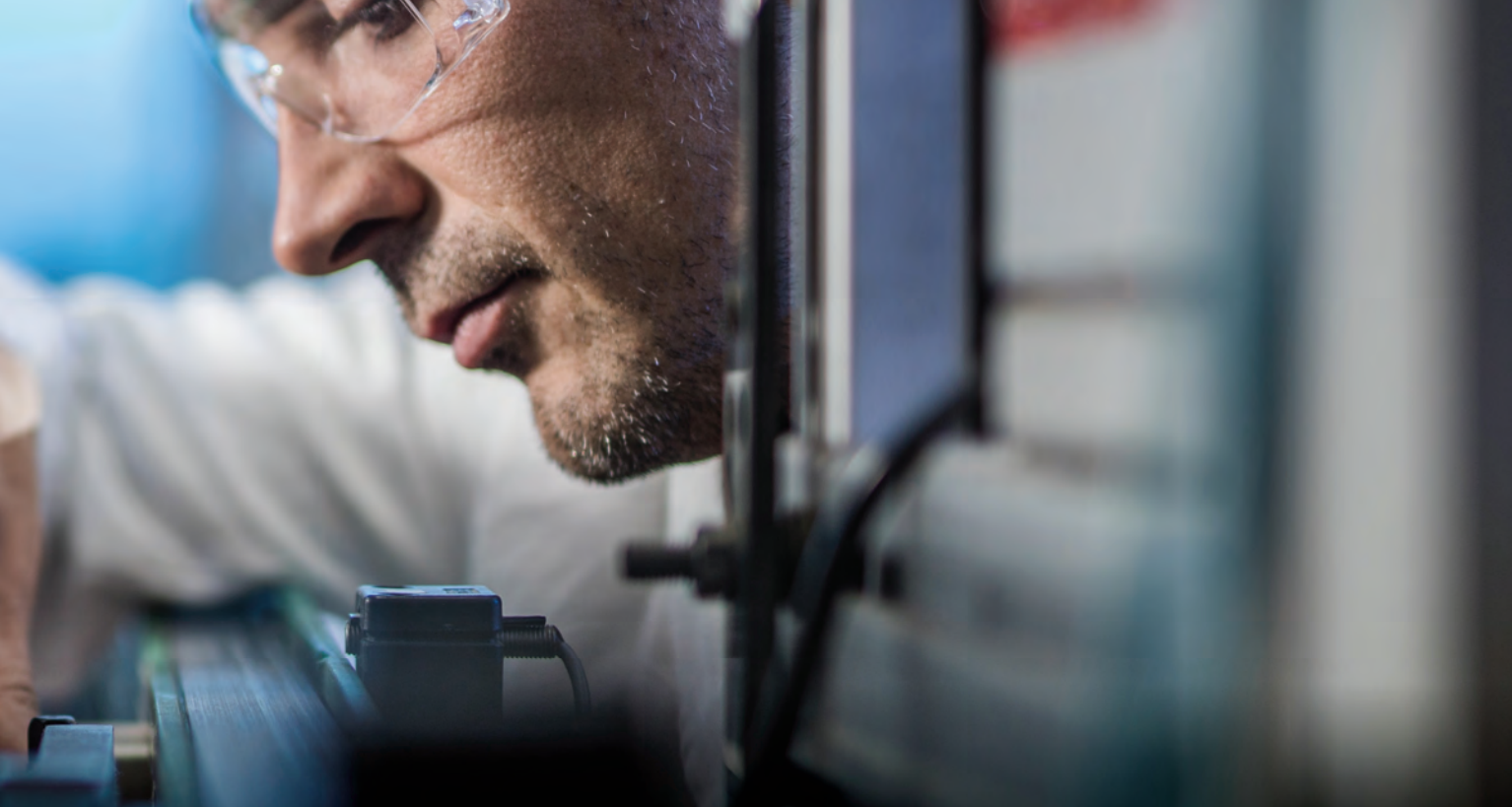
As hybrids and EVs continue to gain momentum, we see additional opportunities in EV battery management systems and on-board charging systems as well as EV charging infrastructure. By leveraging the strong relationships Littelfuse maintains with automotive customers, we see meaningful opportunities to expand the IXYS power semiconductor portfolio further into the automotive space.

Our electronics sensors help detect position, proximity and fluid level, and are playing an increasingly critical role in today's household appliances and security systems. With the acquisition of U.S. Sensor in July 2017, we added temperature sensing capabilities, expanding our existing sensing portfolio in several applications ranging from appliances and home automation to thermostats and HVAC systems.

SENSORS

Over the past five years, through acquisitions as well as organic growth, we have developed a successful global sensing platform to target both electronics and automotive end users. Similar to the opportunities we see in automotive electronics, our automotive sensor business is well-positioned to take advantage of the increasing focus on the safety, efficiency and comfort of drivers and passengers. We offer a comprehensive portfolio of seat belt buckle sensors to ensure occupant safety as well as solar sensors that integrate with a vehicle's automated climate control system. Our line of speed and positioning sensors are used in automotive applications like powered seats and powered tailgates as well as in vehicle suspensions, transmissions and braking systems.

“Our associates around the world are doing an outstanding job of executing on our strategy by leveraging our well-established global presence, industry-leading products, diversified markets and strong customer relationships.”



OPERATIONAL EXCELLENCE: EVERYONE, EVERY DAY, EVERYWHERE

Strong execution and operational excellence provide the foundation for our overall strategy and financial success. To help drive a continuous improvement mindset through every level of our organization, we continue to implement our comprehensive operational roadmap, the Littelfuse Operating System (LFOS). Our Enterprise Lean Six Sigma program is a key operational capability, and one where we have made significant progress. In fact, our manufacturing operations in Dongguan and Suzhou, China, were recognized by the Association for Manufacturing Excellence (AME) for demonstrated excellence in manufacturing and business. This is the second year in a row that Littelfuse China operations have been recognized. Our operations in Wuxi, China, received the AME Excellence Award in 2016.

LEADERSHIP/GOVERNANCE UPDATES

In January 2017, we completed our planned leadership succession, where I took over the role of President and Chief Executive Officer and joined the Littelfuse Board of Directors. As part of that transition, Gordon Hunter, Littelfuse Chairman of the Board, President and Chief Executive Officer since 2005, became Executive Chairman of the Board. Effective January 1, 2018, Gordon assumed the role of Chairman of the Board.

In January 2018, Dr. Nathan Zommer, Founder, and former Chairman and Chief Executive Officer of IXYS, joined the Littelfuse Board of Directors. Dr. Zommer brings more than 30 years of leadership in the semiconductor industry and his experience will be an asset to our board.

BRIGHT MINDS. BIG IMPACT.

Our associates around the world are doing an outstanding job of executing on our strategy by leveraging our well-established global presence, industry-leading products, diversified markets and strong customer relationships. Every day, the bright minds of our associates make a big impact. I am proud of the more than 11,000 Littelfuse associates around the world as they demonstrate their dedication and commitment to deliver for our customers and shareholders—and build momentum for the future.

DAVE HEINZMANN

PRESIDENT AND CHIEF EXECUTIVE OFFICER

GAAP TO NON-GAAP RECONCILIATION

\$ in millions, except per share data

NON-GAAP EPS RECONCILIATION

	2017	2016
GAAP diluted EPS	\$5.21	\$4.60
EPS impact of Non-GAAP adjustments (below)	\$2.53	\$1.66
Adjusted diluted EPS	\$7.74	\$6.26

NON-GAAP ADJUSTMENTS – (INCOME) EXPENSE

	2017	2016
Reed switch manufacturing transfer costs	\$ –	\$1.6
Restructuring	\$2.2	\$2.5
Acquisition-related and integration costs	\$8.1	\$31.1
Impairment of goodwill and intangible assets	\$ –	\$14.8
Non-GAAP adjustments to operating income	\$10.3	\$50.0
Non-operating foreign exchange loss	\$2.4	\$0.5
Non-GAAP adjustments to income before income taxes	\$12.7	\$50.5
Income taxes	(\$45.3)	\$12.6
Non-GAAP adjustments to net income	\$58.0	\$37.9
Total EPS impact	\$2.53	\$1.66

FREE CASH FLOW RECONCILIATION

	2017	2016
Net cash provided by operating activities	\$269.2	\$180.1
Less: Purchases of property, plant and equipment	(\$65.9)	(\$46.2)
Free cash flow	\$203.3	\$133.9

NET SALES RECONCILIATION

	2017 VS. 2016			
	ELECTRONICS	AUTOMOTIVE	INDUSTRIAL	TOTAL
Net sales growth	24%	9%	1%	16%
Less:				
Acquisitions	14%	5%	–	9%
Divestitures	–	–	(7%)	(1%)
FX impact	–	–	1%	1%
Organic net sales growth	10%	4%	7%	7%

NON-GAAP FINANCIAL MEASURES

The information included in the letter to shareholders includes the non-GAAP financial measures of adjusted diluted earnings per share and organic net sales growth. These non-GAAP financial measures exclude the effect of certain expenses and income not related directly to the underlying performance of our fundamental business operations. The company believes that adjusted diluted earnings per share and organic net sales growth provide useful information to investors regarding its operational performance because they enhance an investor's overall understanding of our core financial performance and facilitate comparisons to historical results of operations, by excluding items that are not related directly to the underlying performance of our fundamental business operations or historical business operations. A reconciliation of

these non-GAAP financial measures to the most directly comparable GAAP financial measures is included herein. The letter to shareholders also includes the non-GAAP measure of free cash flow, which is reconciled in the letter. The company believes free cash flow is a useful measure of its ability to generate cash. The company believes that these non-GAAP financial measures are commonly used by financial analysts and others in the industries in which we operate, and thus further provide useful information to investors. Management additionally uses these measures when assessing the performance of the business and for business planning purposes. Note that our definitions of these non-GAAP financial measures may differ from those terms as defined or used by other companies.

**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 30, 2017
Or
 Transition Report Pursuant to Section 13 or 15(d)
of the Securities Exchange Act of 1934
for the transition period from to

Commission file number 0-20388

LITTELFUSE, INC.

(Exact name of registrant as specified in its charter)

Delaware
(State or other jurisdiction of
incorporation or organization)

36-3795742
(I.R.S. Employer Identification No.)

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

60631
(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 On Which Registered</u>
Common Stock, \$0.01 par value	NASDAQ Global Select Market SM

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, a smaller reporting company, or emerging growth company. See the definitions of "large accelerated filer," "accelerated filer," "small reporting company," and "emerging growth company" in Rule 12b-2 of the Exchange Act (Check one):

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

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

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

The aggregate market value of 22,647,077 shares of voting stock held by non-affiliates of the registrant was approximately \$3,736,767,705 based on the last reported sale price of the registrant's Common Stock as reported on the NASDAQ Global Select MarketSM on July 1, 2017.

As of February 16, 2018, the registrant had outstanding 24,830,204 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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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; uncertainties related to political and regulatory changes; integration of acquisitions including the integration of the recently acquired business of IXYS Corporation (“IXYS”) and the risk that expected benefits, synergies and growth prospects of the acquisition of IXYS may not be achieved in a timely manner, or at all; 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

The Company is 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”). The Company makes these filings available free of charge on its website (<http://www.littelfuse.com>) as soon as reasonably practicable after it electronically files them with, or furnish them to, the SEC. Information on the Company’s 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 the Company’s annual, quarterly, and current reports, proxy and information statements, and other information the Company electronically files with, or furnishes to, the SEC. Any materials the Company files 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. the Company’s website address is included in this report for informational purposes only. The Company’s 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 “2017,” “fiscal 2017” or “fiscal year 2017” refer to the fiscal year ended December 30, 2017. 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. 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 2017 and fiscal 2016 contained 52 weeks, whereas fiscal 2015 contained 53 weeks.

OVERVIEW

Founded in 1927, Littelfuse is a global leader in circuit protection products with advancing platforms in power control and sensor technologies, serving customers in the electronics, automotive, and industrial markets. With a diverse and extensive product portfolio of fuses, semiconductors, polymers, ceramics, relays and sensors, the Company works with its customers to build safer, more reliable and more efficient products for the connected world in virtually every market that uses electrical energy, ranging across consumer electronics, IT and telecommunication applications, industrial electronics, automobiles and other transportation, and heavy industrial applications

The company maintains a network of global laboratories and engineering centers that develop new products and product enhancements, provide customer application support and test products for safety, reliability, and regulatory compliance.

Segments

The Company conducts its business through three reportable segments: Electronics, Automotive, and Industrial. For each of these segments, the Company designs, manufactures and sells circuit protection products that protect against electrostatic discharge, power surges, short circuits, voltage spikes and other harmful occurrences; power control products that safely and efficiently control power to mitigate equipment damage, minimize electrical hazards and improve productivity; and sensor products used to identify and detect temperature, proximity, flow speed and fluid level in various applications. 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 12, *Segment Information*, of the Notes to Consolidated Financial Statements included in this Annual Report.

- *Electronics Segment:* Consists of one of the broadest product offerings in the industry, including fuses and fuse accessories, positive temperature coefficient (“PTC”) resettable fuses, polymer electrostatic discharge (“ESD”) suppressors, varistors, gas discharge tubes; semiconductor and power semiconductor products such as discrete transient voltage suppressor (“TVS”) diodes, TVS diode arrays, protection and switching thyristors, silicon carbide, metal-oxide-semiconductor field-effect transistors (“MOSFETs”) and silicon carbide diodes; and insulated gate bipolar transistors (“IGBT”) technologies. The segment covers a broad range of end markets, including consumer electronics, automotive electronics, IT and telecommunications equipment, medical devices, lighting products, and white goods.
- *Automotive Segment:* Consists of a wide range of circuit protection, power control and sensing technologies for global original equipment manufacturers (“OEMs”), Tier-I suppliers and parts distributors in the automotive, commercial vehicle, and agricultural and construction equipment industries. Passenger car fuse products include fuses and fuse accessories, including blade fuses, battery cable protectors, varistors, high-current fuses, and high-voltage fuses for hybrid and electric vehicles. Commercial vehicle products include fuses, switches, relays, and power distribution modules for the commercial vehicle industry. Automotive sensor products include a wide range of automotive and commercial vehicle products designed to monitor the passenger compartment occupants and environment as well as the vehicle’s powertrain, emissions, speed and suspension.
- *Industrial Segment:* Consists of power fuses, protection relays and controls and other circuit protection products for use in heavy industrial applications such as mining, oil and gas, energy storage, construction, HVAC systems, elevator and other industrial equipment.

Strategy

In December 2016, the Company announced its updated strategic plan. Building upon its achievements from its previous five-year plan and leveraging the global mega trends of safety, energy efficiency and the connected world, the Company is targeting accelerated annual organic growth of 5-7 percent and annual growth from strategic acquisitions of 5-7 percent. The Company’s strategic goals include the continuing growth of its circuit protection platform, accelerating growth in its power control platform and doubling its sensor platform over the next four years. The Company expects to do this through content and share gains, targeting underpenetrated geographies and markets, leveraging innovation and capitalizing on growth opportunities where technologies and applications are converging across its segments, while continuing to acquire and integrate businesses that fit its strategic focus areas.

Recent Acquisitions

- *IXYS Corporation:* On January 17, 2018, the Company acquired IXYS Corporation “IXYS”, a global pioneer in the power semiconductor and integrated circuit markets with a focus on medium to high voltage power control semiconductors across the industrial, communications, consumer and medical markets. IXYS has a broad customer base, serving more than 3,500 customers through its direct sales force and global distribution partners. The purchase price for IXYS was approximately \$856.5 million, which included consideration of cash, Littelfuse common stock, and the value of converted, or cash settled IXYS equity awards. For the twelve months ended December 30, 2017, IXYS generated net sales of approximately \$340 million. IXYS’ operations will be included in the Electronics segment.
- *U.S. Sensor:* On July 7, 2017, the Company acquired the assets of U.S. Sensor Corporation (“U.S. Sensor”) for \$24.3 million. U.S. Sensor manufactures a variety of high quality negative temperature coefficient thermistors probes and assemblies. The acquisition expands the Company’s existing sensor portfolio in several key electronics and industrial end markets. The operations of U.S. Sensor are included in the Electronics segment.

- *Monolith Semiconductor Inc.:* On February 28, 2017, pursuant to a Securities Purchase Agreement between the Company and the stockholders of Monolith Semiconductor Inc. (“Monolith”), a U.S. start-up Company developing silicon carbide technology, the Company increased its investment in Monolith by acquiring approximately 62% of the outstanding common stock of Monolith for \$15.0 million. The agreement includes provisions whereby the Company will acquire the remaining outstanding stock of Monolith at a time or times based on Monolith meeting certain technical and sales targets. The operations of Monolith are included in the Electronics segment.
- *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 was 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.

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:

(in thousands)	Fiscal Year		
	2017	2016	2015
Electronics.....	\$ 661,928	\$ 535,191	\$ 405,497
Automotive.....	453,227	415,200	339,957
Industrial	106,379	105,768	122,410
Total	<u>\$ 1,221,534</u>	<u>\$ 1,056,159</u>	<u>\$ 867,864</u>

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

(in thousands)	Fiscal Year		
	2017	2016	2015
Americas	\$ 436,559	\$ 411,105	\$ 401,173
Europe	243,858	200,277	152,661
Asia-Pacific	541,117	444,777	314,030
Total	<u>\$ 1,221,534</u>	<u>\$ 1,056,159</u>	<u>\$ 867,864</u>

The Company's products are sold worldwide through distributors, a direct sales force and manufacturers' representatives in certain regions. For the fiscal year 2017, approximately 69% of the Company's net sales were to customers outside the United States ("U.S."), including approximately 26% 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 12, *Segment Information*, of the Notes to Consolidated Financial Statements included in this Annual Report.

BUSINESS ENVIRONMENT

Electronics Segment

The Company designs, develops and manufactures a wide range of components and modules that provide circuit protection, power control and sensing for a multitude of electronic and industrial electronics applications. Circuit protection technologies in the Electronics Segment are designed to protect against harmful occurrences like voltage spikes, short circuits, power surges and electrostatic discharge. Products include a vast array of fuses and other circuit protection technologies used in a variety of electronic products including consumer electronics, automotive electronics, IT and telecommunications equipment, medical devices, lighting products, and white goods.

The Company also offers a wide range of power control products used to convert and regulate energy and safely and efficiently control power across a broad spectrum of applications including industrial and automotive power systems, motor drives and power conversion applications. Products include a comprehensive portfolio of semiconductor components including thyristors, rectifiers and fast recovery diodes, IGBTs and wide band gap devices. The acquisition of IXYS is expected to accelerate the Company's growth across the power control market driven by IXYS's extensive power semiconductor portfolio in medium and high power applications and technology expertise. With IXYS, the Company will be able to diversify and expand its presence within industrial electronics markets, leveraging the strong IXYS industrial OEM customer base. The Company also expects to increase long-term penetration of its power semiconductor portfolio in automotive markets, expanding its global content per vehicle.

Another strategic area of focus in the Electronics Segment is the Company's continued investment in silicon carbide, a promising semiconductor material that enables more efficient power conversion than traditional silicon-based devices. The Company increased its investment in Monolith during 2017 and introduced its first silicon carbide products to the market.

As products become increasingly sophisticated, smarter and more connected, the need for complex sensor technologies continues to grow. Sensors products in the Electronics Segment are used in a wide variety of applications including appliances, security systems, medical equipment, and consumer and industrial controls. With the acquisition of U.S. Sensor, the Company has added temperature sensors to its existing portfolio.

Automotive Segment

The Company is a primary supplier of fuses and circuit protection technologies to global automotive OEMs, through sales made to Tier One automotive 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.

Circuit protection needs in the automotive space are expected to generate additional content-per-vehicle with the increased electrification of vehicles, as well as the continued development and market penetration of hybrid and electric vehicles.

Over the past several years, 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 and 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 continues to expand its automotive sensor business and products and expects this market to provide meaningful growth opportunities over the long-term. Products sold into the market include a wide range of automotive and commercial vehicle sensors designed to monitor the passenger compartment occupants and environment as well as the vehicle's powertrain, emissions, speed and suspension. A majority of the Company's automotive sensor sales are made to Tier One suppliers.

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 protection relays for the global mining, oil and gas, and general industrial markets as well as portable custom electrical equipment for the mining industry in Canada. The Company sees growth opportunity by expanding both the geographic markets and distributors it serves as well as continuing to invest in new product development.

Power fuses are used to protect circuits in various types of industrial equipment and in industrial and commercial buildings. Protection relays are used to protect personnel and equipment in harsh environments such as 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 such as mines, where standard industrial electrical gear will not meet customer needs for reliability and durability.

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; mainland China; Japan; Italy; the Philippines; Taiwan, China; Lithuania; Germany; and Mexico. The Company maintains 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 24 months based on the complexity of development, with continuous efforts to reduce the development cycle. During fiscal years 2017, 2016, and 2015, the Company expended \$50.5 million, \$42.2 million, and \$30.8 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. While, 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 majority of the Electronics segment's products are sold through distribution, including global distributors such as Arrow Electronics, Inc., 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 6,700 customers and distributors worldwide. Sales to Arrow Electronics, Inc., which were reported in our Electronics, Automotive and Industrial segments were 10.6% of consolidated net sales in 2017 but less than 10% in 2016 and 2015. No other single customer accounted for more than 10% of net sales during any of the last three years. During fiscal 2017, 2016, and 2015, net sales to customers outside the U.S. accounted for approximately 69%, 66%, and 60%, 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 Eaton Corporation, Pacific Engineering, MTA, CTS Corporation, Amphenol Corporation, 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 30, 2017 was approximately \$243.7 million, compared to \$110.3 million at December 31, 2016 with the increase primarily driven by the Electronics segment. Substantially all of the orders currently in backlog are scheduled for delivery in 2018.

EMPLOYEES

As of December 30, 2017, the Company employed approximately 10,700 employees worldwide. Approximately 20% of the Company's total workforce was employed under collective bargaining agreements at December 30, 2017. In Mexico, the Company has two separate collective bargaining agreements, one for 1,500 employees in Piedras Negras, expiring January 31, 2020 and the second for 650 employees in Matamoros, expiring January 1, 2020. 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.

The Company's business, financial condition, and results of operations are subject to various risks and uncertainties, including the risk factors it has identified below. Any of the following risk factors could materially and adversely affect the Company's business, financial condition, or results of operations. These factors are not necessarily listed in order of importance.

The Company's industry is subject to intense competitive pressures.

The Company operates in markets that are highly competitive. The Company competes on the basis of price, quality, service, and / or brand name across the industries and markets it serves. Competitive pressures could affect the prices the Company is able to charge its customers or the demand for its products.

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

The Company engages in strategic acquisitions and may not realize the anticipated benefits of the acquisitions and / or may encounter difficulties in integrating these businesses.

The Company seeks to grow through strategic acquisitions. In the past, the Company has acquired a number of businesses or companies and additional product lines and assets. The Company intends to continue to expand and diversify its operations with additional future acquisitions.

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

The Company may also discover liabilities or deficiencies associated with the companies or assets it acquires that were not identified in advance, which may result in significant unanticipated costs. The effectiveness of the Company's due diligence review and its 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 acquired or their representatives, as well as the limited amount of time in which acquisitions are executed. In addition, the Company may fail to accurately forecast the financial impact of an acquisition transaction, including tax and accounting charges. Acquisitions may also result in recording of significant additional expenses to the results of operations and recording of substantial intangible assets on the balance sheet upon closing. Any of these factors may adversely affect the Company's financial condition or results of operations.

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

In the past, the Company has taken actions to restructure and optimize its production and manufacturing capabilities and efficiencies through relocations, consolidations, plant closings or asset sales. In the future, the Company 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. The Company may be unsuccessful in any of its current or future efforts to restructure or consolidate its business. 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 the Company's business, financial condition or results of operations.

The Company may be unable to manufacture and deliver products in a manner that is responsive to its customers' needs.

The end markets for the Company's 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 its existing products obsolete and unmarketable before it can recover any or all of its research, development, and commercialization expenses on capital investments. Furthermore, the life cycles of its products may change and are difficult to estimate.

The Company's future success will depend upon its ability to manufacture and deliver products in a manner that is responsive to its customers' needs. The Company 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 its customers. The Company invests heavily in research and development without knowing that it will recover these costs. The Company's competitors may develop products or technologies that will render its products non-competitive or obsolete. If it cannot develop and market new products or product enhancements in a timely and cost-effective manner, its business, financial condition, and results of operations could be materially adversely affected.

The Company's ability to manage currency or commodity price fluctuations or supply shortages is limited.

As a resource-intensive manufacturing operation, the Company is exposed to a variety of market and asset risks, including the effects of changes in commodity prices, foreign currency exchange rates, and interest rates. The Company has multiple sources of supply for the majority of its commodity requirements. However, significant shortages that disrupt the supply of raw materials or result in price increases could affect prices the Company charges its customers, its product costs, and the competitive position of its products and services. The Company monitors and manages these exposures as an integral part of its overall risk management program, which recognizes the unpredictability of markets and seeks to reduce the potentially adverse effects on its results. Nevertheless, changes in currency exchange rates, commodity prices and interest rates cannot

always be predicted. In addition, because of intense price competition and the Company's high level of fixed costs, it 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 the Company's results of operations and financial condition. In addition, significant portions of its revenues and earnings are exposed to changes in foreign currency rates. As it operates in multiple foreign currencies, changes in those currencies relative to the U.S. dollar will impact its revenues and expenses. The impact of possible currency devaluation in countries experiencing high inflation rates or significant exchange fluctuations can impact the Company's 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*.

The Company's effective tax rate could materially increase as a consequence of various factors, including interpretations and administrative guidance in regard to the Tax Act (defined below), U.S. and/or international tax legislation, mix of the Company's earnings by jurisdiction, and U.S. and foreign jurisdictional tax audits.

On December 22, 2017, the U.S. enacted legislation commonly referred to as the Tax Cuts and Jobs Act (the "Tax Act"). Among other things, the Tax Act reduces the U.S. corporate federal income tax rate from 35% to 21%, adds base broadening provisions which limit deductions and address tax efficient international structures, imposes a one-time tax (the "Toll Charge") on accumulated earnings of certain non-U.S. subsidiaries and enables repatriation of earnings of non-U.S. subsidiaries free of U.S. federal income tax. Other than the Toll Charge (which is applicable to the Company for 2017), the provisions will generally be applicable to the Company in 2018 and beyond. In accordance with the guidance provided in SEC Staff Accounting Bulletin ("SAB") No. 118, in the fourth quarter of 2017 the Company recorded a charge of \$47 million as a provisional reasonable estimate of the impact of the Tax Act, including \$49 million for the Toll Charge net of \$2 million for other net tax benefits. The Company is continuing to analyze the Tax Act and plans to finalize the estimate within the measurement period outlined in SAB No.118. The final charge may differ from the provisional reasonable estimate (and such difference may be material) if provisions of the Tax Act, and their interaction with other provisions of the U.S. Internal Revenue Code, are interpreted differently than interpretations made by the Company in determining the estimate, whether through issuance of administrative guidance, or through further review of the Tax Act by the Company and its advisors. Depending upon future interpretations and administrative guidance in respect of the Tax Act's base broadening provisions, the Tax Act could have a material adverse effect on the Company's effective tax rate and cash flows.

The Company is subject to taxes in the U.S. and numerous non-U.S. jurisdictions. Therefore, it is subject to changes in tax laws in each of these jurisdictions and such changes could have a material adverse effect 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. In addition, certain non-U.S. jurisdictions are considering tax legislation based upon recommendations made by the Organization 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.

A decline in expected profitability of the Company or individual reporting units of the Company could result in the impairment of assets, including goodwill and other long-lived assets.

The Company holds material amounts of goodwill and other long-lived assets on its balance sheet. A decline in expected profitability, particularly if there is a decline in the global economy, could call into question the recoverability of the Company's related goodwill and other long-lived tangible and intangible assets and require the write down or write off of these assets. Such an occurrence has had and could continue to have a material adverse effect on the Company's consolidated results of operations, financial position and cash flows.

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

The Company's revenues may vary significantly from period to period.

The Company's revenues may vary significantly from one accounting period to another due to a variety of factors including:

- changes in customers' buying decisions;
- changes in demand for its products;
- changes in its distributor inventory stocking;
- the Company's product mix;
- the Company's effectiveness in managing manufacturing processes;
- costs and timing of its component purchases;
- the effectiveness of its inventory control;
- the degree to which it is able to utilize its available manufacturing capacity;
- the Company's ability to meet delivery schedules;
- general economic and industry conditions;
- local conditions and events that may affect its 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 the Company.

The bankruptcy or insolvency of a major customer could result in lower sales revenue and cause a material adverse effect on the Company's 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 the Company's products, which likely would cause a decrease in sales revenue and have a substantial adverse impact on the Company's business, financial condition and results of operations.

The Company is exposed to political, economic, and other risks that arise from operating a multinational business.

The Company has significant operating activities in numerous countries around the globe that contribute significantly to its revenues and earnings. Serving a global customer base and remaining competitive in the global marketplace requires the Company to place its production in countries outside the U.S., including emerging markets, to capitalize on market opportunities and maintain a cost-efficient structure. In addition, the Company sources a significant amount of raw materials and other components from third-party suppliers in low-cost countries. The Company's 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 the Company's ability to enforce legal rights and remedies.

Any of these factors could have a material adverse effect on the Company's business, financial condition and results of operations.

Disruptions in the Company's manufacturing, supply or distribution chain could result in an adverse impact on results of operations.

The Company sources materials and sell product through various international network channels. A disruption could occur within the Company's 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 the Company's ability to manufacture or deliver its products in a timely manner, impair its ability to meet customer demand for products and result in lost sales or damage to its reputation. Such a disruption could have a material adverse effect upon the Company's business, financial condition or results of operations.

The inability to maintain access to capital markets may adversely affect the Company's business and financial results.

The Company's ability to invest in its 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 the Company is unable to access the capital markets or bank credit facilities, it could experience a material adverse effect on its business, financial condition, and results of operations.

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

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

The volatility of the Company's stock price could affect the value of an investment in the Company's stock and future financial position.

The market price of the Company's stock can fluctuate widely. Between December 31, 2016 and December 30, 2017, the closing sale price of the Company's common stock ranged between a low of \$146.94 and a high of \$215.00. The volatility of the 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 the Company's results of operations, or the volatility of its revenues as discussed above under "The Company's Revenues May Vary Significantly from Period to Period." The historic market price of the Company's common stock may not be indicative of future market prices. The Company may not be able to sustain or increase the value of its common stock. Declines in the market price of the Company's stock could adversely affect the Company's 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 the Company's common stock.

The Company is exposed to, and may be adversely affected by, potential security breaches or other disruptions to its information technology systems and data security.

The Company relies on its information technology systems and networks in connection with many of its business activities. Some of these networks and systems are managed by third-party service providers and are not under the Company's direct control. The Company's operations routinely involve receiving, storing, processing and transmitting sensitive information pertaining to its business, customers, dealers, suppliers, employees, and other sensitive matters. As with most companies, the Company has experienced cyber-attacks, attempts to breach its 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 the Company's 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, the Company 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 the Company to legal or regulatory sanctions or damage the Company's reputation with customers, dealers, suppliers, and other stakeholders. The Company continuously seeks 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 the Company's competitive position, reputation, results of operations, financial condition, and cash flows.

The Company's business may be interrupted by labor disputes or other interruptions of supplies.

A work stoppage could occur at certain of the Company's facilities, most likely as a result of disputes under collective bargaining agreements or in connection with negotiations of new collective bargaining agreements. In addition, the Company 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 its suppliers. A significant work stoppage, or an interruption or shortage of supplies for any reason, if protracted, could substantially adversely affect the Company's business, financial condition, and results of operations. The transfer of the Company's manufacturing operations and changes in its distribution model could disrupt operations for a limited time.

Failure to attract and retain qualified personnel could affect the Company's business results.

The Company's success, both generally and in connection with mergers and acquisitions, depends on the Company's ability to attract, retain, and motivate a highly-skilled and diverse management team and workforce. Failure to ensure that the Company has the depth and breadth of personnel with the necessary skill set and experience could impede its ability to deliver growth objectives and execute the Company's 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 the Company's ability to conduct research activities successfully and develop marketable products.

Environmental liabilities could adversely impact the Company's 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 the Company's manufacturing processes or in its finished goods. These environmental regulations have required the Company to expend a portion of its resources and capital on relevant compliance programs. Under these laws and regulations, the Company could be held financially responsible for remedial measures if its current or former properties are contaminated or if it sends waste to a landfill or recycling facility that becomes contaminated, even if the Company did not cause the contamination. The Company may be subject to additional common law claims if it releases 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 the Company to significant liabilities and could have a material adverse effect on its business, financial condition or results of operations.

In the conduct of manufacturing operations, the Company has handled and does 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, the Company operates or owns 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 the Company 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.

Customer demands and new regulations related to conflict-free minerals may force the Company 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, the Company cannot be certain that it will be able to obtain necessary metals in sufficient quantities or at competitive prices. Also, the Company may face challenges with its customers and suppliers if it is unable to sufficiently verify that the metals used in its products are "conflict free."

The Company may not be successful protecting its patents and trademarks.

The Company considers its intellectual property, including patents, trade names, and trademarks, to be of significant value to its business as a whole. The Company's 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. The Company develops and acquires new intellectual property on an ongoing basis and consider all of its 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 its product lines, the Company believes that the loss or expiration of any single intellectual property right would not have a material adverse effect upon its business, financial condition or results of operations; however, multiple losses or expirations could have a material adverse effect upon the Company's business, financial condition or results of operations.

ITEM 1B. UNRESOLVED STAFF COMMENTS.

None.

ITEM 2. PROPERTIES.

The Company's operations are located in approximately 50 owned or leased facilities worldwide, totaling approximately 2.8 million square feet. The Company's owned facilities include approximately 1.8 million square feet and the Company's leased facilities include approximately 1.0 million square feet. The Company's corporate headquarters is located in the U.S. in Chicago, Illinois.

The Company's primary North American manufacturing facilities include: (i) Saskatoon, Canada and Rapid City, South Dakota which manufacture products for the Industrial segment, (ii) Melchor Muzquiz and Matamoros, Mexico which manufacture products primarily for the Automotive segment, and (iii) Piedras Negras, Mexico, which primarily manufactures products for the Automotive segment as well as the Industrial segment.

The Company's primary European manufacturing facilities include Kaunas, Lithuania, and Legnago and Ozegna, Italy, all of which manufacture products for the Automotive segment.

The Company's primary Asia-Pacific manufacturing facilities include: (i) Lipa City, Philippines, (ii) Inashiki, Japan, and (iii) Suzhou, Wuxi, Kunshan, Dongguan, and Shanghai, China, which manufacture products for the Electronics segment as well as the Automotive segment.

The Company also has engineering and research and development, sales, and distribution centers located in Asia, North America, and Europe.

The Company believes its facilities are adequate to meet its requirements for the foreseeable future.

ITEM 3. LEGAL PROCEEDINGS.

The Company is not a party to any material legal proceedings, other than routine litigation incidental to its 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 MarketSM.

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 2017 and 2016:

	2017				2016			
	4Q	3Q	2Q	1Q	4Q	3Q	2Q	1Q
High.....	\$ 215.00	\$ 199.26	\$ 173.14	\$ 167.21	\$ 156.54	\$ 130.79	\$ 123.15	\$ 124.59
Low	182.03	161.65	149.81	146.94	124.32	113.42	106.26	90.61
Close	197.82	195.88	165.00	159.91	151.77	128.81	116.56	123.40
Dividends	0.37	0.37	0.33	0.33	0.33	0.33	0.29	0.29

Number of Holders

As of February 16, 2018, there were 79 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 30, 2017.

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, 2017 to April 30, 2018. The Company did not repurchase any shares of its common stock during fiscal 2017 and 1,000,000 shares may yet be purchased under the program as of December 30, 2017.

The table below presents shares of the Company's common stock which were acquired by the Company during the three months ended December 30, 2017:

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

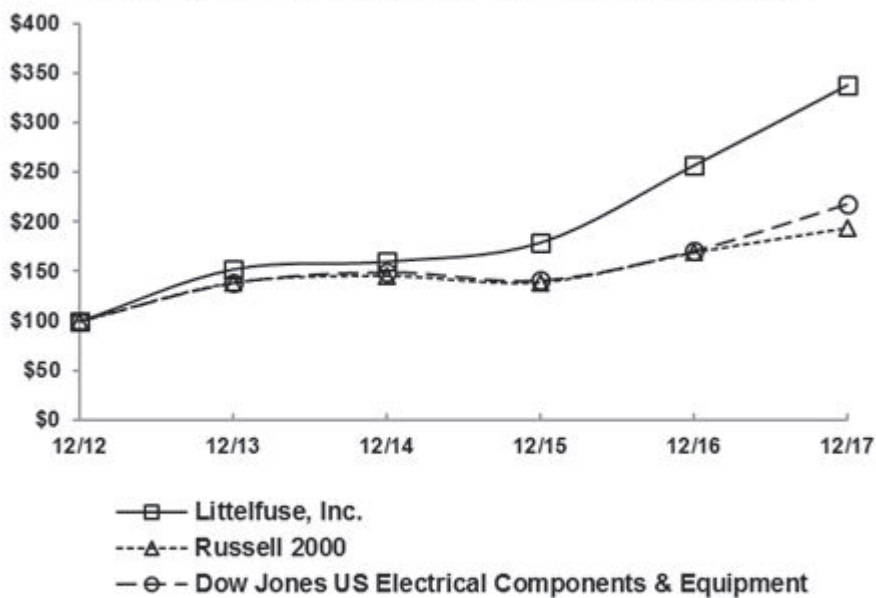
Stock Performance Graph

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.

COMPARISON OF 5 YEAR CUMULATIVE TOTAL RETURN*

Among Littelfuse, Inc., the Russell 2000 Index and the Dow Jones US Electrical Components & Equipment Index



*\$100 invested on 12/31/12 in stock or index, including reinvestment of dividends.

Fiscal year ending December 31.

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	12/12	12/13	12/14	12/15	12/16	12/17
Littelfuse, Inc.	\$ 100	\$ 152	\$ 160	\$ 179	\$ 257	\$ 337
Russell 2000	100	139	146	139	169	194
Dow Jones US Electrical Components & Equipment	100	138	149	141	171	217

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 29, 2012 and reinvestment of all dividends is assumed. In the case of the Company, a \$100 investment made on December 29, 2012 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 28, 2013, December 27, 2014, January 2, 2016, December 31, 2016, and December 30, 2017 for the fiscal years 2013, 2014, 2015, 2016, and 2017, 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:

(in thousands, except per share data)	2017	2016	2015	2014	2013
Net sales	\$ 1,221,534	\$ 1,056,159	\$ 867,864	\$ 851,995	\$ 757,853
Gross profit	506,533	413,117	330,499	324,428	296,232
Operating income	218,511	130,644	104,157	133,830	129,881
Net income	119,519	104,488	80,866	98,100	87,814
Per share of common stock:					
Income from continuing operations					
- Basic	5.27	4.63	3.58	4.35	3.94
- Diluted	5.21	4.60	3.56	4.32	3.90
Cash dividends paid	1.40	1.24	1.08	0.94	0.84
Cash and cash equivalents.....	429,676	275,124	328,786	297,571	305,192
Total assets.....	1,740,102	1,491,194	1,065,475	1,069,859	1,024,373
Short-term debt.....	6,250	6,250	87,000	88,500	126,000
Long-term debt, less current portion	489,361	447,892	83,753	105,691	93,750

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

The following discussion of Littelfuse's financial condition and results of operations should be read together with the Consolidated Financial Statements and notes to those statements included in Item 8 of Part II of this Annual Report on Form 10-K.

Business

For a description of the Company's business, segments and product offerings, see Item 1, Business.

2017 EXECUTIVE OVERVIEW

Net sales increased by \$165.4 million, or 15.7%, in 2017 compared to 2016. The increase in net sales was primarily driven by the acquisitions of ON Portfolio, PolySwitch, and U.S. Sensor, higher volume and growth across each of the Electronics segment reporting units and volume growth in the Automotive segment driven by increases in passenger car and commercial vehicle businesses.

For the year ended December 30, 2017, the Company recognized net income of \$119.5 million, or \$5.21 per diluted share compared to net income of \$104.5 million, or \$4.60 per diluted share for the year ended December 31, 2016. Net income increased due to the impacts of the acquisitions and volume increases, higher gross profit largely driven by a favorable mix within the Electronics segment, a \$14.8 million impairment to goodwill and other intangible assets impairment charge recorded in the Custom Products reporting unit in 2016 partially offset by higher income tax expense primarily driven by the enactment of the Tax Cuts and Jobs Act in December 2017.

Net cash provided by operating activities was \$269.2 million for the year ended December 30, 2017 as compared to \$180.1 million for the year ended December 31, 2016. The increase in net cash provided by operating activities reflected higher earnings, lower cash taxes, lower acquisition-related and integration payments and the impact of working capital changes largely driven by collections efficiency and lower vendor prepayments.

On January 17, 2018, the Company acquired IXYS Corporation "IXYS", a global pioneer in the power semiconductor and integrated circuit markets with a focus on medium to high voltage power control semiconductors across the industrial,

communications, consumer and medical markets. IXYS has a broad customer base, serving more than 3,500 customers through its direct sales force and global distribution partners. The purchase price for IXYS was approximately \$856.5 million, which included consideration of cash, Littelfuse common stock, and the value of converted or cash settled IXYS equity awards. For the twelve months ended December 30, 2017, IXYS generated net sales of approximately \$340 million. IXYS' operations will be included in the Electronics segment.

On July 7, 2017, the Company acquired the assets of U.S. Sensor for \$24.3 million. The acquired business, which is included in the Electronics segment expands the Company's existing sensor portfolio in several key electronics and industrial end markets. U.S. Sensor manufactures a variety of high quality negative temperature coefficient thermistors as well as thermistor probes and assemblies. Product lines also include thin film platinum resistance temperature detectors ("RTDs") and RTD assemblies.

On February 28, 2017, pursuant to a Securities Purchase Agreement between the Company and the stockholders of Monolith, a U.S. start-up Company developing silicon carbide technology, and conditioned on Monolith achieving a product development milestone and other provisions, the Company acquired approximately 62% of the outstanding common stock of Monolith for \$15 million. This was in addition to the Company's initial investment of \$3.5 million in the preferred stock of Monolith Semiconductor in December 2015. Monolith operations are included in the Electronics segment.

On October 13, 2017, the Company amended its existing credit agreement to increase the unsecured revolving credit facility from \$575.0 million to \$700.0 million, increase the unsecured term loan credit facility from \$125.0 million to \$200.0 million and to extend the expiration date from March 4, 2021 to October 13, 2022. The credit agreement also includes the option for the Company to increase the size of the revolving credit facility and the term loan facility by up to an additional \$300.0 million, in the aggregate, subject to the satisfaction of certain conditions set forth in the credit agreement. Additionally, on November 15, 2017, the Company entered into a note purchase agreement pursuant to which the Company issued and sold \$175 million in aggregate principal amount of senior notes. On January 16, 2018, \$50 million in aggregate principal amount of 3.48% Senior Notes, Series A, due February 15, 2025 and \$125 million in aggregate principal amount of 3.78% Senior Notes, Series B, due February 15, 2030 were funded.

OUTLOOK

Vision and Strategy

The Company works with its customers to design and develop technologies that help them build safer, more reliable and more efficient products for the connected world in virtually every market that uses electrical energy, ranging across consumer electronics, IT and telecommunication applications, industrial electronics, automobiles and other transportation, and heavy industrial applications. Built upon that framework, the Company's strategy is centered on growing its core circuit protection business, accelerating its growth in power control, and doubling its sensor platform.

The Company's strategic plan is focused on maximizing shareholder value by driving profitable sales growth, earnings per share growth, strong cash flow generation, and maintaining a balanced approach to capital allocation. The Company pursues the following major strategic initiatives, which are summarized below, along with more specific areas of focus.

Strategic Objective	2018 and Future Priorities
Double digit sales growth	<ul style="list-style-type: none"> ● Grow through increased product content with existing customers and increased market share ● Expand portfolio into new and underpenetrated geographies and end markets ● Increase innovation capabilities and investments ● Expand presence in products and applications that are converging across business segments ● Targeted mergers and acquisitions
EPS growth	<ul style="list-style-type: none"> ● Focus on higher profitability growth opportunities ● Grow operating margins through operational excellence ● Disciplined approach to managing costs
Cash flow and liquidity	<ul style="list-style-type: none"> ● Disciplined management of working capital ● Prudent deployment of capital ● Disciplined approach to mergers and acquisitions ● Grow dividend in line with earnings ● Periodic share repurchases

The Company's strategy is to generate profitable sales growth. In order to accomplish this, The Company is focusing on accelerating organic growth by increasing its content and share gains, enhancing technology efforts to drive innovation, capitalizing on cross segment opportunities, and gaining traction in underpenetrated geographies and markets. The Company will continue to make targeted strategic acquisitions that align to its strategy and financial targets to support new business, products, markets, and technologies while leveraging existing customers.

Management believes that sustaining profitability through a combination of profitable organic growth and acquisitions is critical to the Company's competitiveness, while enhancing value the Company delivers to its customers. In addition, the Company continues to implement initiatives across all platforms to enhance productivity while managing its cost structure, including integration of operations and streamlining administrative and support activities to drive operating margins.

The Company seeks to deploy its capital using a balanced approach. Priorities for capital deployment, over time, include investments to drive increased organic growth, targeted acquisitions that align to the Company's strategic and financial metrics and returning capital to shareholders through dividends and periodic share repurchases.

The Company uses several key indicators to gauge progress toward achieving these objectives. These indicators include organic sales growth, operating margins, cash flow from operations and capital expenditures. The Company targets long-term sales double digit sales growth, split between 5-7% annual organic sales growth and 5-7% annual growth from strategic acquisitions, while targeting operating margins between 17% and 19% and double-digit earnings per share growth. Cash flow from operations less capital expenditures is targeted to approximate net income but in any given year can be significantly impacted by the timing of non-recurring or infrequent expenditures.

Significant Accounting Policies and Critical Estimates

Critical Accounting Policies and Estimates

The preparation of financial statements in conformity with GAAP requires management to make estimates and assumptions that affect the reported amounts of assets and liabilities, the disclosure of contingent assets and liabilities at the date of the financial statements and the reported amounts of revenues and expenses during the reporting period. The Company's most critical accounting policies are those that are most important to the portrayal of its financial condition and results of operations, and which require the Company to make its most difficult and subjective judgments, often as a result of the need to make estimates of matters that are inherently uncertain. The Company has identified the following as its most critical accounting policies and judgments. Although management believes that its estimates and assumptions are reasonable, they are based upon information available when they are made, and therefore, actual results may differ from these estimates under different assumptions or conditions. The Company has reviewed these critical accounting policies and related disclosures with the Audit Committee of its Board of Directors. Significant accounting policies are more fully described in the Notes to Consolidated Financial Statements included elsewhere in this Annual Report.

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 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 2017, 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 \$1.6 million for the U.S. Sensor acquisition in 2017.

Goodwill

The Company’s methodology for allocating the purchase price of acquisitions is based on established valuation techniques that reflect the consideration of a number of factors, including valuations performed by third-party appraisers when appropriate. Goodwill is measured as the excess of the cost of an acquired entity over the fair value assigned to identifiable assets acquired and liabilities assumed. Based on its current organization structure, the Company has seven reporting units for which cash flows are determinable and to which goodwill has been allocated. Goodwill is either assigned to a specific reporting unit or allocated between reporting units based on the relative excess fair value of each reporting unit.

The Company annually tests goodwill for impairment on the first day of its fiscal fourth quarter, or more frequently if an event occurs or circumstances change that would more likely than not reduce the fair value of a reporting unit below its carrying value. The Company also performs an interim review for indicators of impairment each quarter to assess whether an interim impairment review is required for any reporting unit. As part of its interim reviews, management analyzes potential changes in the value of individual reporting units based on each reporting unit’s operating results for the period compared to expected results as of the prior year’s annual impairment test. In addition, management considers how other key assumptions, including discount rates and expected long-term growth rates, used in the last annual impairment test, could be impacted by changes in market conditions and economic events. Based on the interim assessments, management concluded that no events or changes in circumstances indicated that it was more likely than not that the fair value for any reporting unit had declined below its carrying value.

Quantitative Assessment for Impairment

For the seven reporting units with goodwill, the Company compared the estimated fair value of each reporting unit to its carrying value. If the carrying value of a reporting unit exceeded the estimated fair value, the difference between the estimated fair value and carrying value is recorded as the amount of the goodwill impairment charge. The results of the goodwill impairment test as of October 1, 2017 indicated that the estimated fair values for each of the seven reporting units with

goodwill exceeded their respective carrying values. Accordingly, there were no goodwill impairment charges recorded as part of the Company's 2017 annual goodwill impairment test.

As part of its impairment test for these reporting units, the Company engaged a third-party appraisal firm to assist in the Company's determination of the estimated fair values. This determination included estimating the fair value of each reporting unit using both the income and market approaches. The income approach requires management to estimate a number of factors for each reporting unit, including projected operating results, economic projections, anticipated future cash flows, discount rates and the allocation of shared or corporate items. The market approach estimates fair values using comparable marketplace fair value data from within a comparable industry grouping. The Company weighted both the income and market approach equally to estimate the concluded fair value of each reporting unit. The determination of fair value requires the Company to make significant estimates and assumptions, which primarily include, but are not limited to: the selection of appropriate peer group companies; control premiums appropriate for acquisitions in which the Company competes; the discount rate; terminal growth rates; and forecasts of revenue, operating income, depreciation and amortization and capital expenditures.

Goodwill Impairment Assumptions

Although the Company believes its estimates of fair value are reasonable, actual financial results could differ from those estimates due to the inherent uncertainty involved in making such estimates. Changes in assumptions concerning future financial results or other underlying assumptions could have a significant impact on the fair value of the reporting units. Future declines in the overall market value of the Company's equity may also result in a conclusion that the fair value of one or more reporting units has declined below its carrying value.

One measure of the sensitivity of the amount of goodwill impairment charges to key assumptions is the amount by which each reporting unit "passed" (fair value exceeds the carrying value") the goodwill impairment test. All seven of the reporting units passed the goodwill impairment test, with fair values that exceeded the carrying values by between 25% and 314% of their respective estimated fair values. As of the most recent annual test conducted on October 1, 2017, the Company noted that the excess of fair value over the carrying value, was 161%, 314%, 247%, 218%, 100%, 25%, and 248% for its reporting units: Electronics (non-silicon), Electronics (silicon), Passenger Car, Commercial Vehicle Products, Sensors, Relays, and Power Fuse, respectively. Relatively small changes in the Company's key assumptions would not have resulted in any reporting units failing the goodwill impairment test.

Generally, changes in estimates of expected future cash flows would have a similar effect on the estimated fair value of the reporting unit. That is, a 1.0% decrease in estimated annual future cash flows would decrease the estimated fair value of the reporting unit by approximately 1.0%. The estimated long-term net sales growth rate can have a significant impact on the estimated future cash flows, and therefore, the fair value of each reporting unit. A 1.0% decrease in the long-term net sales growth rate would have resulted in no reporting units failing the goodwill impairment test. Of the other key assumptions that impact the estimated fair values, most reporting units have the greatest sensitivity to changes in the estimated discount rate. The estimated discount rate was 9.6% for all reporting units except for Relays which had a discount rate of 10.1%. A 1.0% increase in the estimated discount rates would have resulted in no reporting units failing the annual goodwill impairment test. The Company believes that its estimates of future cash flows and discount rates are reasonable, but future changes in the underlying assumptions could differ due to the inherent uncertainty in making such estimates. Additionally, price deterioration or lower volume could have a significant impact on the fair values of the reporting units.

Long-Lived Assets

The Company evaluates the recoverability of other long-lived assets, including property, plant and equipment and certain identifiable intangible assets, whenever events or changes in circumstances indicate that the carrying value of an asset or asset group may not be recoverable. Factors which could trigger an impairment review include significant underperformance relative to historical or projected operating results, significant changes in the manner of use of the assets or the strategy for the overall business, a significant decrease in the market value of the assets or significant negative industry or economic trends. When the Company determines that the carrying value of long-lived assets may not be recoverable based upon the existence of one or more of the indicators, the assets are assessed for impairment based on the estimated future undiscounted cash flows expected to result from the use of the asset and its eventual disposition. If the carrying value of an asset exceeds its estimated future undiscounted cash flows, an impairment loss is recorded for the excess of the asset's carrying value over its fair value. During the year ended December 30, 2017, the Company recognized non-cash impairment charges of \$2.9 million related to certain machinery and equipment in the Electronics and Automotive segments due to changes in the expected use of these certain assets. During the year ended December 31, 2016, the Company recognized non-cash

impairment charges totaling \$6.0 million, of which \$2.2 million related to the impairment of certain customer relationship intangible assets in the Custom Products reporting unit within the Industrial segment and \$3.8 million related to the impairment of the Custom Products tradename. The impairment of the customer relationship intangible assets resulted from lower expectations of future revenue to be derived from those relationships while the tradename impairment resulted from lower expectations of future cash flows of the Custom Products reporting unit.

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

The Company records annual income and expense amounts relating to its pension and postretirement benefits plans based on calculations which include various actuarial assumptions including discount rates, expected long-term rates of return and compensation increases. The Company reviews its actuarial assumptions on an annual basis as of the fiscal year-end balance sheet date (or more frequently if a significant event requiring remeasurement occurs) and modifies the assumption based on current rates and trends when it is appropriate to do so. The effects of modifications are recognized immediately on the Consolidated Balance Sheets, but are generally amortized into operating earnings over future periods, with the deferred amount recorded in accumulated other comprehensive income (loss). The Company believes that the assumptions utilized in recording its obligations under its plans are reasonable based on its experience, market conditions and input from its actuaries and investment advisors. The Company maintains several pension plans in international locations. The expected returns on plan assets and discount rates are determined based on each plan’s investment approach, local interest rates and plan participant profiles. The discount rates for the Company’s defined benefit plans primarily in Europe and the Asia-Pacific regions at December 30, 2017 and December 31, 2016 were 3.1% and 2.6%, respectively. During 2015, the Company settled its U.S. defined benefit pension plan as described in Note 8, *Benefit Plans*, of the Notes to Consolidated Financial Statements included in this Annual Report.

A 50 basis point change in the discount rates at December 30, 2017 would have the following effect on the projected benefit obligation:

(in millions)	0.5% Increase	0.5% Decrease
Projected benefit obligation	\$ (5.6)	\$ 6.2

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 \$17.3 million, \$12.8 million, and \$10.7 million in 2017, 2016, and 2015, respectively. Further information regarding this expense is provided in Note 9, *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. U.S. state and non-U.S. income taxes are provided on the portion of foreign income that is expected to be remitted to the U.S. and be taxable (and non-U.S. income taxes are provided on the portion of non-U.S. income that is expected to be remitted to an upper-tier non-U.S. entity).

Deferred income taxes are not provided on the excess of the investment value for financial reporting over the tax basis of investments in those non-U.S. subsidiaries for which such excess is considered to be permanently reinvested in those operations. The Company recognized deferred tax liabilities of \$12.0 million (\$11.8 million for non-U.S. taxes and \$0.2 million for U.S. state taxes) as of December 30, 2017 related to taxes on certain non-U.S. earnings which are not considered to be permanently reinvested. Management regularly evaluates whether foreign earnings are expected to be permanently reinvested. This evaluation requires judgment about the future operating and liquidity needs of the Company's non-U.S. subsidiaries. Changes in economic and business conditions, foreign or U.S. tax laws (such as the Tax Act), or the Company's financial situation could result in changes to these judgments and the need to record additional tax liabilities.

In accordance with the guidance provided in SEC SAB No. 118, in the fourth quarter of 2017 the Company recorded a charge of \$47 million as a provisional reasonable estimate of the impact of the Tax Act, including \$49 million for the Toll Charge net of \$2 million for other net tax benefits. The Company is continuing to analyze the Tax Act and plans to finalize the estimate within the measurement period outlined in SAB No. 118. The final charge may differ from the provisional reasonable estimate if provisions of the Tax Act, and their interaction with other provisions of the U.S. Internal Revenue Code, are interpreted differently than interpretations made by the Company in determining the estimate, whether through issuance of administrative guidance, or through further review of the Tax Act by the Company and its advisors. Aside from these interpretation issues, the final charge may differ from the provisional reasonable estimate due to refinements of accumulated non-U.S. earnings and tax pool data.

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 10, *Income Taxes*, of the Notes to Consolidated Financial Statements included in this Annual Report.

Off-Balance Sheet Arrangements

Other than non-cancellable operating lease commitments, the Company does not have off-balance sheet arrangements, financings or special purpose entities.

Financial Review

In the financial review that follows, the Company discusses its consolidated results of operations, financial position, cash flows and certain other information. This discussion should be read in conjunction with the Company's Consolidated Financial Statements and related notes that begin on page F-1.

RESULTS OF OPERATIONS FOR THE YEAR ENDED DECEMBER 30, 2017 AS COMPARED TO THE YEAR ENDED DECEMBER 31, 2016

The following table summarizes the Company's consolidated results of operations for periods presented. The fiscal year 2017 includes approximately \$10.3 million of non-segment charges. These included acquisition-related and integration costs related to legal, accounting and other expenses associated with completed or pending acquisitions of approximately \$8.0 million, including \$1.6 million of purchase accounting inventory charges related to the Company's 2017 acquisition of U.S. Sensor as described in Note 2, *Acquisitions and Dispositions*, of the Notes to the Consolidated Financial Statements included in this Annual Report, and \$2.2 million of charges related to restructuring and production transfers in the Company's Asia operations.

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 2, *Acquisitions and Dispositions*, 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 2017 also included approximately \$2.4 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 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.

(in thousands, except % change)	Fiscal Year		Change	% Change
	2017	2016		
Sales	\$ 1,221,534	\$ 1,056,159	\$ 165,375	15.7%
Gross profit	506,533	413,117	93,416	22.6%
Operating expenses	288,022	282,473	5,549	2.0%
Operating income	218,511	130,644	87,867	67.3%
Other expense (income), net.....	(1,282)	(1,730)	(448)	(25.9%)
Income before income taxes.....	204,037	123,274	80,763	65.5%
Income taxes	84,518	18,786	65,732	349.9%
Net income	119,519	104,488	15,031	14.4%

Sales

Net sales for 2017 of \$1,221.5 million increased \$165.4 million, or 15.7%, compared to the prior year, resulting from the prior year acquisitions of PolySwitch, ON Portfolio, and Member's and \$5.4 million from the current year U.S. Sensor acquisition. The remaining increase in net sales was primarily due to higher volume across all product lines in the Electronics segment and passenger car and commercial vehicle businesses within the Automotive segment partially offset by the divestitures of two non-core product lines within the Industrial segment in 2016.

Gross Profit

Gross profit was \$506.5 million, or 41.5% of sales, in 2017, compared to \$413.1 million, or 39.1% of sales, in 2016. The increase in gross profit and gross margin reflects the incremental net sales and improved leverage in expenses and profits related to the prior year acquisitions, primarily in the Electronics segment.

Operating Expenses

Total operating expenses were \$288.0 million, or 23.6% of net sales, for 2017 compared to \$282.5 million, or 26.7% of net sales, for 2016. The increase in operating expenses of \$5.5 million was primarily due to acquisitions, higher selling costs, higher research and development costs of \$8.3 million and an increase of \$5.4 million in amortization expense of intangible assets due to the acquisitions, partially offset by the \$14.8 million of goodwill and other intangible asset impairment charges recognized in 2016 and lower acquisition-related expenses and integration costs of \$13.4 million. Selling, general and administrative expenses increased by \$6.7 million to \$212.8 million, but decreased from 19.5% to 17.4% as a percentage of net sales for 2017 compared to 2016 primarily as a result of lower acquisition-related expenses and integration costs of \$13.4 million and cost control initiatives partially offset by the acquisitions.

Operating Income

Operating income for 2017 was \$218.5 million, an increase of \$87.9 million or 67.3% compared to \$130.6 million for 2016. The increase in operating income was the result of acquisitions and higher volume in the Electronics segment. Operating margins increased from 12.4% to 17.9% for 2017 due to the acquisitions, improvement in gross margins primarily driven by the Electronics segment, lower acquisition and integration related costs, the prior year goodwill and other intangible asset impairment charge and operational efficiencies. Also, the prior year goodwill and other intangible asset impairment charge reduced the operating margin by 1.4% in 2016.

Income Before Income Taxes

Income before income taxes for 2017 was \$204.0 million, or 16.7% of net sales compared to \$123.3 million, or 11.7% of net sales, for 2016. Income before income taxes was impacted by an increase in operating income described above, partially offset by higher interest expense of \$4.8 million reflecting increased borrowings and unfavorable changes in foreign exchange

rates of \$1.9 million primarily as a result of fluctuations in the Chinese renminbi and Philippine peso against the U.S. dollar partially offset by fluctuations in the Euro against U.S. dollar.

Income Taxes

Income tax expense for 2017 was \$84.5 million, or an effective tax rate of 41.4% compared to income tax expense of \$18.8 million, or an effective tax rate of 15.2%, for 2016. The increase in 2017 reflects a fourth quarter charge of \$47 million as a provisional reasonable estimate of the impact of the Tax Act, including \$49 million for the Toll Charge net of \$2 million for other net tax benefits. The Company is continuing to analyze the Tax Act and plans to finalize the estimate within the measurement period outlined in SAB No.118. The final charge may differ from the provisional reasonable estimate if provisions of the Tax Act, and their interaction with other provisions of the U.S. Internal Revenue Code, are interpreted differently than interpretations made by the Company in determining the estimate, whether through issuance of administrative guidance, or through further review of the Tax Act by the Company and its advisors. Aside from these interpretation issues, the final charge may differ from the provisional reasonable estimate due to refinements of accumulated non-U.S. earnings and tax pool data. Excluding the impact of the Tax Act, the effective tax rates for 2017 and 2016 are lower than the U.S. statutory tax rate primarily due to income earned in lower tax jurisdictions partially offset by the impact of taxes on unremitted earnings, and, with respect to 2016, 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.

Segment Information

The Company reports its operations by the following segments: Electronics, Automotive and Industrial. Segment information is described more fully in Note 12, *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		Change	% Change
	2017	2016		
Electronics.....	\$ 661.9	\$ 535.2	\$ 126.7	23.7%
Automotive.....	453.2	415.2	38.0	9.2%
Industrial	106.4	105.8	0.6	0.6%
Total	<u>\$ 1,221.5</u>	<u>\$ 1,056.2</u>	<u>\$ 165.3</u>	15.7%

Electronics Segment

The Electronics segment net sales increased \$126.7 million, or 23.7%, in 2017 compared to 2016 primarily due to the PolySwitch, and ON Portfolio acquisitions in 2016, and the U.S Sensor acquisition in 2017 along with higher volume across the passives, sensors and semiconductor product lines.

Automotive Segment

Net sales in the Automotive segment increased \$38.0 million, or 9.2%, in 2017 compared to 2016 primarily due to the incremental net sales associated with the PolySwitch and Member's acquisitions in 2016, higher volume in passenger car and commercial vehicle products and favorable foreign exchange impacts of \$1.9 million, partially offset by lower volume in automotive sensor products.

Industrial Segment

The Industrial segment net sales increased \$0.6 million, or 0.6%, in 2017 compared to 2016 primarily due higher volume across all product lines, partially offset by the divestiture of two non-core product lines, one in the fourth quarter of 2016 and the other in the first quarter of 2016.

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		Change	% Change
	2017	2016		
Americas	\$ 436.5	\$ 411.1	\$ 25.4	6.2%
Europe	243.9	200.3	43.6	21.8%
Asia-Pacific	541.1	444.8	96.3	21.7%
Total	\$ 1,221.5	\$ 1,056.2	\$ 165.3	15.7%

Americas

Net sales in the Americas increased \$25.4 million, or 6.2%, in 2017 compared to 2016 resulting from acquisitions and higher volume in the passive and semiconductor product lines in the Electronics segment and the passenger car and commercial vehicle businesses in the Automotive segment that were partially offset by lower volume in sensor products in the Automotive segment and the divestiture of a non-core product line in the Industrial segment.

Europe

European net sales increased \$43.6 million, or 21.8%, in 2017 compared to 2016. The increase in net sales was primarily due to acquisitions and increased net sales across all product lines in the Electronics segment and the passenger car and commercial vehicle products businesses in the Automotive segment.

Asia-Pacific

Asia-Pacific net sales increased \$96.3 million, or 21.7%, in 2017 compared to 2016, primarily due to incremental net sales from prior year acquisitions and increased volume across all product lines in the Electronics segment.

RESULTS OF OPERATIONS FOR THE YEAR ENDED DECEMBER 31, 2016 AS COMPARED TO THE YEAR ENDED JANUARY 2, 2016

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 2, *Acquisitions and Dispositions*, 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 8, *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	% Change
	2016	2015		
Sales	\$ 1,056,159	\$ 867,864	\$ 188,295	21.7%
Gross profit	413,117	330,499	82,618	25.0%
Operating expenses	282,473	226,342	56,131	24.8%
Operating income	130,644	104,157	26,487	25.4%
Other expense (income), net.....	(1,730)	(5,417)	3,687	(68.1%)
Income before income taxes.....	123,274	106,948	16,326	15.3%
Income taxes	18,786	26,082	(7,296)	(28.0%)
Net income	104,488	80,866	23,622	29.2%

Sales

Net sales for 2016 of \$1,056.2 million increased \$188.3 million, or 21.7%, 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 12, *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		Change
	2016	2015	
Electronics.....	\$ 535.2	\$ 405.5	\$ 129.7
Automotive.....	415.2	340.0	75.2
Industrial	105.8	122.4	(16.6)
Total	<u>\$ 1,056.2</u>	<u>\$ 867.9</u>	<u>\$ 188.3</u>

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, 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 high-current products, especially the Masterfuse® line. Also contributing to segment performance was the 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 2, *Acquisitions and Dispositions* of the Notes to the Consolidated Financial Statements included in this Annual Report, 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 the Company could recognize impairment charges for the Relays reporting unit if there are 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		Change
	2016	2015	
Americas	\$ 411.1	\$ 401.2	\$ 9.9
Europe	200.3	152.7	47.6
Asia-Pacific	444.8	314.0	130.8
Total	<u>\$ 1,056.2</u>	<u>\$ 867.9</u>	<u>\$ 188.3</u>

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 and changes in foreign exchange rates of \$5.4 million. Electronics sales increased \$84.0 million, or 35%, primarily due to acquisitions as well as increased sales for passive and sensor products partially offset by \$2.3 million due to changes in foreign exchange rates. 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 \$3.3 million of changes in foreign exchange rates. Industrial sales decreased \$1.2 million, or 13%.

Liquidity and Capital Resources

Cash and cash equivalents were \$429.7 million as of December 30, 2017, an increase of \$154.6 million as compared to December 31, 2016.

As of December 30, 2017, \$309.5 million of the \$429.7 million of the Company's cash and cash equivalents was held by non-U.S. subsidiaries. Of the \$309.5 million, at least \$160 million can be repatriated with minimal tax consequences. With respect to the remaining \$149.5 million, the Company has recognized deferred tax liabilities of \$12.0 million as of December 30, 2017 (including \$11.8 million for non-U.S. taxes and \$0.2 million for U.S. state taxes) on approximately \$118 million of the non-U.S. cash balance because the amounts are not considered to be permanently reinvested. In addition, repatriation of some non-U.S. cash balances is further restricted by local laws. Management regularly evaluates whether non-U.S. earnings are expected to be permanently reinvested. This evaluation requires judgment about the future operating and liquidity needs of the Company and its non-U.S. subsidiaries. Changes in economic and business conditions, tax laws, or the Company's financial situation could result in changes to these judgments and the need to record additional tax liabilities.

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 five-year credit agreement ("Credit Agreement") with a group of lenders for up to \$700.0 million. The Credit Agreement consisted of an unsecured revolving credit facility ("Revolving Credit Facility") of \$575.0 million and an unsecured term loan credit facility ("Term Loan") of up to \$125.0 million. In addition, the Company had the ability, from time to time, to increase the size of the Revolving Credit Facility and the Term Loan 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, the Company was 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.

On October 13, 2017, the Company amended the Credit Agreement to increase the Revolving Credit Facility from \$575.0 million to \$700.0 million and increase the Term Loan from \$125.0 million to \$200.0 million and to extend the expiration date from March 4, 2021 to October 13, 2022. The Credit Agreement also includes the option for the Company to increase the size of the Revolving Credit Facility and the Term Loan by up to an additional \$300.0 million, in the aggregate, subject to the satisfaction of certain conditions set forth in the Credit Agreement. Term Loans may be made in up to two advances. The first advance of \$125.0 million occurred on October 13, 2017 and the second advance of \$75.0 million occurred on January 16, 2018. For the Term Loan, the Company is required to make quarterly principal payments of 1.25% of the original term loan (\$1.6 million as of December 30, 2017 increasing to \$2.5 million with the second advance on January 16, 2018) through maturity, with the remaining balance due on October 13, 2022

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 0.25%, 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 3.07% at December 30, 2017.

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 ("Euro Senior Notes, Series A due 2023"), and €95 million in aggregate amount of 1.83% Senior Notes, Series B due December 8, 2028 ("Euro Senior Notes, Series B due 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 ("U.S. Senior Notes, Series A due 2022"), and \$100 million in aggregate principal amount of 3.74% Senior Notes, Series B, due February 15, 2027 ("U.S. Senior Notes, Series B due 2027") (together, the "U.S. Senior Notes due 2022 and 2027") were funded. Interest on the U.S. Senior Notes due 2022 and 2027 is payable semiannually on February 15 and August 15, commencing August 15, 2017.

On November 15, 2017, the Company entered into a Note Purchase Agreement pursuant to which the Company issued and sold \$175 million in aggregate principal amount of senior notes in two series. On January 16, 2018, \$50 million aggregate principal amount of 3.48% Senior Notes, Series A, due February 15, 2025 ("U.S. Senior Notes, Series A due 2025") and \$125 million in aggregate principal amount of 3.78% Senior Notes, Series B, due February 15, 2030 ("U.S. Senior Notes, Series A due 2030") (together the "U.S. Senior Notes due 2025 and 2030" and with the Euro Senior Notes and the U.S. Senior Notes 2022 and 2027, the "Senior Notes") were funded. Interest on the U.S. Senior Notes due 2025 and 2030 will be payable on February 15 and August 15, commencing on August 15, 2018.

The Company was in compliance with its debt covenants as of December 30, 2017, and expects to remain in compliance based on management's estimates of operating and financial results for 2017 and the foreseeable future. As of December 30, 2017, the Company met all the conditions required to borrow under the Credit Agreement and management expects the Company to continue to meet the applicable borrowing conditions.

Acquisitions

During the year ended December 30, 2017, the Company paid \$38.5 million, net of cash acquired, for the acquisitions of U.S. Sensor and Monolith. The Company financed the cash portion of the acquisition with a combination of cash on hand and borrowings under the credit facility.

During the year ended December 31, 2016, the Company paid \$417.1 million of total purchase prices, net of cash acquired, for the acquisitions of the ON Portfolio, Menber's and PolySwitch. The Company financed the cash portion of these acquisitions with a combination of cash on hand and borrowings under the credit facility.

During the year ended January 2, 2016, the Company paid \$4.6 million, net of cash acquired, substantially all for the acquisition of Sigmar. The Company financed the cash portion of the acquisition with cash on hand.

Cash Flow Overview

Operating cash inflows are largely attributable to sales of the Company's products. Operating cash outflows are largely attributable to recurring expenditures for raw materials, labor, rent, interest, taxes and other operating activities.

The following describes the Company's cash flows for the twelve months ended December 30, 2017 and December 31, 2016

(in millions)	Fiscal Year	
	2017	2016
Net cash provided by operating activities	\$ 269.2	\$ 180.1
Net cash provided used in investing activities	(96.1)	(511.2)
Net cash (used in) provided by financing activities	(24.7)	284.2
Effect of exchange rate changes on cash and cash equivalents	6.2	(6.8)
Increase (decrease) in cash and cash equivalents	154.6	(53.7)
Cash and cash equivalents at beginning of period.....	275.1	328.8
Cash and cash equivalents at end of period.....	<u>\$ 429.7</u>	<u>\$ 275.1</u>

Cash flows from Operating Activities

Net cash provided by operating activities was \$269.2 million for 2017, compared to \$180.1 million during 2016. The increase in net cash provided by operating activities was primarily driven by higher earnings, lower cash taxes, reduced acquisition and integration payments and the timing of supplier and customer payments.

Cash flows from Investing Activities

Net cash used in investing activities was \$96.1 million for 2017, compared to \$511.2 million during 2016. Net cash used for acquisitions of \$38.5 million in 2017 related to the acquisition of a majority stake in Monolith for \$14.2 million and the acquisition of U.S. Sensor for \$24.3 million. Net cash used for acquisitions of \$471.1 million for 2016 primarily related to the acquisitions of PolySwitch for \$344.5 million, the ON Portfolio for \$104.0 million and Menber's for \$19.2 million. Capital expenditures were \$65.9 million, representing an increase of \$19.7 million compared to 2016.

Cash flows from Financing Activities

Net cash used in financing activities was \$24.6 million for 2017 compared to net cash provided by financing activities of \$284.2 million for 2016. The Company had \$149.4 million of proceeds from the credit facility and senior notes payable and \$134.7 million of payments on the term loan and credit facility in 2017 as compared to \$718.4 million of proceeds from the credit facility and term loan and \$421.2 million of payments on the term loan and credit facility. Additionally, dividends paid increased \$3.8 million from \$27.9 million in 2016 to \$31.7 million for 2017.

The following describes the Company's cash flows for the twelve months ended December 31, 2016 and January 2, 2016

(in millions)	Fiscal Year	
	2016	2015
Net cash provided by operating activities	\$ 180.1	\$ 165.8
Net cash used in investing activities	(511.2)	(44.2)
Net cash 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 flows 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 flows 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 flows 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 6, Debt, of the Notes to Consolidated Financial Statements included in this Annual Report.

Capital Resources

The Company expends capital to support its 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, 2017 to April 30, 2018. The Company did not repurchase any shares of its common stock during fiscal 2017 and the full 1,000,000 shares may yet be purchased under the program as of December 30, 2017.

Contractual Obligations and Commitments

The following table summarizes outstanding contractual obligations and commitments as of December 30, 2017:

(in thousands)	Total	Less than 1 Year	1 to 3 Years	3 to 5 Years	Greater than 5 Years
Long-term debt ^(a)	\$ 500,492	\$ 6,250	\$ 12,500	\$ 128,750	\$ 352,992
Interest payments ^(b)	85,973	11,809	22,697	20,597	30,870
Operating lease payments ^(c)	34,578	10,842	11,619	8,096	5,021
Income Tax Obligation ^(d)	35,400	3,400	6,000	6,000	20,000
Purchase obligations ^(e)	27,600	27,600	—	—	—
Total	<u>\$ 685,043</u>	<u>\$ 59,901</u>	<u>\$ 52,816</u>	<u>\$ 163,443</u>	<u>\$ 408,883</u>

(a) Excludes offsetting issuance costs of \$4.9 million. Euro denominated debt amounts are converted based on the Euro to U.S. Dollar spot rate at year end. Excludes funding of \$50 million and \$125 million from the U.S Senior Notes, Series A due 2025 and U.S. Senior Notes, Series A due 2030, respectively, as these occurred subsequent to December 30, 2017. For more information see Note 6, *Debt*, of the Notes to the Consolidated Financial Statements.

(b) Amounts represent estimated contractual interest payments on outstanding debt. Rates in effect as of December 30, 2017 are used for variable rate debt. For more information see Note 6, *Debt*, of the Notes to the Consolidated Financial Statements.

(c) For more information see Note 5, *Lease Commitments*, of the Notes to the Consolidated Financial Statements.

(d) The Income Tax Obligation represents the current federal and state income tax expense for 2017 including the preliminary estimate of \$49 million for the Toll Charge, partially offset by \$13 million of foreign tax credits. The Company will elect to pay the 2017 current federal income tax over the eight-year period as prescribed by the Tax Act. For more information see Note 10, *Income Taxes*, of the Notes to the Consolidated Financial Statements.

(e) Purchase obligations include commitments for capital expenditures not recognized in the Company's Consolidated Balance Sheets.

In addition to the above contractual obligations and commitments, the Company had the following obligations at December 30, 2017:

The Company has Company-sponsored defined benefit pension plans covering employees at various non-U.S. subsidiaries including the U.K., Germany, the Philippines, China, Japan, Mexico, Italy and France. At December 30, 2017, the Company had a net unfunded status of \$19.1 million. The Company expects to make approximately \$1.4 million of contributions to the plans in 2018. For additional information, see Note 8, *Benefit Plans*, of the Notes to the Consolidated Financial Statements.

The Company has a non-qualified Supplemental Retirement and Savings Plan which provides additional retirement benefits for certain management employees and named executive officers by allowing participants to defer a portion of their annual compensation. As of December 30, 2017, there was \$8.0 million of accrued compensation benefits included in *Other long-term liabilities*. For additional information, see Note 8, *Benefit Plans*, of the Notes to the Consolidated Financial Statements.

As of December 30, 2017, the Company recognized various accruals related to employee compensation including its annual incentive program that are expected to be paid in 2018.

Due to the uncertainty with respect to the cash outflows, the preceding table excludes unrecognized tax benefits of \$7.7 million. The Company does not expect to make significant payments of these liabilities within the next year. For additional information, see Note 10, *Income Taxes*, of the Notes to the Consolidated Financial Statements.

Off-Balance Sheet Arrangements

As of December 30, 2017, 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

Recently issued accounting standards and their estimated effect on the Company's Consolidated Financial Statements are described in Note 1, *Summary of Significant Accounting Policies and Other Information*, of the Notes to the Consolidated Financial Statements.

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 \$122.5 million in debt outstanding at December 30, 2017 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 \$1.2 million in annual interest expense. The Company is not party to any currency exchange or interest rate protection agreements as of December 30, 2017.

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 2017, sales to customers outside the U.S. were approximately 69% of total net sales. During 2016, sales to customers outside the U.S. were approximately 66% 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 inter-company loans, external borrowings, sale of products in foreign currencies, foreign currency denominated purchases, employee-related and other costs of running operations in foreign countries. The company's most significant net long exposures are to the Philippine peso and 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.

At December 30, 2017, the net value of the Company's assets with exposure to foreign currency risk was approximately \$298 million, with the largest exposure being U.S. Dollar denominated inter-company loans with a Philippine peso functional currency subsidiary. The reduction in earnings from a hypothetical instantaneous 10% adverse change in quoted foreign currency spot rates applied to foreign currency sensitive asset instruments would be \$30 million at December 30, 2017. At December 30, 2017, the net value of the Company's liabilities with exposure to foreign currency risk was \$204 million, with the largest exposure being U.S. Dollar denominated inter-company loans with a euro functional currency subsidiary. The reduction in earnings from a hypothetical instantaneous 10% adverse change in quoted foreign currency spot rates applied to foreign currency sensitive liability instruments would be \$20 million at December 30, 2017. As a result of the mix in currencies impacting the hypothetical 10% changes, the movements in some instruments would offset movements in other instruments reducing the hypothetical exposure to the Company.

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 \$3.9 million for copper, \$1.5 million for zinc, \$0.2 million for gold, \$0.8 million for silver, and \$0.6 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 2018 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 may take various actions from time to time to mitigate any negative impacts of these exposures.

ITEM 8. FINANCIAL STATEMENTS AND SUPPLEMENTARY DATA.

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REPORT OF INDEPENDENT REGISTERED PUBLIC ACCOUNTING FIRM

Board of Directors and Shareholders

Littelfuse, Inc.

Opinion on the financial statements

We have audited the accompanying consolidated balance sheets of Littelfuse, Inc. (a Delaware corporation) and subsidiaries (the “Company”) as of December 30, 2017 and December 31, 2016, the related consolidated statements of net income, comprehensive income, equity, and cash flows for each of the three years in the period ended December 30, 2017, and the related notes and schedule (collectively referred to as the “financial statements”). In our opinion, the financial statements present fairly, in all material respects, the financial position of the Company as of December 30, 2017 and December 31, 2016, and the results of its operations and its cash flows for each of the three years in the period ended December 30, 2017, in conformity with accounting principles generally accepted in the United States of America.

We also have audited, in accordance with the standards of the Public Company Accounting Oversight Board (United States) (“PCAOB”), the Company’s internal control over financial reporting as of December 30, 2017, 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 23, 2018, expressed an unqualified opinion on those financial statements.

Basis for opinion

These financial statements are the responsibility of the Company’s management. Our responsibility is to express an opinion on the Company’s financial statements based on our audits. We are a public accounting firm registered with the PCAOB and are required to be independent with respect to the Company in accordance with the U.S. federal securities laws and the applicable rules and regulations of the Securities and Exchange Commission and the PCAOB.

We conducted our audits in accordance with the standards of the PCAOB. Those standards require that we plan and perform the audit to obtain reasonable assurance about whether the financial statements are free of material misstatement, whether due to error or fraud. Our audits included performing procedures to assess the risks of material misstatement of the financial statements, whether due to error or fraud, and performing procedures that respond to those risks. Such procedures included examining, on a test basis, evidence supporting the amounts and disclosures in the financial statements. Our audits also included evaluating the accounting principles used and significant estimates made by management, as well as evaluating the overall presentation of the financial statements. We believe that our audits provide a reasonable basis for our opinion.

/s/ GRANT THORNTON LLP

We have served as the Company’s auditor since 2014.

Chicago, Illinois
February 23, 2018

REPORT OF INDEPENDENT REGISTERED PUBLIC ACCOUNTING FIRM

Board of Directors and Shareholders

Littelfuse, Inc.

Opinion on internal control over financial reporting

We have audited the internal control over financial reporting of Littelfuse, Inc. (a Delaware corporation) and subsidiaries (the “Company”) as of December 30, 2017, based on criteria established in the 2013 *Internal Control—Integrated Framework* issued by the Committee of Sponsoring Organizations of the Treadway Commission (COSO). In our opinion, the Company maintained, in all material respects, effective internal control over financial reporting as of December 30, 2017, 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) (“PCAOB”), the consolidated financial statements of the Company as of and for the year ended December 30, 2017, and our report dated February 23, 2018 expressed an unqualified opinion on those financial statements.

Basis for opinion

The Company’s management is responsible for maintaining effective internal control over financial reporting and for its assessment of the effectiveness of internal control over financial reporting, included in the accompanying Management’s Report on Internal Control over Financial Reporting (“Management’s Report”). Our responsibility is to express an opinion on the Company’s internal control over financial reporting based on our audit.

We are a public accounting firm registered with the PCAOB and are required to be independent with respect to the Company in accordance with the U.S. federal securities laws and the applicable rules and regulations of the Securities and Exchange Commission and the PCAOB.

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

Definition and limitations of internal control over financial reporting

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

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

/s/ GRANT THORNTON LLP

Chicago, Illinois
February 23, 2018

CONSOLIDATED BALANCE SHEETS

(in thousands)	<u>December 30,</u> <u>2017</u>	<u>December 31,</u> <u>2016</u>
ASSETS		
Current assets:		
Cash and cash equivalents	\$ 429,676	\$ 275,124
Short-term investments	35	3,690
Trade receivables, less allowances (2017 - \$27,516; 2016 - \$25,874)	182,699	176,032
Inventories	140,789	114,063
Prepaid income taxes and income taxes receivable	1,689	11,671
Prepaid expenses and other current assets	37,452	31,501
Total current assets	<u>792,340</u>	<u>612,081</u>
Property, plant, and equipment:		
Land	9,547	9,268
Buildings	86,599	80,553
Equipment	505,838	439,542
Accumulated depreciation and amortization	<u>(351,407)</u>	<u>(312,188)</u>
Net property, plant, and equipment	250,577	217,175
Intangible assets, net of amortization	203,850	213,027
Goodwill	453,414	403,544
Investments	10,993	13,933
Deferred income taxes	11,858	20,585
Other assets	17,070	10,849
Total assets	<u>\$ 1,740,102</u>	<u>\$ 1,491,194</u>
LIABILITIES AND EQUITY		
Current liabilities:		
Accounts payable	\$ 101,844	\$ 90,712
Accrued payroll	49,962	42,810
Accrued expenses	48,994	36,138
Accrued severance	1,459	2,785
Accrued income taxes	16,285	8,846
Current portion of long-term debt	6,250	6,250
Total current liabilities	<u>224,794</u>	<u>187,541</u>
Long-term debt, less current portion	489,361	447,892
Deferred income taxes	17,069	7,066
Accrued post-retirement benefits	18,742	13,398
Other long-term liabilities	62,580	20,366
Shareholders' equity:		
Common stock, par value \$0.01 per share: 34,000,000 shares authorized; shares issued, 2017 - 22,713,198; 2016 - 22,626,922	229	228
Treasury stock, at cost: 439,598 and 409,115 shares, respectively	(41,294)	(36,510)
Additional paid-in capital	310,012	291,258
Accumulated other comprehensive income	(63,668)	(74,579)
Retained earnings	<u>722,140</u>	<u>634,391</u>
Littelfuse, Inc. shareholders' equity	<u>927,419</u>	<u>814,788</u>
Non-controlling interest	<u>137</u>	<u>143</u>
Total equity	<u>927,556</u>	<u>814,931</u>
Total liabilities and equity	<u>\$ 1,740,102</u>	<u>\$ 1,491,194</u>

See accompanying Notes to Consolidated Financial Statements.

CONSOLIDATED STATEMENTS OF NET INCOME

(in thousands, except per share data)	Year Ended		
	December 30, 2017	December 31, 2016	January 2, 2016
Net sales	\$ 1,221,534	\$ 1,056,159	\$ 867,864
Cost of sales	715,001	643,042	537,365
Gross profit.....	506,533	413,117	330,499
Selling, general, and administrative expenses	212,833	206,129	153,714
Research and development expenses.....	50,489	42,198	30,802
Pension settlement expenses	—	—	29,928
Amortization of intangibles	24,700	19,337	11,898
Impairment of goodwill and intangible assets	—	14,809	—
Total operating expenses	288,022	282,473	226,342
Operating income	218,511	130,644	104,157
Interest expense	13,380	8,628	4,091
Foreign exchange loss (gain).....	2,376	472	(1,465)
Other (income) expense, net.....	(1,282)	(1,730)	(5,417)
Income before income taxes.....	204,037	123,274	106,948
Income taxes.....	84,518	18,786	26,082
Net income	<u>\$ 119,519</u>	<u>\$ 104,488</u>	<u>\$ 80,866</u>
Income per share:			
Basic	<u>\$ 5.27</u>	<u>\$ 4.63</u>	<u>\$ 3.58</u>
Diluted	<u>\$ 5.21</u>	<u>\$ 4.60</u>	<u>\$ 3.56</u>
Weighted-average shares and equivalent shares outstanding:			
Basic	22,687	22,559	22,565
Diluted	22,931	22,727	22,719

CONSOLIDATED STATEMENTS OF COMPREHENSIVE INCOME

(in thousands)	Year Ended		
	December 30, 2017	December 31, 2016	January 2, 2016
Net income	\$ 119,519	\$ 104,488	\$ 80,866
Other comprehensive income (loss):			
Pension and postemployment liability adjustments net of tax expense (benefit) of \$535, (\$1,302) and (\$106), respectively	1,235	(3,673)	(1,761)
Pension and postemployment reclassification adjustments net of tax (benefit) expense of (\$150), \$0 and \$746, respectively.....	(88)	412	1,530
Unrealized (loss) gain on investments	(974)	(815)	793
Reclassification of pension settlement costs to expense net of tax expense of \$11,742 in 2015.....	—	—	21,124
Foreign currency translation adjustments	10,738	(24,832)	(46,231)
Comprehensive income	<u>\$ 130,430</u>	<u>\$ 75,580</u>	<u>\$ 56,321</u>

See accompanying Notes to Consolidated Financial Statements.

CONSOLIDATED STATEMENTS OF CASH FLOWS

(in thousands)	Year Ended		
	December 30, 2017	December 31, 2016	January 2, 2016
OPERATING ACTIVITIES			
Net income	\$ 119,519	\$ 104,488	\$ 80,866
Adjustments to reconcile net income to net cash provided by operating activities:			
Depreciation.....	38,311	33,800	29,701
Amortization of intangibles	24,700	19,337	11,898
Impairment of goodwill and intangible assets	—	14,809	—
Provision for bad debts	2,414	1,769	164
Non-cash inventory charges	1,607	7,834	—
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	3,634	813	1,253
Stock-based compensation.....	16,315	11,987	10,266
Excess tax benefit on share-based compensation.....	—	(3,421)	(1,891)
Deferred income taxes	17,063	(5,269)	11,479
Changes in operating assets and liabilities:			
Accounts receivable	(11,087)	(22,779)	(3,397)
Inventories	(20,180)	8,539	(3,577)
Accounts payable.....	6,494	19,190	2,573
Accrued expenses (including post-retirement)	7,641	2,287	6,482
Accrued payroll and severance	3,709	6,131	5,883
Accrued taxes	39,276	(18,062)	557
Prepaid expenses and other.....	19,754	(2,711)	(5,739)
Net cash provided by operating activities.....	269,170	180,133	165,826
INVESTING ACTIVITIES			
Acquisitions of businesses, net of cash acquired.....	(38,512)	(471,118)	(4,558)
Purchase of cost method investment	—	—	(3,500)
Proceeds from maturities of short-term investments	3,739	345	—
Decrease in entrusted loan.....	3,599	5,510	7,811
Purchases of property, plant, and equipment.....	(65,925)	(46,228)	(44,019)
Proceeds from sale of property, plant, and equipment	962	248	102
Net cash used in investing activities.....	(96,137)	(511,243)	(44,164)
FINANCING ACTIVITIES			
Proceeds of revolving credit facility.....	15,000	367,000	49,000
Proceeds of term loan	9,375	125,000	—
Proceeds of senior notes payable.....	125,000	226,428	—
Payments of term loan.....	(7,188)	(89,688)	(8,750)
Payments of revolving credit facility	(127,500)	(331,500)	(55,500)
Net (payments) proceeds related to stock-based award activities	(2,373)	20,494	9,150
Proceeds (payments) from entrusted loan	(3,599)	(5,510)	(7,811)
Debt issuance costs.....	(1,626)	(3,583)	(42)
Cash dividends paid	(31,770)	(27,866)	(24,341)
Excess tax benefit on share-based compensation	—	3,421	1,891
Purchases of common stock	—	—	(31,252)
Net cash (used in) provided by financing activities.....	(24,681)	284,196	(67,655)
Effect of exchange rate changes on cash and cash equivalents	6,200	(6,748)	(22,792)
Increase (decrease) in cash and cash equivalents	154,552	(53,662)	31,215
Cash and cash equivalents at beginning of year	275,124	328,786	297,571
Cash and cash equivalents at end of year	<u>\$ 429,676</u>	<u>\$ 275,124</u>	<u>\$ 328,786</u>

See accompanying Notes to Consolidated Financial Statements.

CONSOLIDATED STATEMENTS OF EQUITY

(in thousands)	Littelfuse, Inc. Shareholders' Equity						
	Common Stock	Addl. Paid in Capital	Treasury Stock	Accum. Other Comp. Inc. (Loss)	Retained Earnings	Non- controlling Interest	Total
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, net.....	—	—	—	21,124	—	—	21,124
Pension and postemployment reclassification adjustments, net.....	—	—	—	1,530	—	—	1,530
Unrealized gain on investments	—	—	—	793	—	—	793
Foreign currency translation adjustments	—	—	—	(46,231)	—	—	(46,231)
Comprehensive income							<u>56,321</u>
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)	—	—
Purchase of 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	\$ 243,844	\$ (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, net.....	—	—	—	412	—	—	412
Unrealized (loss) on investments	—	—	—	(815)	—	—	(815)
Foreign currency translation adjustments.....	—	—	—	(24,832)	—	—	(24,832)
Comprehensive income							<u>75,580</u>
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
Comprehensive income:							
Net income for the year.....	—	—	—	—	119,519	—	119,519
Pension and postemployment liability adjustments, net.....	—	—	—	1,235	—	—	1,235
Pension and postemployment reclassification adjustments, net.....	—	—	—	(88)	—	—	(88)
Unrealized gain (loss) on investments.....	—	—	—	(974)	—	—	(974)
Foreign currency translation adjustments	—	—	—	10,738	—	—	10,738
Comprehensive income							<u>130,430</u>
Stock-based compensation	—	16,315	—	—	—	—	16,315
Non-controlling interest	—	—	—	—	—	(6)	(6)
Withheld 30,459 shares on restricted share units for withholding taxes.....	—	—	(4,784)	—	—	—	(4,784)
Stock options exercised.....	1	2,439	—	—	—	—	2,440
Cash dividends paid (\$1.40 per share)	—	—	—	—	(31,770)	—	(31,770)
Balance at December 30, 2017.....	<u>\$ 229</u>	<u>\$ 310,012</u>	<u>\$ (41,294)</u>	<u>\$ (63,668)</u>	<u>\$ 722,140</u>	<u>\$ 137</u>	<u>\$ 927,556</u>

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”) is a global leader in circuit protection products with advancing platforms in power control and sensor technologies, serving customers in the electronics, automotive, and industrial markets. With a diverse and extensive product portfolio of fuses, semiconductors, polymers, ceramics, relays and sensors, the Company works with its customers to build safer, more reliable and more efficient products for the connected world in virtually every market that uses electrical energy, ranging across consumer electronics, IT and telecommunication applications, industrial electronics, automobiles and other transportation, and heavy industrial applications. 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.

Fiscal Year

References herein to “2017”, “fiscal 2017” or “fiscal year 2017” refer to the fiscal year ended December 30, 2017. 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. 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 2017 and fiscal 2016 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

As of December 30, 2017, the Company had an investment in Polytronics Technology Corporation Ltd. (“Polytronics”). The Company’s Polytronics shares held at the end of fiscal 2017 and 2016 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 €9.2 million (approximately \$11.0 million) at December 30, 2017 and €10.0 million (approximately \$10.4 million) at December 31, 2016. Included in 2017 and 2016, other comprehensive income are unrealized losses of \$1.0 million and \$0.8 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.

The Company has certain investment securities that are 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

NOTES TO CONSOLIDATED FINANCIAL STATEMENTS

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.

The Company has investments related to its non-qualified Supplemental Retirement and Savings Plan. The Company maintains accounts for participants through which participants make investment elections. The investment securities are subject to the claims of the Company’s creditors. The investment securities are all mutual funds with readily determinable fair values and are classified as trading securities. The investment securities are measured at fair value with unrealized gains and losses recognized in earnings. As of December 30, 2017, there was \$8.0 million of marketable securities related to the plan included in *Other assets* on the Consolidated Balance Sheets.

Trade Receivables

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.

Inventories

Inventories are stated at the lower of cost or net realizable value, which approximates current replacement cost. Cost is principally determined using the first-in, first-out method. 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.

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. Leasehold improvements are depreciated over the lesser of their useful life or the lease term. Maintenance and repair costs are charged to expense as incurred. Major overhauls that extend the useful lives of existing assets are capitalized.

Goodwill

The Company annually tests goodwill for impairment on the first day of its fiscal fourth quarter, or more frequently if an event occurs or circumstances change that would more likely than not reduce the fair value of a reporting unit below its carrying value.

The Company compares each reporting unit’s fair value, estimated based on comparable company market valuations and expected future discounted cash flows to be generated by the reporting unit, to its carrying value. For the seven reporting units with goodwill, the Company compared the estimated fair value of each reporting unit to its carrying value. The results of the goodwill impairment test as of October 1, 2017 indicated that the estimated fair values for each of the seven reporting units exceeded their respective carrying values. As of the most recent annual test conducted on October 1, 2017, the Company noted that the excess of fair value over the carrying value, was 161%, 314%, 247%, 218%, 100%, 25%, and 248% for its reporting units; Electronics (non-silicon), Electronics (silicon), Passenger Car, Commercial Vehicle Products, Sensors, Relays, and Power Fuse, respectively. Relatively small changes in the Company’s key assumptions would not have resulted in any reporting units failing the goodwill impairment test. See Note 4, *Goodwill and Other Intangible Assets*, for additional information.

NOTES TO CONSOLIDATED FINANCIAL STATEMENTS

The Company also performs an interim review for indicators of impairment each quarter to assess whether an interim impairment review is required for any reporting unit. As part of its interim reviews, management analyzes potential changes in the value of individual reporting units based on each reporting unit's operating results for the period compared to expected results as of the prior year's annual impairment test. In addition, management considers how other key assumptions, including discount rates and expected long-term growth rates, used in the last annual impairment test, could be impacted by changes in market conditions and economic events. Based on the interim assessments as of December 30, 2017, management concluded that no events or changes in circumstances indicated that it was more likely than not that the fair value for any reporting unit had declined below its carrying value.

Long-Lived 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.

The Company assesses potential impairments to its long-lived assets if events or changes in circumstances indicate that the carrying amount of an asset may not be recoverable. An impaired asset is written down to its estimated fair value based upon the most recent information available. Estimated fair market value is generally measured by discounting estimated future cash flows. Long-lived assets, other than goodwill and other intangible assets, that are held for sale are recorded at the lower of carrying value or the fair market value less the estimated cost to sell.

During the year ended December 31, 2016, the Company recognized non-cash impairment charges totaling \$6.0 million, of which \$2.2 million related to the impairment of certain customer relationship intangible assets in the customs reporting unit within the Industrial segment and \$3.8 million related to the impairment of the Custom Products tradename. The impairment of the customer relationship intangible assets resulted from lower expectations of future revenue to be derived from those relationships while the tradename impairment resulted from lower expectations of future cash flows of the customs reporting unit.

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

The Company records annual income and expense amounts relating to its pension and post-retirement benefits plans based on calculations which include various actuarial assumptions including discount rates, expected long-term rates of return and compensation increases. The Company reviews its actuarial assumptions on an annual basis as of the fiscal year-end balance sheet date (or more frequently if a significant event requiring remeasurement occurs) and modifies the assumption based on current rates and trends when it is appropriate to do so. The effects of modifications are recognized immediately on the Consolidated Balance Sheets, but are generally amortized into operating earnings over future periods, with the deferred amount recorded in accumulated other comprehensive income (loss). The Company believes that the assumptions utilized in recording its obligations under its plans are reasonable based on its experience, market conditions and input from its actuaries and investment advisors.

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

NOTES TO CONSOLIDATED FINANCIAL STATEMENTS

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 generally 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 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 in both 2017 and 2016 and \$2.3 million in 2015, 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 \$10.9 million \$9.1 million, and \$7.0 million in 2017, 2016, and 2015, respectively, are classified in selling, general, and administrative expenses.

NOTES TO CONSOLIDATED FINANCIAL STATEMENTS

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 \$2.4 million in 2017, a loss of \$0.5 million in 2016, and a gain of \$1.5 million in 2015. 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 operating cash flows. See Note 9, *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 €0.9 million (\$1.1 million) and €1.4 million (\$1.5 million) at December 30, 2017 and December 31, 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.

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. U.S. state and non-U.S. income taxes are provided on the portion of non-U.S. income that is expected to be remitted to the U.S. and be taxable (and non-U.S. income taxes are provided on the portion of non-U.S. income that is expected to be remitted to an upper-tier non-U.S. entity). Deferred tax assets and liabilities are adjusted for the effects of changes in tax laws and rates on the date of enactment.

Deferred U.S. income taxes and non-U.S. taxes are not provided on the excess of the investment value for financial reporting over the tax basis of investments in those non-U.S. subsidiaries for which such excess is considered to be permanently reinvested in those operations. Management regularly evaluates whether non-U.S. earnings are expected to be permanently reinvested. This evaluation requires judgment about the future operating and liquidity needs of the Company's foreign subsidiaries. Changes in economic and business conditions, non-U.S. or U.S. tax laws, or the Company's financial situation could result in changes to these judgments and the need to record additional tax liabilities.

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.

On December 22, 2017, the U.S. enacted legislation commonly referred to as the Tax Cuts and Jobs Act (the "Tax Act"). Among other things, the Tax Act reduces the U.S. corporate federal income tax rate from 35% to 21%, adds base broadening provisions which limit deductions and address excessive international tax planning, imposes a one-time tax (the "Toll

NOTES TO CONSOLIDATED FINANCIAL STATEMENTS

Charge”) on accumulated earnings of certain non-U.S. subsidiaries and enables repatriation of earnings of non-U.S. subsidiaries free of U.S. federal income tax. Other than the Toll Charge (which is applicable to the Company for 2017), the provisions will generally be applicable to the Company in 2018 and beyond.

In accordance with the guidance provided in SEC Staff Accounting Bulletin (“SAB”) No. 118, in the fourth quarter of 2017 the Company recorded a charge of \$47 million as a provisional reasonable estimate of the impact of the Tax Act, including \$49 million for the Toll Charge net of \$2 million for other net tax benefits. The Company is continuing to analyze the Tax Act and plans to finalize the estimate within the measurement period outlined in SAB No.118. The final charge may differ from the provisional reasonable estimate if provisions of the Tax Act, and their interaction with other provisions of the U.S. Internal Revenue Code, are interpreted differently than interpretations made by the Company in determining the estimate, whether through issuance of administrative guidance, or through further review of the Tax Act by the Company and its advisors. Aside from these interpretation issues, the final charge may differ from the provisional reasonable estimate due to refinements of accumulated non-U.S. earnings and tax pool data.

One of the base broadening provisions of the Tax Act is commonly referred to as the global intangible low-taxed income “GILTI” provisions. In accordance with guidance issued by the FASB staff, the Company has not adopted an accounting policy for GILTI. Thus, the U.S. balance sheet tax accounts, notably deferred taxes, were computed without consideration of the possible future impact of the GILTI provisions. The Company intends to adopt an accounting policy for GILTI within the measurement period outlined in SAB 118.

Fair Value Measurements

Certain assets and liabilities are required to be recorded at fair value on a recurring basis. Fair value is determined based on the exchange price that would be received for an asset or paid to transfer a liability (an exit price) in the principal or most advantageous market for the asset or liability in an orderly transaction between market participants. The Company records the fair value of its available-for-sale securities and pension plan assets on a recurring basis. Assets measured at fair value on a nonrecurring basis include long-lived assets held and used, long-lived assets held for sale, goodwill and other intangible assets. The fair value of cash and cash equivalents, accounts receivable, short-term debt and accounts payable approximate their carrying values. The three-tier value hierarchy, which prioritizes valuation methodologies based on the reliability of the inputs, is:

Level 1 – Valuations based on quoted prices for identical assets and liabilities in active markets.

Level 2 – Valuations based on observable inputs other than quoted prices included in Level 1, such as quoted prices for similar assets and liabilities in active markets, quoted prices for identical or similar assets and liabilities in markets that are not active, or other inputs that are observable or can be corroborated by observable market data.

Level 3 – Valuations based on unobservable inputs reflecting the Company’s own assumptions, consistent with reasonably available assumptions made by other market participants.

Reclassifications

Certain reclassifications of prior year amounts for *Trade receivables, net* and *Prepaid expenses and other current assets* were made to conform to the 2017 presentation.

Recently Adopted Accounting Standards

In July 2015, the Financial Accounting Standards Board (“FASB”) issued Accounting Standards Update (“ASU”) No. 2015-11 – “Inventory (Topic 330): Simplifying the Measurement of Inventory,” which simplifies the measurement of inventory by requiring inventory to be measured at the lower of cost and net realizable value. The update is effective for financial statements issued for fiscal years beginning after December 15, 2016, and interim periods within those fiscal years. The Company adopted the new standard on January 1, 2017. The adoption of the update did not have a material impact on the Company’s consolidated financial position and results of operations. As a result of the adoption of the update, inventories are stated at the lower of cost or net realizable value. Cost is principally determined using the first-in, first-out method. 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.

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In March 2016, the FASB issued ASU No. 2016-09 – “Improvements to Employee Share-Based Payment Accounting,” which amends ASC 718, “Compensation – Stock Compensation.” The update simplifies several aspects of the accounting for employee share-based payment transactions, including accounting for income taxes, forfeitures, and statutory withholding requirements, as well as classification in the Consolidated Statements of Cash Flows. The update is effective for financial statements issued for fiscal years beginning after December 15, 2016, and interim periods within those fiscal years. The Company adopted the new standard on January 1, 2017. As a result of the adoption, on a prospective basis, the Company recognized \$2.0 million of excess tax benefits from stock-based compensation as a discrete item in income tax expense for the year ended December 30, 2017. Historically, these amounts were recorded as additional paid-in capital. The Company also elected to apply the change prospectively to the Consolidated Statements of Cash Flows. As a result, on a prospective basis, share-based payments will be reported as operating activities in the Consolidated Statements of Cash Flows. The Company elected not to change its policy on accounting for forfeitures and will continue to estimate a requisite forfeiture rate. Additional amendments to the accounting for income taxes and minimum statutory withholding requirements had no impact on the results of operations.

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. The ASU did not impact the Company in 2017.

Recently Issued Accounting Standards

In October 2016, the FASB issued ASU No. 2016-16, "Income Taxes" (Topic 740). This ASU update requires entities to recognize the income tax consequences of many intercompany asset transfers at the transaction date. The seller and buyer will immediately recognize the current and deferred income tax consequences of an intercompany transfer of an asset other than inventory. The tax consequences were previously deferred. The guidance is effective for fiscal years, and interim periods within those fiscal years, beginning after December 15, 2017, with early adoption permitted. Adoption will require a modified retrospective transition, and is not expected to have a material impact.

In March 2016, the FASB issued ASU No. 2016-09 – “Improvements to Employee Share-Based Payment Accounting,” which amends ASC 718, “Compensation – Stock Compensation.” The update simplifies several aspects of the accounting for employee share-based payment transactions, including accounting for income taxes, forfeitures, and statutory withholding requirements, as well as classification in the Consolidated Statements of Cash Flows. The update is effective for financial statements issued for fiscal years beginning after December 15, 2016, and interim periods within those fiscal years. The Company adopted the new standard on January 1, 2017. As a result of the adoption, on a prospective basis, the Company recognized \$2.0 million of excess tax benefits from stock-based compensation as a discrete item in income tax expense for the year ended December 30, 2017. Historically, these amounts were recorded as additional paid-in capital. The Company also elected to apply the change prospectively to the Consolidated Statements of Cash Flows. As a result, on a prospective basis, share-based payments will be reported as operating activities in the Consolidated Statements of Cash Flows. The Company elected not to change its policy on accounting for forfeitures and will continue to estimate a requisite forfeiture rate. Additional amendments to the accounting for income taxes and minimum statutory withholding requirements had no impact on the results of operations.

In January 2016, the FASB issued ASU No. 2016-01, “Financial Instruments-Recognition and Measurement of Financial Assets and Financial Liabilities” which addresses certain aspects of the recognition, measurement, presentation and disclosure of financial instruments. The ASU will require the Company to recognize any changes in the fair value of certain equity investments in net income. These changes are currently recognized in other comprehensive income (“OCI”). This guidance is effective for interim and fiscal years beginning after December 15, 2017.

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

NOTES TO CONSOLIDATED FINANCIAL STATEMENTS

retrospective transition, and the Company plans to adopt the standard in the first quarter of 2019. The Company is currently evaluating the impact of ASU 2016-02.

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 finalizing its assessment and the documentation of its evaluation of the new standard. The majority of the Company's revenue arrangements generally consist of a single performance obligation to transfer promised finished goods. Based on the Company's evaluation process completed and review of its contracts with customers, the timing and amount of revenue recognized based on ASU 2015-14 is consistent with its revenue recognition policy under previous guidance. The Company adopted the new standard effective December 31, 2017, using the modified retrospective approach, and will expand its consolidated financial statement disclosures in order to comply with the ASU. The Company has determined the adoption of ASU 2015-14 will not have a material impact on its results of operations, cash flows, or financial position.

2. Acquisitions and Dispositions

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.

Subsequent Event

IXYS Corporation

On January 17, 2018, the Company acquired IXYS Corporation ("IXYS"), a global pioneer in the power semiconductor and integrated circuit markets with a focus on medium to high voltage power control semiconductors across the industrial, communications, consumer and medical markets. IXYS has a broad customer base, serving more than 3,500 customers through its direct sales force and global distribution partners. The acquisition of IXYS is expected to accelerate the Company's growth across the power control market driven by IXYS's extensive power semiconductor portfolio and technology expertise. With IXYS, the Company will be able to diversify and expand its presence within industrial electronics markets, leveraging the strong IXYS industrial OEM customer base. The Company also expects to increase long-term penetration of its power semiconductor portfolio in automotive markets, expanding its global content per vehicle.

The Company has commenced the determination of the purchase price allocation. Upon completion of the acquisition, at IXYS stockholders' election and subject to proration, each share of IXYS common stock, par value \$0.01 per share, owned immediately prior to the effective time were cancelled and extinguished and automatically converted into the right to receive: (i) \$23.00 in cash (subject to applicable withholding tax), without interest (referred to as the cash consideration), or (ii) 0.1265 of a share of common stock, par value \$0.01 per share, of Littelfuse (referred to as the stock consideration and together with the cash consideration, the merger consideration). IXYS stockholders received cash in lieu of any fractional shares of Littelfuse common stock that the IXYS stockholders would otherwise have been entitled to receive. Additionally, each outstanding option to purchase shares of IXYS common stock granted under an IXYS equity plan were assumed by Littelfuse and converted into an option to acquire (i) a number of shares of Littelfuse common stock equal to the number of shares of IXYS common stock subject to such option immediately prior to the effective time multiplied by 0.1265, rounded down to the nearest whole share, with (ii) an exercise price per share of Littelfuse common stock equal to the exercise price of such IXYS stock option immediately prior to the effective time divided by 0.1265, rounded up to the nearest whole cent.

Based on the \$207.5 per share opening price of Littelfuse common stock on January 17, 2018, the consideration IXYS stockholders received in exchange of their IXYS common stock in the acquisition had a value of approximately \$814.8 million comprised of \$380.5 million of cash and \$434.2 million of Littelfuse stock. In addition to the consideration transferred related to IXYS common stock, the value of consideration transferred, and included in the purchase price, related to IXYS stock options that were converted to Littelfuse stock options, or cash settled, had a value of approximately \$41.7 million. As a

NOTES TO CONSOLIDATED FINANCIAL STATEMENTS

result, total consideration is valued at approximately \$856.5 million. The Company is in the process of estimating the purchase price allocation.

2017 Acquisitions

U.S. Sensor

On July 7, 2017, the Company acquired the assets of U.S. Sensor Corporation (“U.S. Sensor”). The acquisition purchase price of \$24.3 million, net of the finalization of an income tax gross up which was settled in the fourth quarter of 2017, was funded with available cash. The acquired business expands the Company’s existing sensor portfolio in several key electronics and industrial end markets. U.S. Sensor manufactures a variety of high quality negative temperature coefficient thermistors as well as thermistor probes and assemblies. Product lines also include thin film platinum resistance temperature detectors (“RTDs”) and RTD assemblies.

The following table summarizes the purchase price allocation of the fair value of assets acquired and liabilities assumed in the U.S. Sensor acquisition:

(in thousands)	Purchase Price Allocation
Total purchase consideration:	
Cash.....	\$ <u>24,340</u>
Allocation of consideration to assets acquired and liabilities assumed:	
Current assets, net	\$ 4,635
Patented and unpatented technologies.....	1,090
Trademarks and tradenames	200
Non-compete agreement	50
Customer relationships.....	2,830
Goodwill.....	16,075
Current liabilities.....	(540)
	\$ <u>24,340</u>

Included in U.S. Sensor’s current assets, net was approximately \$1.5 million of receivables. All U.S. Sensor goodwill, other assets and liabilities were recorded in the Electronics segment and reflected in the United States geographic area. The goodwill resulting from this acquisition consists largely of the Company’s expected future product sales and synergies from combining U.S. Sensor’s products and technology with the Company’s existing electronics product portfolio. Goodwill for the above acquisition is expected to be deductible for tax purposes.

As required by purchase accounting rules, the Company recorded a \$1.6 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 third quarter of 2017, as the acquired inventory was sold, and reflected as other non-segment costs.

Monolith

In December 2015, the Company invested \$3.5 million in the preferred stock of Monolith Semiconductor Inc. (“Monolith”), a U.S. start-up Company developing silicon carbide technology, which represented approximately 12% of the common stock of Monolith on an as-converted basis. The Company accounted 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.

On February 28, 2017, pursuant to a Securities Purchase Agreement between the Company and the stockholders of Monolith and conditioned on Monolith achieving a product development milestone and other provisions, the Company acquired approximately 62% of the outstanding common stock of Monolith for \$15 million. The Securities Purchase Agreement includes provisions whereby the Company will acquire the remaining outstanding stock of Monolith (“non-controlling interest”) at a time or times based on Monolith meeting certain technical and sales targets. Consideration for the additional investment(s) will range from \$1.0 million to \$10 million and will be paid no later than June 30, 2019.

NOTES TO CONSOLIDATED FINANCIAL STATEMENTS

The additional investment resulted in the Company gaining control of Monolith and was accounted for as a step-acquisition with the fair value of the original investment immediately before the acquisition estimated to be approximately \$3.5 million. As the fair value of the investment immediately prior to the transaction equaled the carrying value, there was no impact on the Company's Consolidated Statements of Net Income. As the Securities Purchase Agreement includes an obligation of the Company to mandatorily redeem the non-controlling interest for cash, the fair value of the non-controlling interest was recognized as a liability on the Company's Consolidated Balance Sheets. Changes in the fair value of the non-controlling interest are recognized in the Company's Consolidated Statements of Net Income.

Commencing March 1, 2017, Monolith was reflected as a consolidated subsidiary within the Company's Consolidated Financial Statements. Had the acquisition occurred as of January 1, 2017, the impact on the Company's consolidated results of operations would not have been material.

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

(in thousands)	Purchase Price Allocation
Total purchase consideration:	
Original investment	\$ 3,500
Cash, net of cash acquired	14,172
Fair value of commitment to purchase non-controlling interest	9,000
Total purchase consideration	<u>\$ 26,672</u>
Allocation of consideration to assets acquired and liabilities assumed:	
Current assets, net	\$ 891
Property, plant, and equipment	789
Patented and unpatented technologies	6,720
Non-compete agreement	140
Goodwill	20,641
Current liabilities	(639)
Other non-current liabilities	(1,870)
	<u>\$ 26,672</u>

Included in Monolith's current assets, net was approximately \$0.7 million of receivables. All Monolith goodwill, other assets and liabilities were recorded in the Electronics segment and reflected in the United States geographic area. The goodwill resulting from this acquisition consists largely of the Company's expected future product sales and synergies from combining Monolith's products and technology with the Company's existing electronics product portfolio. Goodwill for the above acquisition is not expected to be deductible for tax purposes.

2016 Acquisitions

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.

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 ON Portfolio acquisition:

(in thousands)	Purchase Price Allocation
Total purchase consideration:	
Cash.....	\$ <u>104,000</u>
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
	\$ <u>104,000</u>

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 Statements 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.

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

(in thousands)	Purchase Price Allocation
Total purchase consideration:	
Cash, net of acquired cash.....	\$ <u>19,162</u>
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)
	\$ <u>19,162</u>

NOTES TO CONSOLIDATED FINANCIAL STATEMENTS

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.

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 acquired cash and after settlement of certain post-closing adjustments. 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.

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

(in thousands)	Purchase Price Allocation
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.....	<u>\$ 348,292</u>
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)
	<u>\$ 348,292</u>

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.

NOTES TO CONSOLIDATED FINANCIAL STATEMENTS

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.

2016 Dispositions

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.

2015 Acquisitions

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.

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

(in thousands)	Purchase Price Allocation
Total purchase consideration:	
Cash, net of acquired cash.....	\$ 5,558
Estimated additional consideration payable	901
Total purchase consideration.....	<u>\$ 6,459</u>
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)
	<u>\$ 6,459</u>

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 Member's or Sigmar as these results were not material to the Company.

NOTES TO CONSOLIDATED FINANCIAL STATEMENTS

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.

3. Inventories

The components of inventories at December 30, 2017 and December 31, 2016 are as follows:

(in thousands)	2017	2016
Raw materials	\$ 39,030	\$ 32,231
Work in process	27,454	23,354
Finished goods	74,305	58,478
Total	\$ 140,789	\$ 114,063

4. Goodwill and Other Intangible Assets

The amounts for goodwill and changes in the carrying value by segment are as follows:

(in thousands)	Electronics	Automotive	Industrial	Total
As of January 2, 2016	\$ 58,246	\$ 80,262	\$ 51,259	\$ 189,767
Additions ^(a)	162,172	70,762	—	232,934
Impairments ^(b)	—	—	(8,794)	(8,794)
Adjustments ^(c)	(4,653)	(6,439)	729	(10,363)
As of December 31, 2016	\$ 215,765	\$ 144,585	\$ 43,194	\$ 403,544
Additions ^(d)	36,716	—	—	36,716
Adjustments ^(e)	26,478	(8,756)	(4,568)	13,154
As of December 30, 2017	\$ 278,959	\$ 135,829	\$ 38,626	\$ 453,414

(a) The 2016 additions resulted primarily from the acquisitions of PolySwitch, ON and Member's.

(b) The 2016 impairments in the Industrial segment was due to the \$8.8 million impairment of Custom Products reporting unit goodwill.

(c) Adjustments in 2016 reflect the impact of changes in foreign exchange rates.

NOTES TO CONSOLIDATED FINANCIAL STATEMENTS

(d) The 2017 additions resulted from the acquisitions of U.S. Sensor and Monolith.

(e) Adjustments in 2017 reflect adjustments to reclass goodwill by segment as well as the impact of changes in foreign exchange rates. The impact of the reclassification was an increase in goodwill to the Electronics segment of \$21.6 million and a decrease of goodwill of \$16.8 million and \$4.8 million to the Automotive segment and the Industrial segment, respectively.

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. 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.

The components of other intangible assets at December 30, 2017 and December 31, 2016 are as follows:

(in thousands)	As of December 30, 2017			
	<u>Weighted Average Useful Life</u>	<u>Gross Carrying Value</u>	<u>Accumulated Amortization</u>	<u>Net Book Value</u>
Patents, licenses and software	11.4	\$ 141,520	\$ 59,609	\$ 81,911
Distribution network	12.1	46,233	33,361	12,872
Customer relationships, trademarks and tradenames.....	15.6	162,679	53,612	109,067
Total		\$ 350,432	\$ 146,582	\$ 203,850

(in thousands)	As of December 31, 2016			
	<u>Weighted Average Useful Life</u>	<u>Gross Carrying Value</u>	<u>Accumulated Amortization</u>	<u>Net Book Value</u>
Patents, licenses and software	11.4	\$ 131,611	\$ 48,004	\$ 83,607
Distribution network	12.1	49,150	30,155	18,995
Customer relationships, trademarks and tradenames.....	14.4	150,887	40,463	110,424
Total		\$ 331,648	\$ 118,622	\$ 213,026

During the year ended December 31, 2016, the Company recognized non-cash impairment charges totaling \$6.0 million, of which \$2.2 million related to the impairment of certain customer relationship intangible assets in the Custom Products reporting unit within the Industrial segment and \$3.8 million related to the impairment of the Custom Products tradename. The impairment of the customer relationship intangible assets resulted from lower expectations of future revenue to be derived from those relationships while the tradename impairment resulted from lower expectations of future cash flows of the Custom Products reporting unit.

During the years ended December 30, 2017 and December 31, 2016, the Company recorded additions to other intangible assets of \$11.0 million and \$144.4 million, respectively, for acquisitions during those years, the components of which were as follows:

(in thousands)	2017		2016	
	<u>Weighted Average Useful Life</u>	<u>Amount</u>	<u>Weighted Average Useful Life</u>	<u>Amount</u>
Patents, licenses and software	9.6	\$ 7,810	9.6	\$ 65,449
Customer relationships, trademarks and tradenames.....	9.0	3,220	13.5	78,919
Total		\$ 11,030		\$ 144,368

For intangible assets with definite lives, the Company recorded amortization expense of \$24.7 million, \$19.3 million, and \$11.9 million in 2017, 2016, and 2015, respectively.

NOTES TO CONSOLIDATED FINANCIAL STATEMENTS

Estimated amortization expense related to intangible assets with definite lives at December 30, 2017 is as follows:

(in thousands)	Amount
2018.....	\$ 25,689
2019.....	25,528
2020.....	24,879
2021.....	23,093
2022.....	22,058
2023 and thereafter.....	82,603
	<u>\$ 203,850</u>

5. 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 \$11.6 million, \$12.6 million, and \$11.1 million in 2017, 2016, and 2015, 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 30, 2017, all operating leases outstanding were with third parties. The Company did not have any capital leases as of December 30, 2017.

Future minimum payments for all non-cancellable operating leases with initial terms of one year or more at December 30, 2017 are as follows:

(in thousands)	Future Minimum Payments
2018.....	\$ 10,842
2019.....	6,194
2020.....	5,425
2021.....	4,632
2022.....	3,464
2023 and thereafter.....	5,021
	<u>\$ 35,578</u>

6. Debt

The carrying amounts of debt at December 30, 2017 and December 31, 2016 are as follows:

(in thousands)	2017	2016
Revolving Credit Facility.....	\$ —	\$ 112,500
Term Loan.....	122,500	120,313
Entrusted loan.....	—	3,522
Euro Senior Notes, Series A due 2023.....	139,623	122,313
Euro Senior Notes, Series B due 2028.....	113,369	99,314
U.S. Senior Notes, Series A due 2022.....	25,000	—
U.S. Senior Notes, Series B due 2027.....	100,000	—
Unamortized debt issuance costs.....	(4,881)	(3,820)
Total debt.....	<u>495,611</u>	<u>454,142</u>
Less: Current maturities.....	(6,250)	(6,250)
Total long-term debt.....	<u>\$ 489,361</u>	<u>\$ 447,892</u>

NOTES TO CONSOLIDATED FINANCIAL STATEMENTS

Revolving Credit Facility / Term Loan

On March 4, 2016, the Company entered into a five-year credit agreement (“Credit Agreement”) with a group of lenders for up to \$700.0 million. The Credit Agreement consisted of an unsecured revolving credit facility (“Revolving Credit Facility”) of \$575.0 million and an unsecured term loan credit facility (“Term Loan”) of up to \$125.0 million. In addition, the Company had the ability, from time to time, to increase the size of the Revolving Credit Facility and the Term Loan 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, the Company was 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.

On October 13, 2017, the Company amended the Credit Agreement to increase the Revolving Credit Facility from \$575.0 million to \$700.0 million and increase the Term Loan from \$125.0 million to \$200.0 million and to extend the expiration date from March 4, 2021 to October 13, 2022. The Credit Agreement also includes the option for the Company to increase the size of the Revolving Credit Facility and the Term Loan by up to an additional \$300.0 million, in the aggregate, subject to the satisfaction of certain conditions set forth in the Credit Agreement. Term Loans may be made in up to two advances. The first advance of \$125.0 million occurred on October 13, 2017 and the second advance of \$75.0 million occurred on January 16, 2018. For the Term Loan, the Company is required to make quarterly principal payments of 1.25% of the original term loan (\$1.6 million as of December 30, 2017 increasing to \$2.5 million with the second advance on January 16, 2018) through maturity, with the remaining balance due on October 13, 2022.

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 0.25%, 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 3.07% at December 30, 2017.

As of December 30, 2017, the Company had \$0.1 million outstanding in letters of credit and had available \$699.9 million of borrowing capacity under the Revolving Credit Facility. At December 30, 2017, the Company was in compliance with all covenants under the Credit Agreement.

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 (“Euro Senior Notes, Series A due 2023”), and €95 million in aggregate amount of 1.83% Senior Notes, Series B due December 8, 2028 (“Euro Senior Notes, Series B due 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 (“U.S. Senior Notes, Series A due 2022”), and \$100 million in aggregate principal amount of 3.74% Senior Notes, Series B, due February 15, 2027 (“U.S. Senior Notes, Series B due 2027”) (together, the “U.S. Senior Notes due 2022 and 2027”) were funded. Interest on the U.S. Senior Notes due 2022 and 2027 is payable semiannually on February 15 and August 15, commencing August 15, 2017.

On November 15, 2017, the Company entered into a Note Purchase Agreement pursuant to which the Company issued and sold \$175 million in aggregate principal amount of senior notes in two series. On January 16, 2018, \$50 million aggregate principal amount of 3.48% Senior Notes, Series A, due February 15, 2025 (“U.S. Senior Notes, Series A due 2025”) and \$125 million in aggregate principal amount of 3.78% Senior Notes, Series B, due February 15, 2030 (“U.S. Senior Notes, Series A due 2030”) (together the “U.S. Senior Notes due 2025 and 2030” and with the Euro Senior Notes and the U.S. Senior Notes 2022 and 2027, the “Senior Notes”) were funded. Interest on the U.S. Senior Notes due 2025 and 2030 will be payable on February 15 and August 15, commencing on August 15, 2018.

NOTES TO CONSOLIDATED FINANCIAL STATEMENTS

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 30, 2017, the Company was in compliance with all covenants under 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 \$1.6 million in relation to the 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 Credit Agreement. The Company additionally incurred aggregate debt issuance costs of \$2.6 million in relation to the Senior Notes which are being amortized over the respective lives of the Series A and B 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 paid off as of September 30, 2017.

Interest paid on all Company debt was approximately \$13.4 million, \$8.6 million, and \$4.1 million in 2017, 2016, and 2015, respectively.

Debt Maturities

Scheduled maturities of the Company’s long-term debt for each of the five years succeeding December 30, 2017 and thereafter are summarized as follows:

(in thousands)	Scheduled Maturities
2018.....	\$ 6,250
2019.....	6,250
2020.....	6,250
2021.....	6,250
2022.....	122,500
2023 and thereafter.....	352,992
	\$ 500,492

NOTES TO CONSOLIDATED FINANCIAL STATEMENTS

7. Fair Value of Assets and Liabilities

For assets and liabilities measured at fair value on a recurring and nonrecurring basis, a three-level hierarchy of measurements based upon observable and unobservable inputs is used to arrive at fair value. Observable inputs are developed based on market data obtained from independent sources, while unobservable inputs reflect the Company's assumptions about valuation based on the best information available in the circumstances. Depending on the inputs, the Company classifies each fair value measurement 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 and classified within Level 1 of the valuation hierarchy. Such securities are further detailed in Note 1, *Summary of Significant Accounting Policies and Other Information*.

Defined Benefit Plan Assets / Non-qualified Supplemental Retirement and Savings Plan Investments

See Note 8, *Benefit Plans* for description of valuation methodologies and investment balances for defined benefit plan assets and investments related to the Company's Non-Qualified Supplemental Retirement and Savings Plan.

The following table presents assets measured at fair value by classification within the fair value hierarchy as of December 30, 2017:

(in thousands)	Fair Value Measurements Using			Total
	Level 1	Level 2	Level 3	
Investment in Polytronics.....	\$ 10,993	\$ —	\$ —	\$ 10,993

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
	Level 1	Level 2	Level 3	
Investment in Polytronics.....	\$ 10,435	\$ —	\$ —	\$ 10,435

There were no changes during 2017 to the Company's valuation techniques used to measure asset and liability fair values on a recurring basis. As of December 30, 2017 and December 31, 2016, the Company held no non-financial assets or liabilities that are required to be measured at fair value on a recurring basis.

In addition to the methods and assumptions used for the financial instruments recorded at fair value as discussed above, the following methods and assumptions are used to estimate the fair value of other financial instruments that are not marked to market on a recurring basis. 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 December 30, 2017 and December 31, 2016, as the rates on these borrowings are variable in nature.

NOTES TO CONSOLIDATED FINANCIAL STATEMENTS

The carrying value and estimated fair values of the Company's Euro Senior Notes, Series A and Series B and U.S. Senior Notes, Series A and Series B, as of December 30, 2017 and December 31, 2016 were as follows:

(in thousands)	2017		2016	
	Carrying Value	Estimated Fair Value	Carrying Value	Estimated Fair Value
Euro Senior Notes, Series A due 2023	\$ 139,623	\$ 138,294	\$ 122,313	\$ 122,586
Euro Senior Notes, Series B due 2028	113,369	111,579	95,314	99,230
U.S. Senior Notes, Series A due 2022	25,000	24,737	25,000	24,746
U.S. Senior Notes, Series B due 2027	100,000	99,992	100,000	98,660

The fair value as of the measurement date, net book value as of the end of the year and related impairment charge for assets measured at fair value on a nonrecurring basis subsequent to initial recognition during the years ended December 31, 2016 were as follows:

(in thousands)	Year Ended December 31, 2016		As of December 31, 2016
	Impairment Charge	Fair Value Measurement (Level 3)	Net Book Value
Goodwill.....	\$ 8,794	\$ —	\$ —
Other intangible assets.....	6,015	680	660
Total	\$ 14,809	\$ 680	\$ 660

During the year ended December 31, 2016, the goodwill related to the Custom Products reporting unit was written down to its implied fair value of zero. In addition, the company recorded a \$6.0 million impairment charge, including \$3.8 million related to the Custom Products trade name and \$2.2 million for the customer relationship intangible assets. After recording the impairment charges, there was no remaining value related to the customer relationship intangible assets while \$0.7 million remaining net book value related to the tradename.

The company's accounting and finance management determines the valuation policies and procedures for Level 3 fair value measurements and is responsible for the development and determination of unobservable inputs. The following table presents the fair value, valuation techniques and related unobservable inputs for these Level 3 measurements for the year ended December 31, 2016:

(in thousands, except rates data)	Fair Value	Valuation Technique	Unobservable Inputs	Rates
Tradename.....	\$ 680	Relief from royalty	Discount rate: Royalty rate:	18% 1%
Customer relationships.....	\$ —	Excess earnings	Discount rate: Attrition rate:	18% 5%

8. Benefit Plans

The Company has Company-sponsored defined benefit pension plans covering employees in the U.K., Germany, the Philippines, China, Japan, Mexico, Italy 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 mainland China, France, Germany, Japan, Mexico, and Taiwan (China), together with a small amount of plan assets in Taiwan (China).

NOTES TO CONSOLIDATED FINANCIAL STATEMENTS

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.

Benefit plan related information is as follows for the years 2017 and 2016:

(in thousands)	2017	2016
Change in benefit obligation:		
Benefit obligation at beginning of year	\$ 55,606	\$ 50,282
Service cost	2,037	1,509
Interest cost	1,887	1,662
Net actuarial loss (gain)	(433)	10,190
Benefits paid from the trust	(1,405)	(2,329)
Benefits paid directly by the Company	(1,098)	250
Curtailments and settlements	(31)	(427)
Acquisitions	—	2,023
Effect of exchange rate movements	5,477	(7,554)
Other	5,228	—
Benefit obligation at end of year	\$ 67,268	\$ 55,606
Change in plan assets at fair value:		
Fair value of plan assets at beginning of year	\$ 42,208	\$ 44,629
Actual return on plan assets	2,962	6,929
Employer contributions	264	(126)
Benefits paid	(1,405)	(2,329)
Acquisitions	—	24
Effect of exchange rate movements	4,094	(6,919)
Fair value of plan assets at end of year	48,123	42,208
Net amount recognized/(unfunded status)	\$ (19,145)	\$ (13,398)

Amounts recognized in the Consolidated Balance Sheets as of December 30, 2017 and December 31, 2016 consist of the following:

(in thousands)	2017	2016
Amounts recognized in the Consolidated Balance Sheets consist of:		
Noncurrent assets	\$ 78	\$ —
Current benefit liability	(481)	—
Noncurrent benefit liability	(18,742)	(13,398)
Net liability recognized	\$ (19,145)	\$ (13,398)

NOTES TO CONSOLIDATED FINANCIAL STATEMENTS

Amounts recognized in accumulated other comprehensive income (loss), pre-tax as of December 30, 2017 and December 31, 2016 consist of:

(in thousands)	2017	2016
Net actuarial loss	\$ 12,261	\$ 13,107
Prior service (cost)	—	—
Net amount recognized, pre-tax	\$ 12,261	\$ 13,107

The estimated net actuarial loss (gain) which will be amortized from accumulated other comprehensive income (loss) into benefit cost in 2018 is approximately \$0.3 million.

The components of pension expense for the years 2017, 2016, and 2015 are as follows:

(in thousands)	2017	2016	2015		
			U.S.	Foreign	Total
Components of net periodic benefit cost:					
Service cost	\$ 2,037	\$ 1,509	\$ 750	\$ 824	\$ 1,574
Interest cost	1,887	1,662	3,093	1,735	4,828
Expected return on plan assets	(1,990)	(1,935)	(2,749)	(2,346)	(5,095)
Amortization of losses	337	306	870	221	1,091
Net periodic benefit cost	2,271	1,542	1,964	434	2,398
Curtailment/Settlement loss (gain)	(25)	(36)	29,928	—	29,928
Total expense (income) for the year	\$ 2,246	\$ 1,506	\$ 31,892	\$ 434	\$ 32,326

Weighted average assumptions used to determine net periodic benefit cost for the years 2017, 2016, and 2015 are as follows:

	2017	2016	2015	
			U.S.	Foreign
Discount rate	3.0%	3.7%	3.9%	3.7%
Expected return on plan assets	4.5%	4.9%	6.8%	5.1%
Compensation increase rate	4.5%	5.3%	—	5.3%
Measurement dates	12/31/16	1/2/16	12/27/14	12/27/14

The accumulated benefit obligation for the foreign plans was \$60.5 million and \$51.3 million at December 30, 2017 and December 31, 2016, respectively.

The following table provides a summary of under-funded or unfunded pension benefit plans with projected benefit obligations in excess of plan assets as of December 30, 2017 and December 31, 2016:

(in thousands)	2017	2016
Projected benefit obligation	\$ 28,515	\$ 48,985
Fair value of plan assets	9,292	42,179

The following table provides a summary of under-funded or unfunded pension benefit plans with accumulated benefit obligations in excess of plan assets as of December 30, 2017 and December 31, 2016:

(in thousands)	2017	2016
Accumulated benefit obligation	\$ 18,990	\$ 51,306
Fair value of plan assets	6,003	38,912

NOTES TO CONSOLIDATED FINANCIAL STATEMENTS

Weighted average assumptions used to determine benefit obligations as of December 30, 2017, December 31, 2016 and January 2, 2016 are as follows:

	2017	2016	2015
Discount rate	3.1%	2.6%	3.8%
Compensation increase rate.....	5.0%	4.5%	6.2%
Measurement dates.....	12/30/17	12/31/16	1/2/16

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

(in thousands)	Expected Benefit Payments
2018.....	\$ 2,467
2019.....	2,474
2020.....	2,473
2021.....	2,802
2022.....	2,776
2023-2027	16,777

The Company expects to make approximately \$1.4 million of contributions to the plans in 2018.

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 4.5% on 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:

	Asset Allocation	
	2017	2016
Equity securities	35%	32%
Debt securities.....	64%	65%
Cash and equivalents.....	1%	3%
	100%	100%

The Company segregated its plan assets by the following major categories and level for determining their fair value as of December 30, 2017 and December 31, 2016. All plan assets that are valued using the net asset value per share (“NAV”) practical expedient have not been included within the fair value hierarchy but are separately disclosed.

Cash and cash equivalents – Carrying value approximates fair value. As such these assets were classified as Level 1. The Company also invests in certain short-term investments which are valued using the amortized cost method and at NAV.

Equity – The values of individual equity securities were based on quoted prices in active markets. As such, these assets are classified as Level 1. Additionally, the Company invests in certain equity funds that are valued at calculated NAV.

Fixed income – Fixed income securities are typically priced based on a last trade basis and are exchange-traded. Accordingly, the Company classified fixed income securities as Level 1. The Company also invests in certain fixed income funds which are valued at NAV.

For any Level 2 plan assets, management reviews significant investments on a periodic basis including investigation of unusual fluctuations in price or returns and obtaining an understanding of the pricing methodology to assess the reliability of third-party pricing estimates.

The valuation methodologies described above may generate a fair value calculation that may not be indicative of net realizable value or future fair values. While the Company believes the valuation methodologies used are appropriate, the use of different methodologies or assumptions in calculating fair value could result in different amounts. The Company invests in various

NOTES TO CONSOLIDATED FINANCIAL STATEMENTS

assets in which valuation is determined by NAV. The Company believes that the NAV is representative of fair value at the reporting date, as there are no significant restrictions on redemption of these investments or other reasons to indicate that the investment would be redeemed at an amount different than the NAV.

The following table presents the Company's pension plan assets measured at fair value by classification within the fair value hierarchy as of December 30, 2017:

(in thousands)	<u>Fair Value Measurements Using</u>			NAV	Total
	<u>Level 1</u>	<u>Level 2</u>	<u>Level 3</u>		
Equities:					
Global Equity 50:50 Index Fund	\$ —	\$ —	\$ —	\$ 7,898	\$ 7,898
Global Equity 50:50 GBP Hedged Fund.....	—	—	—	8,134	8,134
Philippine Stock.....	1,031	—	—	—	1,031
Fixed income:					
Investment Grade Corporate Bond Funds	6,003	—	—	—	6,003
Over 15y Gilts Index Fund	—	—	—	3,684	3,684
Active Corp Bond – Over 10 Yr Fund.....	—	—	—	6,835	6,835
Over 5y Index-Linked Gilts Fund.....	—	—	—	12,049	12,049
Philippine Long Government Securities.....	1,362	—	—	—	1,362
Philippine Long Corporate Bonds	723	—	—	—	723
Cash and equivalents.....	173	—	—	231	404
Total pension plan assets.....	<u>\$ 9,292</u>	<u>\$ —</u>	<u>\$ —</u>	<u>\$ 38,831</u>	<u>\$ 48,123</u>

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)	<u>Fair Value Measurements Using</u>			NAV	Total
	<u>Level 1</u>	<u>Level 2</u>	<u>Level 3</u>		
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.....	<u>\$ 8,638</u>	<u>\$ —</u>	<u>\$ —</u>	<u>\$ 33,570</u>	<u>\$ 42,208</u>

Defined Contribution Plan

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. The Company may provide an additional discretionary match to participants and made discretionary matches of 2% of the employee's eligible compensation for each of the years ended December 30, 2017, December 31, 2016 and January 2, 2016. Employees are immediately vested in their contributions plus actual earnings thereon, as well as the Company contributions. Company matching contributions amounted to \$3.5 million, \$3.2 million, and \$2.8 million in 2017, 2016, and 2015, respectively.

Non-qualified Supplemental Retirement and Savings Plan

The Company has a non-qualified Supplemental Retirement and Savings Plan which provides additional retirement benefits for certain management employees and named executive officers by allowing participants to defer a portion of their annual compensation. The Company maintains accounts for participants through which participants make investment elections. The

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investments are subject to the claims of the Company's creditors and the Company is responsible for the payment of all benefits under the plan from its general assets. As of December 30, 2017, there was \$8.0 million of marketable securities related to the plan included in *Other assets* and \$8.0 million of accrued compensation included in *Other long-term liabilities*. The marketable securities are classified as Level 1 under the fair value hierarchy as they are maintained in mutual funds with readily determinable fair value. The Company made matching contributions to the plan of \$0.3 million in 2017.

9. 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 to employees and directors. As of December 30, 2017, there were 1.3 million shares available for issuance of future awards under the Company's equity-based compensation plans.

Stock options 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 30, 2017.

	<u>Shares Under Option</u>	<u>Weighted Average Price</u>	<u>Weighted Average Remaining Contract Life (Years)</u>	<u>Aggregate Intrinsic Value (000's)</u>
Outstanding December 31, 2016	356,184	\$ 98.65		
Granted	76,082	154.15		
Exercised	(27,965)	84.93		
Forfeited.....	—	NA		
Outstanding December 30, 2017	<u>404,301</u>	110.04	4.5	\$ 35,488
Exercisable December 30, 2017	<u>203,745</u>	92.36	3.6	21,486

The following table provides a reconciliation of non-vested restricted share and share unit awards for the fiscal year ended December 30, 2017.

	<u>Shares</u>	<u>Weighted Average Grant-Date Fair Value</u>
Nonvested December 31, 2016.....	207,330	\$ 106.92
Granted	95,621	151.91
Vested	(95,520)	102.49
Forfeited.....	(7,738)	111.56
Nonvested December 30, 2017.....	<u>199,693</u>	130.40

The total intrinsic value of options exercised during 2017, 2016, and 2015 was \$2.2 million, \$13.3 million, and \$5.0 million, respectively. The total fair value of shares vested was \$15.0 million, \$10.7 million, and \$8.1 million for 2017, 2016, and 2015, respectively. The total amount of share-based liabilities paid was \$0.9 million, \$0.6 million and \$0.4 million for 2017, 2016, and 2015, 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 30, 2017, the unrecognized compensation cost for options, restricted shares and performance shares was \$15.9 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 \$17.3 million, \$12.8 million, and \$10.7 million for 2017, 2016, and 2015, respectively. The total income tax benefit recognized in the Consolidated Statements of Net Income was \$6.0 million, \$4.4 million and \$3.7 million for 2017, 2016, and 2015, respectively.

NOTES TO CONSOLIDATED FINANCIAL STATEMENTS

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:

	<u>2017</u>	<u>2016</u>	<u>2015</u>
Weighted average fair value of options granted	\$30.77	\$26.06	\$21.99
Assumptions:			
Risk-free interest rate	1.79%	1.37%	1.25%
Expected dividend yield	0.86%	0.97%	1.04%
Expected stock price volatility	23.0%	26.0%	28.0%
Expected life of options (years)	4.4	4.6	4.6

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 2017, 2016, and 2015:

(in thousands)	Pension and postretirement liability and reclassification adjustments ^(a)	Gain (Loss) on investments	Foreign currency translation adjustments	Accumulated other comprehensive income (loss)
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)
2017 activity	1,147	(974)	10,738	10,911
Balance at December 30, 2017.....	<u>\$ (10,836)</u>	<u>\$ 9,795</u>	<u>\$ (62,627)</u>	<u>\$ (63,668)</u>

(a) Net of tax of \$1.4 million, \$1.1 million, and \$0.7 million at December 30, 2017; December 31, 2016; and January 2, 2016, 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, 2017 to April 30, 2018. The Company did not repurchase any shares of its common stock during fiscal 2017 under the stock repurchase program.

10. Income Taxes

On December 22, 2017, the U.S. enacted legislation commonly referred to as the Tax Cuts and Jobs Act (the "Tax Act"). Among other things, the Tax Act reduces the U.S. corporate federal income tax rate from 35% to 21%, adds base broadening provisions which limit deductions and address excessive international tax planning, imposes a one-time tax (the "Toll Charge") on accumulated earnings of certain non-U.S. subsidiaries and enables repatriation of earnings of non-U.S. subsidiaries free of U.S. federal income tax. Other than the Toll Charge (which is applicable to the Company for 2017), the provisions will generally be applicable to the Company in 2018 and beyond.

In accordance with the guidance provided in SEC Staff Accounting Bulletin ("SAB") No. 118, in the fourth quarter of 2017 the Company recorded a charge of \$47 million as a provisional reasonable estimate of the impact of the Tax Act, including \$49 million for the Toll Charge net of \$2 million for other net tax benefits. The Company is continuing to analyze the Tax Act and plans to finalize the estimate within the measurement period outlined in SAB No. 118. The final charge may differ

NOTES TO CONSOLIDATED FINANCIAL STATEMENTS

from the provisional reasonable estimate if provisions of the Tax Act, and their interaction with other provisions of the U.S. Internal Revenue Code, are interpreted differently than interpretations made by the Company in determining the estimate, whether through issuance of administrative guidance, or through further review of the Tax Act by the Company and its advisors. Aside from these interpretation issues, the final charge may differ from the provisional reasonable estimate due to refinements of accumulated non-U.S. earnings and tax pool data.

One of the base broadening provisions of the Tax Act is commonly referred to as the “GILTI” provisions. In accordance with guidance issued by the FASB staff, the Company has not adopted an accounting policy for GILTI. Thus, the U.S. balance sheet tax accounts, notably deferred taxes, were computed without consideration of the possible future impact of the GILTI provisions. The Company intends to adopt an accounting policy for GILTI within the measurement period outlined in SAB 118.

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

(in thousands)	2017	2016	2015
Domestic	\$ (20,496)	\$ (9,563)	\$ 1,313
Foreign	224,533	132,837	105,635
Income before income taxes.....	\$ 204,037	\$ 123,274	\$ 106,948

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

(in thousands)	2017	2016	2015
Current:			
Federal	\$ 34,060	\$ (3,992)	\$ (6,686)
State	450	(648)	2,078
Foreign.....	32,945	28,695	19,211
Subtotal	67,455	24,055	14,603
Deferred:			
Federal and State.....	16,562	(1,594)	11,330
Foreign.....	501	(3,675)	149
Subtotal	17,063	(5,269)	11,479
Provision for income taxes	\$ 84,518	\$ 18,786	\$ 26,082

The current federal and state income tax expense for 2017 includes the preliminary estimate of \$49 million for the Toll Charge as discussed above, partially offset by \$13 million of foreign tax credits. The Company will elect to pay the 2017 current federal income tax over the eight-year period prescribed by the Tax Act. The long-term portion of the 2017 current federal income tax (approximately \$32 million) is recorded in the *Other long-term liabilities* on the Consolidated Balance Sheets as of December 30, 2017.

The current federal tax benefit for 2016 includes an estimated \$3 million benefit as a result of the 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 8, *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:

(in thousands)	2017	2016	2015
Tax expense at statutory rate of 35%	\$ 71,413	\$ 43,146	\$ 37,432
Provisional amount of the Toll charge.....	49,000	—	—
Provisional Tax Act impact other than the Toll charge	(1,962)	—	—
State and local taxes, net of federal tax benefit.....	292	(415)	1,907
Non-U.S. income tax rate differential.....	(47,077)	(25,471)	(18,253)
Impairment of goodwill without tax benefit	—	3,088	—
Tax on unremitted earnings	12,202	2,747	—
Mexico manufacturing operations restructuring	—	—	4,841
Nondeductible professional fees.....	1,240	313	1,011
Tax deduction for stock of foreign subsidiary	—	(3,896)	—
Other, net	(590)	(726)	(856)
Provision for income taxes.....	\$ 84,518	\$ 18,786	\$ 26,082

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 30, 2017 and December 31, 2016, are as follows:

(in thousands)	2017	2016
Deferred tax assets:		
Accrued expenses	\$ 24,094	\$ 31,770
Foreign tax credit carryforwards.....	1,053	6,472
Accrued restructuring	156	456
Capital losses	3,165	4,557
Domestic and foreign net operating loss carryforwards	5,778	2,223
Gross deferred tax assets.....	34,246	45,478
Less: Valuation allowance	(6,203)	(6,738)
Total deferred tax assets	28,043	38,740
Deferred tax liabilities:		
Tax depreciation and amortization in excess of book.....	21,254	23,471
Tax on unremitted earnings	12,000	1,750
Total deferred tax liabilities	33,254	25,221
Net deferred tax (liabilities) assets	\$ (5,211)	\$ 13,519

The deferred tax asset valuation allowance is related to a U.S. capital loss carryover (which expire in 2018) and tax attributes of certain non-US subsidiaries which are not expected to be realized. The remaining net operating losses either have no expiration date or are expected to be utilized prior to expiration (which begin expiring in 2021). The Company paid income taxes of \$31.8 million, \$35.6 million, and \$23.3 million in 2017, 2016, and 2015, respectively, and received income tax refunds of \$13.7 million in 2017.

Deferred income taxes are not provided on the excess of the investment value for financial reporting over the tax basis of investments in those non-U.S. subsidiaries for which such excess is considered to be permanently reinvested in those operations. As of December 30, 2017, unremitted earnings of the Company's non-U.S. subsidiaries was approximately \$680 million. The Company recognized deferred tax liabilities of \$12.0 million (\$11.8 million for non-U.S. taxes and \$0.2 million for U.S. state taxes) as of December 30, 2017 and \$1.8 million as of December 31, 2016, related to taxes on certain non-U.S. earnings which are not considered to be permanently reinvested. Some of these taxes may provide a U.S. federal income tax benefit as a foreign tax credit. However, due to uncertainty in regard to the Tax Act's provisions, no such tax benefit was recorded. The Company will reconsider this provisional conclusion when it finalizes its preliminary reasonable estimate of the impact of the Tax Act, based upon interpretations and administrative guidance as of that time.

The Company has three subsidiaries in China which benefit from lowered income tax rates due to "tax holidays" which apply for three-year periods, subject to extension. One such tax holiday expires in 2018, and the Company expects to be granted an

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extension. Such tax holidays contributed \$5.7 million in tax benefits, or \$0.25 per diluted share, during 2017, with similar amounts expected in future years while such tax holidays are in effect.

A reconciliation of the beginning and ending amount of unrecognized tax benefits as of December 30, 2017, December 31, 2016, and January 2, 2016 is as follows:

(in thousands, except per share amounts)	Unrecognized Tax Benefits
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
Additions for tax positions taken in the current year	370
Other	(1,327)
Balance at December 30, 2017	\$ 7,660

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, \$0.9 million, and \$0.2 million in 2017, 2016, and 2015, respectively. Accrued interest was \$3.3 million, \$2.4 million, and \$1.5 million as of December 30, 2017, December 31, 2016, and January 2, 2016, respectively.

The amount of unrecognized tax benefits at December 30, 2017 was \$7.7 million. This total represents the net amount of tax benefits that, if recognized, would favorably affect the effective income tax rate in future periods. The company does not expect any material 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 2014 onward although the company has been audited for 2014 (during 2016) and the audit concluded with no additional tax due. In late 2017, the U.S. Internal Revenue Service began an examination of the Company's federal income tax returns for 2015 and 2016 (with certain aspects of 2014 also subject to review as a consequence of a carryback of tax attributes from 2016). Foreign and U.S. state statute of limitations generally range from three to seven years. The German tax authority is currently conducting its examination for tax years 2011 through 2014. Other non-U.S. tax examinations occur from time to time, including one which is currently in process in Italy. The company does not expect to recognize a significant amount of additional tax expense as a result of concluding any of these examinations.

NOTES TO CONSOLIDATED FINANCIAL STATEMENTS

11. Earnings Per Share

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

(in thousands, except per share amounts)	2017	2016	2015
Numerator:			
Net income as reported	\$ 119,519	\$ 104,488	\$ 80,866
Denominator:			
Weighted average shares outstanding			
Basic	22,687	22,559	22,565
Effect of dilutive securities	244	168	154
Diluted	22,931	22,727	22,719
Earnings Per Share:			
Basic earnings per share	\$ 5.27	\$ 4.63	\$ 3.58
Diluted earnings per share	\$ 5.21	\$ 4.60	\$ 3.56

Potential shares of common stock attributable to stock options excluded from the earnings per share calculation because their effect would be anti-dilutive were 37,443 shares, 53,448 shares, and 113,130 shares in 2017, 2016, and 2015, respectively.

On January 17, 2018, the Company acquired IXYS through a combination of cash, Littelfuse common stock, and the value of converted, or cash settled IXYS equity awards. The Company issued approximately 2.1 million shares of Littelfuse common stock and converted IXYS equity awards into approximately 0.5 million Littelfuse equity awards.

12. 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:* Consists of one of the broadest product offerings in the industry, including fuses and fuse accessories, positive temperature coefficient (“PTC”) resettable fuses, polymer electrostatic discharge (“ESD”) suppressors, varistors, gas discharge tubes; semiconductor and power semiconductor products such as discrete transient voltage suppressor (“TVS”) diodes, TVS diode arrays, protection and switching thyristors, silicon carbide, metal-oxide-semiconductor field-effect transistors (“MOSFETs”) and silicon carbide diodes; and insulated gate bipolar transistors (“IGBT”) technologies. The segment covers a broad range of end markets, including consumer electronics, automotive electronics, IT and telecommunications equipment, medical devices, lighting products, and white goods.

NOTES TO CONSOLIDATED FINANCIAL STATEMENTS

- *Automotive Segment:* Consists of a wide range of circuit protection, power control and sensing technologies for global original equipment manufacturers (“OEMs”), Tier-I suppliers and parts distributors in the automotive, commercial vehicle, and agricultural and construction equipment industries. Passenger car fuse products include fuses and fuse accessories, including blade fuses, battery cable protectors, varistors, high-current fuses, and high-voltage fuses for hybrid and electric vehicles. Commercial vehicle products include fuses, switches, relays, and power distribution modules for the commercial vehicle industry. Automotive sensor products include a wide range of automotive and commercial vehicle sensors designed to monitor the passenger compartment occupants and environment as well as the vehicle’s powertrain, emissions, speed and suspension.
- *Industrial Segment:* Consists of power fuses, protection relays and controls and other circuit protection products for use in heavy industrial applications such as mining, oil and gas, energy storage, construction, HVAC systems, elevator and other industrial equipment.

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

(in thousands)	2017	2016	2015
Net sales			
Electronics	\$ 661,928	\$ 535,191	\$ 405,497
Automotive	453,227	415,200	339,957
Industrial	106,379	105,768	122,410
Total net sales	<u>\$ 1,221,534</u>	<u>\$ 1,056,159</u>	<u>\$ 867,864</u>
Depreciation and amortization			
Electronics	\$ 35,215	\$ 29,141	\$ 22,936
Automotive	22,459	18,107	13,437
Industrial	5,337	5,889	5,268
Total depreciation and amortization	<u>\$ 63,011</u>	<u>\$ 53,137</u>	<u>\$ 41,641</u>
Operating income (loss)			
Electronics	\$ 155,880	\$ 117,088	\$ 78,194
Automotive	62,571	59,905	53,086
Industrial	10,334	3,615	18,094
Other ^(a)	(10,274)	(49,964)	(45,217)
Total operating income	218,511	130,644	104,157
Interest expense	13,380	8,628	4,091
Foreign exchange loss (gain)	2,376	472	(1,465)
Other (income) expense, net	(1,282)	(1,730)	(5,417)
Income before income taxes	<u>\$ 204,037</u>	<u>\$ 123,274</u>	<u>\$ 106,948</u>

(a) Included in “Other” Operating income (loss) for 2017 are costs related to the acquisition and integration costs associated with the Company’s completed and pending acquisitions (\$8.0 million in *Cost of sales* (“COS”) and *Selling, general, and administrative expenses* (“SG&A”) and charges related to restructuring and production transfers in the Company’s Asia operations (\$2.2 million in SG&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 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 *Research and development expenses*).

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).

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 2017, 2016, and 2015 are as follows:

(in thousands)	2017	2016	2015
Net sales			
United States.....	\$ 383,025	\$ 356,674	\$ 344,305
China.....	321,111	263,701	193,792
Other countries.....	517,398	435,784	329,767
Total net sales.....	\$ 1,221,534	\$ 1,056,159	\$ 867,864
Long-lived assets			
United States.....	\$ 23,490	\$ 23,731	\$ 23,965
China.....	86,310	65,345	37,241
Mexico.....	62,510	52,262	47,130
Philippines.....	31,129	33,345	33,525
Other countries.....	47,138	42,492	20,707
Total long-lived assets.....	\$ 250,577	\$ 217,175	\$ 162,568
Additions to long-lived assets			
United States.....	\$ 3,518	\$ 4,694	\$ 8,609
China.....	32,775	13,181	9,710
Mexico.....	19,395	15,667	9,193
Philippines.....	2,979	5,096	12,620
Other countries.....	7,258	7,590	3,887
Total additions to long-lived assets.....	\$ 65,925	\$ 46,228	\$ 44,019

For the year ended December 30, 2017, approximately 69% of the Company's net sales were to customers outside the United States (exports and foreign operations) including 26% to China (including Hong Kong). Sales to Arrow Electronics, Inc., which were included in the Electronics, Automotive, and Industrial segments, were 10.6% of consolidated net sales in 2017 but less than 10% for 2016 and 2015. No other single customer accounted for more than 10% of net sales during the last three years.

NOTES TO CONSOLIDATED FINANCIAL STATEMENTS

13. Selected Quarterly Financial Data (Unaudited)

The quarterly periods for 2017 are for the 13-weeks ended December 30, 2017, September 30, 2017, July 1, 2017, and April 1, 2017, respectively. 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.

(in thousands, except per share data)

	2017				2016			
	4Q ^(a)	3Q ^(b)	2Q ^(c)	1Q ^(d)	4Q ^(e)	3Q ^(f)	2Q ^(g)	1Q ^(h)
Net sales	\$ 304,849	\$ 317,889	\$ 313,355	\$ 285,441	\$ 284,518	\$ 280,331	\$ 271,912	\$ 219,398
Gross profit.....	126,624	133,651	132,608	113,650	114,337	113,759	97,866	87,155
Operating income	50,780	58,609	60,270	48,852	40,988	27,526	29,702	32,428
Net income/(loss)	(10,819)	42,808	48,638	38,891	27,245	30,802	27,152	19,289
Net income/(loss per share								
Basic	\$ (0.48)	\$ 1.88	\$ 2.13	\$ 1.71	\$ 1.20	\$ 1.36	\$ 1.21	\$ 0.86
Diluted	\$ (0.48)	\$ 1.87	\$ 2.11	\$ 1.69	\$ 1.19	\$ 1.35	\$ 1.20	\$ 0.85

- (a) In the fourth quarter of 2017, the Company recorded an estimated one-time tax charge of \$49 million for the enactment of the Tax Cuts and Jobs Act for deemed repatriation of unremitted earnings of foreign subsidiaries, \$1.4 million in acquisition and integration costs and \$0.7 million in restructuring and production costs related to the transfer of Asian operations.
- (b) In the third quarter of 2017, the Company recorded \$4.8 million in acquisition and integration costs and \$1.5 million in restructuring and production costs related to the transfer of Asian operations.
- (c) In the second quarter of 2017, the Company recorded \$0.3 million in acquisition and integration costs.
- (d) In the first quarter of 2017, the Company \$1.5 million in acquisition and integration costs
- (e) In the fourth quarter of 2016, the Company recorded (\$0.1) million gain related to the Company's transfer of its reed sensor manufacturing operations from the U.S. and China to the Philippines, \$1.2 million of restructuring costs, \$3.2 million in acquisition and integration costs and \$0.3 million in non-cash inventory charges related to the 2016 acquisitions.
- (f) In the third quarter of 2016, the Company recorded \$0.9 million of restructuring costs, \$5.9 million in acquisition and integration costs, \$14.8 million of charges related to the impairment of the Custom Products reporting unit and \$0.5 million in non-cash inventory charges as noted above.
- (g) In the second quarter of 2016, the Company recorded \$0.7 million related to the reed sensor manufacturing transfer as noted above, \$0.1 million of restructuring costs, \$6.1 million in acquisition and integration costs, \$0.3 million in charges related to the closure of the manufacturing facility in Denmark and \$6.9 million in non-cash inventory charges as noted above.
- (h) In the first quarter of 2016, the Company recorded \$1.0 million related to the reed sensor manufacturing transfer as noted above, \$0.4 million of restructuring costs, \$6.2 million in acquisition and integration costs, and \$1.6 million in charges related to the closure of the manufacturing facility in Denmark.

ITEM 9. CHANGES IN AND DISAGREEMENTS WITH ACCOUNTANTS ON ACCOUNTING AND FINANCIAL DISCLOSURE.

None.

ITEM 9A. CONTROLS AND PROCEDURES.

Evaluation of Disclosure Controls and Procedures

The Company maintains disclosure controls and procedures that are designed to ensure that information required to be disclosed in its reports filed under the Securities Exchange Act of 1934, as amended, is recorded, processed, summarized and reported within the time periods specified in the SEC's rules and forms and that such information is accumulated and communicated to management, including the Company's Chief Executive Officer and Chief Financial Officer, as appropriate, to allow for timely decisions regarding required disclosure. In designing and evaluating the disclosure controls and procedures, the Company recognizes that any controls and procedures, no matter how well designed and operated, can provide only reasonable assurance of achieving the desired control objectives, and the Company is required to apply its judgment in evaluating the cost-benefit relationship of possible controls and procedures.

As required by SEC Rule 15d-15(b), the Company carried out an evaluation, under the supervision and with the participation of its management, including the Chief Executive Officer and Chief Financial Officer, of the effectiveness of the design and operation of its disclosure controls and procedures pursuant to SEC Rule 13a-15 as of the end of the period covered by this report. Based on the foregoing, the Company's Chief Executive Officer and Chief Financial Officer concluded that the Company's disclosure controls and procedures were effective as of December 30, 2017.

Management's Report on Internal Control over Financial Reporting

Section 404 of the Sarbanes-Oxley Act of 2002 requires management to include in this Annual Report on Form 10-K a report on management's assessment of the effectiveness of the Company's internal control over financial reporting, as well as an attestation report from the Company's independent registered public accounting firm on the effectiveness of the Company's internal control over financial reporting. Management is responsible for establishing and maintaining adequate internal control over financial reporting as such term is defined in Exchange Act Rule 13a-15(f) and 15d-15(f). The Company's internal control system was designed to provide reasonable assurance to its management and the Board of Directors regarding the preparation and fair presentation of published financial statements.

All internal control systems, no matter how well designed, have inherent limitations. Therefore, even those systems determined effective can provide only reasonable assurance with respect to financial statement preparation and presentation. A material weakness is a deficiency, or a combination of deficiencies, in the internal control over financial reporting such that there is a reasonable possibility that a material misstatement of the annual or interim financial statement will not be prevented or detected on a timely basis.

The Company's management, including the its Principal Executive Officer and Principal Financial Officer, assessed the effectiveness of the Company's internal control over financial reporting as of December 30, 2017, based upon the updated framework in Internal Control — Integrated Framework issued by the Committee of Sponsoring Organizations of the Treadway Commission ("COSO") in 1992 and updated in May 2013. Based on this assessment, the Company's management concluded that, as of December 30, 2017, the Company's internal control over financial reporting was effective.

Changes in Internal Control over Financial Reporting

There has been no change in the Company's internal control over financial reporting (as defined in Rules 13a-15(f) and 15d-15(f) under the Exchange Act) that occurred during the 12 months or fiscal quarter ended December 30, 2017, that has materially affected, or is reasonably likely to materially affect, the Company's internal control over financial reporting.

ITEM 9B. OTHER INFORMATION.

None.

PART III

ITEM 10. DIRECTORS, EXECUTIVE OFFICERS, AND CORPORATE GOVERNANCE.

Except as set forth below, the information required by this item will be contained in the Company's 2017 Proxy Statement and is incorporated herein by reference.

Information concerning directors and nominees for director is set forth in the section titled "Proposal No. 1 Election of Directors" in the Company's proxy statement and is incorporated herein by reference.

Information concerning the Company's Audit Committee and Audit Committee financial expert is set forth in the section titled "Director Independence; Financial Experts" in its proxy statement and is incorporated herein by reference.

Information concerning the procedures by which security holders may recommend nominees to the Company's Board of Directors is set forth in the section titled "Director Candidates" in the Company's proxy statement and is incorporated herein by reference.

Information concerning compliance with Section 16 of the Securities Exchange Act of 1934 is set forth in the section titled "Section 16(a) Beneficial Ownership Reporting Compliance" in the Company's proxy statement and is incorporated herein by reference.

Executive Officers of the Registrant.

The executive officers of the Company are as follows:

Name	Age	Position
David W. Heinzmann	54	President and Chief Executive Officer
Meenal A. Sethna	48	Executive Vice President and Chief Financial Officer
Ryan K. Stafford	50	Executive Vice President, Chief Legal and Human Resources Officer and Corporate Secretary
Matthew J. Cole	46	Senior Vice President and General Manager, Industrial Business Unit
Ian Highley	54	Senior Vice President and General Manager, Semiconductor Products and Chief Technology Officer
Deepak Nayar	58	Senior Vice President and General Manager, Electronics Business Unit
Michael P. Rutz	46	Senior Vice President, Global Operations

David W. Heinzmann has served as the President and Chief Executive Officer and a member of the Board of Directors since January 2017. He previously served as the Company's Chief Operating Officer, since 2014. Mr. Heinzmann began his career at Littelfuse in 1985 as a manufacturing engineer and has held positions of increasing responsibility since that time. From 2004 through 2007, he served as Vice President and General Manager, Automotive segment, and then as Vice President, Global Operations until 2014. Mr. Heinzmann has served on the board of directors of Pulse Electronics Corporation, since 2014. Mr. Heinzmann holds a BS in mechanical engineering from Missouri University of Science and Technology.

Meenal A. Sethna, Executive Vice President and Chief Financial Officer since March, 2016, leads the company's finance, accounting, internal audit, investor relations and information technology functions. Ms. Sethna joined the company in 2015 as Senior Vice President of Finance. Prior to joining Littelfuse, Ms. Sethna spent four years at Illinois Tool Works Inc. as Vice President and Corporate Controller. Previous to that, she worked at Motorola Inc., most recently as Vice President, Finance. She began her career at Baxter International, holding a variety of finance roles during her tenure. Ms. Sethna is a graduate of the Kellogg School of Management at Northwestern University and the University of Illinois-Urbana, and is a Certified Public Accountant in Illinois.

Ryan K. Stafford, Executive Vice President, Chief Legal and Human Resources Officer and Corporate Secretary, leads the company's legal, compliance, human resources and corporate marketing and communications functions. Mr. Stafford joined the company's executive team as its first general counsel in January 2007. Prior to joining the company, Mr. Stafford served in a number of roles at Tyco International Ltd., including Vice President of China Operations and Vice President & General Counsel for its Engineered Products & Services Business Segment. Prior to that he was with the law firm Sulloway & Hollis P.L.L.C.

Matthew J. Cole, Senior Vice President and General Manager, Industrial Business Unit, joined Littelfuse in July 2015 and is responsible for the electrical fuse, protection relay and custom electrical products businesses. Mr. Cole has more than 20 years of experience in general management, strategy development, mergers and acquisitions, and operations. Prior to joining Littelfuse, he was Vice President and General Manager of AMETEK's Advanced Measurement Technology division, a global leader in electronic instruments and electromechanical devices. His career also includes positions in general management, marketing and operations at Danaher and Allied Signal/Honeywell.

Ian Highley, Senior Vice President and General Manager, Semiconductor Products and Chief Technology Officer, is responsible for the marketing, sales, product development and strategic planning efforts of the company's semiconductor products in addition to being responsible for the company's overall R&D and technology efforts. Mr. Highley joined the company in 2002 as Product Line Director, Semiconductor Products. Mr. Highley served as General Manager Semiconductor Products from August 2008 to May 2012 and Vice President and General Manager, Semiconductor Products from May 2012 to January 2015. Mr. Highley was promoted to his current position in January 2015.

Deepak Nayar, Senior Vice President and General Manager, Electronics Business Unit, is responsible for marketing, sales, product development and customer relationships of the Electronics Business Unit. Mr. Nayar joined the company in 2005 as Business Line Director of the Electronics Business Unit. In July 2007, Mr. Nayar was promoted to Vice President, Global Sales, Electronics Business Unit, before he was promoted to his current position in 2011. Prior to joining the company, Mr. Nayar served as Worldwide Sales Director of Tyco Electronics Power Components Division from 1999 to 2005. Before that, Mr. Nayar served as Director of Business Development, Raychem Electronics OEM Group from 1997 to 1999.

Michael P. Rutz, Senior Vice President, Global Operations, is responsible for the company's sourcing, supplier development, supply chain, quality and manufacturing engineering services. From February 2014 to January 2015, Mr. Rutz was Vice President of Supply Chain and Operational Excellence. From August 2011 to February 2014, Mr. Rutz was Senior Vice President Global Supply Chain at WMS Industries Inc., a Chicago-based manufacturer of equipment and software for the gaming industry. Prior to that, Mr. Rutz served for 16 years in various positions of increasing responsibility, at Motorola Solutions, Inc., most recently as Vice President of Networks Supply Chain from 2009 until August 2011.

Code of Ethics

The company has adopted a Code of Conduct (Code of Ethics) that applies to all of the Company's employees including the Company's Principal Executive Officer, Principal Financial Officer, Principal Accounting Officer and persons performing similar functions. It has posted the text of the Code of Conduct on its website at <http://investor.littelfuse.com/governance.cfm> and intends to disclose on such website any amendments to, or waivers from the Code of Conduct. The company's website is not incorporated by reference into this Annual Report.

ITEM 11. EXECUTIVE COMPENSATION.

Information concerning compensation of the Company's executive officers and directors for the year ended December 30, 2017, is set forth in the sections titled "Compensation Discussion & Analysis," "Compensation Tables" and "Director Compensation" in the Company's proxy statement and is incorporated herein by reference, except the section titled "Compensation Committee Report" is hereby "furnished" and not "filed" with this Annual Report on Form 10-K.

Information concerning compensation committee interlocks is set forth in the section titled "Compensation Committee Interlocks and Insider Participation" in the Company's proxy statement and is incorporated herein by reference.

ITEM 12. SECURITY OWNERSHIP OF CERTAIN BENEFICIAL OWNERS AND MANAGEMENT AND RELATED STOCKHOLDER MATTERS.

Information concerning the security ownership of certain beneficial owners, the Company's directors and executive officers as of March 1, 2018, is set forth in the section titled "Ownership of Littelfuse, Inc. Common Stock" in the Company's proxy statement and is incorporated herein by reference.

Information concerning the Company's equity compensation plan is set forth in the section titled "Compensation Plan Information" in the Company's proxy statement and is incorporated herein by reference.

ITEM 13. CERTAIN RELATIONSHIPS AND RELATED TRANSACTIONS, AND DIRECTOR INDEPENDENCE.

Information concerning the independence of the Company's directors, certain relationships and related transactions during 2017 and the Company's policies with respect to such transactions is set forth in the sections titled "Proposal No. 1 Election of Directors" and "Certain Relationships and Related Transactions" in the Company's proxy statement and is incorporated herein by reference.

ITEM 14. PRINCIPAL ACCOUNTING FEES AND SERVICES.

Information concerning principal accountant fees and services is set forth in the section titled "Audit Related Matters" in the Company's proxy statement and is incorporated herein by reference.

PART IV

ITEM 15. EXHIBITS, FINANCIAL STATEMENT SCHEDULES.

(a) Financial Statements and Schedules

- (1) The following Financial Statements are filed as a part of this report:
 - (i) Reports of Independent Registered Public Accounting Firms (pages 35-36).
 - (ii) Consolidated Balance Sheets as of December 30, 2017 and December 31, 2016 (page 37).
 - (iii) Consolidated Statements of Net Income for the years ended December 30, 2017, December 31, 2016 and January 2, 2016 (page 38).
 - (iv) Consolidated Statements of Comprehensive Income for the years ended December 30, 2017, December 31, 2016 and January 2, 2016 (page 38).
 - (v) Consolidated Statements of Cash Flows for the years ended December 30, 2017, December 31, 2016 and January 2, 2016 (page 39).
 - (vi) Consolidated Statements of Equity for the years ended December 30, 2017, December 31, 2016 and January 2, 2016 (page 40).
 - (vii) Notes to Consolidated Financial Statements (pages 41-73).
- (2) The following Financial Statement Schedule is submitted herewith for the periods indicated therein.
 - (i) Schedule II - Valuation and Qualifying Accounts and Reserves (page 78).

All other schedules for which provision is made in the applicable accounting regulations of the Securities and Exchange Commission are not required under the related instructions or are inapplicable and, therefore, have been omitted.

- (3) Exhibits. See Exhibit Index on pages 80-86.

Item 16. FORM 10-K SUMMARY

None.

SCHEDULE II

VALUATION AND QUALIFYING ACCOUNTS AND RESERVES

<u>Description</u>	<u>Balance at Beginning of Year</u>	<u>Charged to Costs and Expenses (a)</u>	<u>Deductions (b)</u>	<u>Other (c)</u>	<u>Balance at End of Year</u>
(in thousands)					
Year ended December 30, 2017					
Allowance for losses on accounts receivable..	\$ 2,079	\$ 3,068	\$ (4,070)	\$ 95	\$ 1,172
Reserves for sales discounts and allowances ..	\$ 23,825	\$ 106,781	\$ (104,941)	\$ 679	\$ 26,344
Deferred tax valuation allowance.....	\$ 6,738	\$ —	\$ —	\$ (535)	\$ 6,203
Year ended December 31, 2016					
Allowance for losses on accounts receivable..	\$ 319	\$ 1,769	\$ (42)	\$ 33	\$ 2,079
Reserves for sales discounts and allowances ..	\$ 17,168	\$ 91,632	\$ (90,837)	\$ 5,862	\$ 23,825
Deferred tax valuation allowance.....	\$ 4,557	\$ —	\$ —	\$ 2,181	\$ 6,738
Year ended January 2, 2016					
Allowance for losses on accounts receivable..	\$ 278	\$ 164	\$ 150	\$ 27	\$ 319
Reserves for sales discounts and allowances ..	\$ 19,140	\$ 81,335	\$ 82,997	\$ (310)	\$ 17,168
Deferred tax valuation allowance.....	\$ 4,557	\$ —	\$ —	\$ —	\$ 4,557

- (a) Includes provision for doubtful accounts, sales returns and sales discounts granted to customers.
- (b) Represents uncollectible accounts written off, net of recoveries and credits issued to customers and the write-off of certain deferred tax assets that previously had full valuation allowances.
- (c) Represents business acquisitions, U.S. and non-U.S. subsidiary tax attributes and foreign currency translation adjustments.

SIGNATURES

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

Littelfuse, Inc.

By: /s/ David W. Heinzmann
David W. Heinzmann,
President and Chief Executive Officer

Date: February 23, 2018

Pursuant to the requirements of the Securities Exchange Act of 1934, this report has been signed below by the following persons on behalf of the registrant on February 23, 2018 and in the capacities indicated.

<u>/s/ Gordon Hunter</u> Gordon Hunter	Chairman of the Board of Directors
<u>/s/ David W. Heinzmann</u> David W. Heinzmann	Director, President and Chief Executive Officer (Principal Executive Officer)
<u>/s/ Tzau-Jin Chung</u> Tzau-Jin Chung	Director
<u>/s/ Cary T. Fu</u> Cary T. Fu	Director
<u>/s/ Anthony Grillo</u> Anthony Grillo	Director
<u>/s/ John E. Major</u> John E. Major	Director
<u>/s/ William P. Noglows</u> William P. Noglows	Director
<u>/s/ Ronald L. Schubel</u> Ronald L. Schubel	Director
<u>/s/ Nathan Zommer</u> Nathan Zommer	Director
<u>/s/ Meenal A. Sethna</u> Meenal A. Sethna	Executive Vice President and Chief Financial Officer (Principal Financial Officer)
<u>/s/ Jeffrey G. Gorski</u> Jeffrey G. Gorski	Corporate Controller and Chief Accounting Officer (Principal Accounting Officer)

EXHIBIT INDEX

The following documents listed below that have been previously filed with the SEC (1934 Act File No. 0-20388) are incorporated herein by reference:

Exhibit No.	Description	Incorporated by Reference Herein			
		Form	Exhibit	Filing Date	File No.
2.1+	Stock Purchase Agreement, dated as of April 15, 2013, by and among Littelfuse, Inc. and Key Safety Systems, Inc.	8-K	2.1	04/15/2013	0-20388
2.2+	Stock and Asset Purchase Agreement, dated November 7, 2015, by and between Littelfuse, Inc. and TE Connectivity Ltd.	8-K	2.1	11/12/2015	0-20388
2.3+	Agreement and Plan of Merger, dated August 25, 2017, as amended by Amendment No. 1, dated December 4, 2017, by and among IXYS Corporation, Littelfuse, Inc., Iron Merger Co., Inc., and IXYS Merger Co., LLC.	S-4/A	Annex A	12/11/2017	333-22114
3.1	Certificate of Incorporation dated November 25, 1991, as amended April 25, 1997.	10-K	3.1	02/27/2017	0-20388
3.2	Certificate of Designations of Series A Preferred Stock.	8-K	4.2	12/01/1995	0-20388
3.3	Bylaws, as amended and restated October 24, 2014.	10-Q	3.1	10/31/2014	0-20388
10.1	Form of Non-Qualified Stock Option Agreement under the 1993 Stock Plan for Employees and Directors of Littelfuse, Inc. for employees.++	8-K	99.1	11/12/2004	0-20388
10.2	Form of Non-Qualified Stock Option Agreement under the 1993 Stock Plan for Employees and Directors of Littelfuse, Inc., for non-employee directors. ++	10-K	10.24	03/17/2005	0-20388
10.3	Form of Non-Qualified Stock Option Agreement under the Littelfuse, Inc. Equity Incentive Compensation Plan. ++	8-K	99.4	05/11/2006	0-20388
10.4	Form of Non-Qualified Stock Option Agreement under the Littelfuse, Inc. Outside Directors Stock Option Plan.++	8-K	99.6	05/11/2006	0-20388
10.5	Amended and Restated Employment Agreement dated as of December 31, 2007, between Littelfuse, Inc. and Gordon Hunter .++	10-K	10.1	02/27/2008	0-20388
10.6	Littelfuse, Inc. Retirement Plan as Amended and Restated, effective January 1, 2008 .++	10-K	10.13	02/27/2008	0-20388
10.7	Form of Stock Option Award Agreement under the Littelfuse, Inc. Outside Directors' Equity Plan.++	8-K	99.3	05/01/2008	0-20388
10.8	Form of Restricted Stock Unit Award Agreement under the Littelfuse, Inc. Outside Directors' Equity Plan.++	8-K	99.4	05/01/2008	0-20388
10.9	Amended and Restated, Littelfuse, Inc. Deferred Compensation Plan for Non-Employee Directors.++	10-K	10.4	02/27/2008	0-20388
10.10	Form of Restricted Stock Award Agreement under the Littelfuse, Inc. Equity Incentive Compensation Plan .++	8-K	10.1	04/28/2009	0-20388
10.11	Form of Stock Option Award Agreement under the Littelfuse, Inc. Equity Incentive Compensation Plan .++	8-K	10.2	04/28/2009	0-20388

Exhibit No.	Description	Incorporated by Reference Herein			
		Form	Exhibit	Filing Date	File No.
10.12	First Amendment to the Amended and Restated Littelfuse, Inc. Retirement Plan, effective March 25, 2009.++	10-K	10.30	02/26/2010	0-20388
10.13	Littelfuse, Inc. Long-Term Incentive Plan, effective February 3, 2010.++	8-K	10.1	05/05/2010	0-20388
10.14	Form of Restricted Stock Unit Award Agreement (Outside Director) under the Littelfuse, Inc. Long-Term Incentive Plan.++	S-8	4.4	05/19/2010	0-20388
10.15	Form of Stock Option Award Agreement under the Littelfuse, Inc. Long-Term Incentive Plan.++	S-8	4.6	05/19/2010	0-20388
10.16	First Amendment to the Littelfuse, Inc. Long-Term Incentive Plan, effective July 27, 2012.++	10-K	10.36	02/27/2013	0-20388
10.17	Credit Agreement, dated as of May 31, 2013, among Littelfuse, Inc., as borrower, JPMorgan Chase Bank, N.A. as Agent, Bank of America, N.A., as Syndication Agent, Wells Fargo Bank, National Association and PNC Bank, National Association, as Co-Documentation Agents, J.P. Morgan Securities LLC, as Sole Bookrunner and Joint Lead Arranger, and Merrill, Lynch, Pierce, Fenner & Smith Incorporated, as Joint Lead Arranger.	8-K	10.1	06/05/2013	0-20388
10.18	Master Increasing Lender Supplement, dated as of January 30, 2014, among Littelfuse, Inc., as borrower, JPMorgan Chase Bank, N.A. as Administrative Agent, and each of the banks, financial institutions and other institutional lenders listed on the respective signature pages thereof.	8-K	10.1	02/04/2014	0-20388
10.19	Littelfuse, Inc. Annual Incentive Plan, effective January 1, 2014. ++	DEF14A	A	03/17/2014	0-20388
10.20	Amended and Restated Employment Agreement, effective as of January 1, 2014, between Littelfuse Europe GmbH and Dieter Roeder .++	10-Q	10.2	05/02/2014	0-20388
10.21	Change of Control Agreement effective as of February 10, 2014, between Littelfuse, Inc. and Michael Rutz.++	10-Q	10.1	05/02/2014	0-20388
10.22	Termination Amendment to the Littelfuse, Inc. Retirement Plan, effective July 31, 2014. ++	10-Q	10.1	10/31/2014	0-20388
10.23	Change of Control Agreement effective as of January 1, 2015, between Littelfuse, Inc. and Gordon Hunter.++	8-K	10.1	12/22/2014	0-20388
10.24	Change of Control Agreement effective as of January 1, 2015, between Littelfuse, Inc. and Philip G. Franklin.++	8-K	10.2	12/22/2014	0-20388
10.25	Change of Control Agreement effective as of January 1, 2015, between Littelfuse, Inc. and Dieter Roeder.++	8-K	10.4	12/22/2014	0-20388
10.26	Change of Control Agreement effective as of January 1, 2015, between Littelfuse, Inc. and Ryan K. Stafford.++	8-K	10.5	12/22/2014	0-20388
10.27	Change of Control Agreement effective as of January 1, 2015, between Littelfuse, Inc. and Ian Highley.++	10-K	10.11	02/24/2015	0-20388

Exhibit No.	Description	Incorporated by Reference Herein			
		Form	Exhibit	Filing Date	File No.
10.28	Change of Control Agreement effective as of January 1, 2015, between Littelfuse, Inc. and Deepak Nayar.++	10-K	10.12	02/24/2015	0-20388
10.29	Amendment No. 1, dated as of May 2, 2014, to Credit Agreement, dated as of May 30, 2013, by and among Littelfuse, Inc., as borrower, JPMorgan Chase Bank, N.A. as Agent, and each of the banks, financial institutions listed on the respective signature pages thereof.	10-K	10.47	02/24/2015	0-20388
10.30	Amendment No. 2, dated as of January 14, 2015, to Credit Agreement, dated as of May 31, 2013, by and among Littelfuse, Inc., as borrower, JPMorgan Chase Bank, N.A. as Agent, and each of the banks, financial institutions listed on the respective signature pages thereof.	10-K	10.48	02/24/2015	0-20388
10.31	Form of Restricted Stock Unit Award Agreement (Executive) under the Littelfuse, Inc. Long-Term Incentive Plan.++	10-Q	10.2	07/31/2015	0-20388
10.32	Form of Restricted Stock Unit Award Agreement (Tier II Management) under the Littelfuse, Inc. Long-Term Incentive Plan.++	10-Q	10.3	07/31/2015	0-20388
10.33	Amendment No. 3, dated as of May 4, 2015, to Credit Agreement, dated as of May 31, 2013, by and among Littelfuse, Inc., as borrower, JPMorgan Chase Bank, N.A., as Agent, and each of the banks, financial institutions listed on the respective signature pages thereof.	10-Q	10.1	07/31/2015	0-20388
10.34	Change of Control Agreement effective as of February 1, 2016, between Littelfuse, Inc. and Meenal A. Sethna. ++	8-K	10.1	02/03/2016	0-20388
10.35	Change of Control Agreement effective as of May 26, 2015 between Littelfuse, Inc. and Matt Cole.++	10-K	10.13	03/01/2016	0-20388
10.36	Credit Agreement, dated as of March 4, 2016 among Littelfuse, Inc. and Certain Subsidiaries as borrowers, Guarantors party thereto, Bank of America, N.A. as Agent, Swing Line Lender and L/C Issuer and JPMorgan Chase Bank, N.A. as Syndication Agent, BMO Harris Bank, N.A., PNC Bank, National Association and Wells Fargo Bank, National Association as Co-Documentation Agents, Merrill, Lynch, Pierce, Fenner & Smith Incorporated, as Sole Bookrunner and Joint Lead Arranger and JPMorgan Chase Bank, N.A., as Joint Lead Arranger.	8-K	10.1	03/10/2016	0-20388
10.37	Form of Stock Option Award Agreement (Executive) under the Littelfuse, Inc. Long-Term Incentive Plan. ++	10-Q	10.3	05/06/2016	0-20388
10.38	Form of Stock Option Award Agreement (Outside Director – 2016 Grant) under the Littelfuse, Inc. Long-Term Incentive Plan. ++	10-Q	10.4	05/06/2016	0-20388
10.39	Form of Restricted Stock Unit Award Agreement (Executive) under the Littelfuse, Inc. Long-Term Incentive Plan. ++	10-Q	10.5	05/06/2016	0-20388

Exhibit No.	Description	Incorporated by Reference Herein			
		Form	Exhibit	Filing Date	File No.
10.40	Form of Restricted Stock Unit Award Agreement (Tier II Management) under the Littelfuse, Inc. Long-Term Incentive Plan. ++	10-Q	10.6	05/06/2016	0-20388
10.41	Form of Restricted Stock Unit Award Agreement (Outside Director – 2016 Grant) under the Littelfuse, Inc. Long-Term Incentive Plan. ++	10-Q	10.7	05/06/2016	0-20388
10.42	Form of Restricted Stock Unit Award Agreement (Executive) under the Littelfuse Inc. Long-Term Incentive Plan. ++	8-K	10.1	07/26/2016	0-20388
10.43	Executive Retirement Agreement entered into between Littelfuse, Inc. and Gordon Hunter, effective January 1, 2017. ++	8-K	10.1	11/16/2016	0-20388
10.44	Letter Agreement entered into between Littelfuse, Inc. and David W. Heinzmann. Effective January 1, 2017. ++	8-K	10.2	11/16/2016	0-20388
10.45	Change of Control Agreement effective as of January 1, 2017, between Littelfuse, Inc. and David W. Heinzmann. ++	8-K	10.3	11/16/2016	0-20388
10.46	Littelfuse, Inc. 3.03% Senior Note, Series A, due February 15, 2022, and 3.74% Senior Note, Series B, due February 15, 2027 Note Purchase Agreement.	8-K	10.1	12/09/2016	0-20388
10.47	Littelfuse, Netherland C.V. 1.14% Senior Note, Series A, due December 8, 2023, and 1.83% Senior Note, Series B, due December 8, 2028 Note Purchase Agreement.	8-K	10.2	12/09/2016	0-20388
10.48	Subsidiary Guaranty Agreement, dated December 8, 2016.	8-K	10.4	12/09/2016	0-20388
10.49	Subsidiary Guaranty Agreement, dated as of February 15, 2017.	8-K	10.2	2/15/2017	0-20388
10.50	Restated Littelfuse, Inc. Supplemental Retirement and Savings Plan, effective January 1, 2017. ++	10-K	10.50	02/27/2017	0-20388
10.51	Amended and Restated Littelfuse, Inc. 401(k) Retirement and Savings Plan, effective January 1, 2017. ++	10-K	10.51	02/27/2017	0-20388
10.52	Amended and Restated Littelfuse, Inc. Long-Term Incentive Plan. ++	8-K	10.1	05/01/2017	0-20388
10.53	Form of 2017 Restricted Stock Unit Award Agreement. ++	8-K	10.2	05/01/2017	0-20388
10.54	Form of 2017 Stock Option Award Agreement. ++	8-K	10.3	05/01/2017	0-20388
10.55	Amended and Restated Employment Agreement, effective as of April 18, 2017, between Littelfuse, Inc. and Dieter Roeder. ++	10-Q	10.1	08/02/2017	0-20388
10.56	Employment offer letter between Littelfuse, Inc. and Jeffrey Gorski, dated June 28, 2017. ++	8-K	10.1	08/14/2017	0-20388

Exhibit No.	Description	Incorporated by Reference Herein			
		Form	Exhibit	Filing Date	File No.
10.57	Form of Change of Control Agreement (J. Gorski). ++	8-K	10.2	08/14/2017	0-20388
10.58	First Amendment to Credit Agreement, dated as of November 1, 2016, among Littelfuse, Inc., certain subsidiaries of the company, as designated borrowers, certain subsidiaries of the company, as guarantors, the lenders party thereto and Bank of America, N.A., as agent.	8-K	10.1	10/16/2017	0-20388
10.59	Second Amendment to Credit Agreement, dated as of October 13, 2017, among Littelfuse, Inc., certain subsidiaries of the company, as designated borrowers, certain subsidiaries of the company, as guarantors, the lenders party thereto and Bank of America, N.A., as agent.	8-K	10.2	10/16/2017	0-20388
10.60	Joinder Agreement, dated as of October 13, 2017, by and between Iron Merger Co., Inc. and Bank of America, N.A., as agent.	8-K	10.3	10/16/2017	0-20388
10.61	Joinder Agreement, dated as of October 13, 2017, by and between IXYS Merger Co., LLC and Bank of America, N.A., as agent.	8-K	10.4	10/16/2017	0-20388
10.62	U.S. Subsidiary Guarantor Supplement, dated as of October 13, 2017, made by Iron Merger Co., Inc. in favor of the note purchasers and the other holders.	8-K	10.5	10/16/2017	0-20388
10.63	U.S. Subsidiary Guarantor Supplement, dated as of October 13, 2017, made by IXYS Merger Co., LLC in favor of the note purchasers and the other holders.	8-K	10.6	10/16/2017	0-20388
10.64	Cross Border Subsidiary Guarantor Supplement, dated as of October 13, 2017, made by Iron Merger Co., Inc. in favor of the note purchasers and the other holders.	8-K	10.7	10/16/2017	0-20388
10.65	Cross Border Subsidiary Guarantor Supplement, dated as of October 13, 2017, made by IXYS Merger Co., LLC in favor of the note purchasers and the other holders.	8-K	10.8	10/16/2017	0-20388
10.66	Note Purchase Agreement, dated November 15, 2017, among Littelfuse, Inc. and note purchasers listed on the signature pages thereto.	8-K	10.1	11/15/2017	0-20388
10.67	Form of 3.78% Senior Note, Series B, due February 15, 2030.	8-K	4.2	11/15/2017	0-20388
10.68	Form of 3.48% Senior Note, Series A, due February 15, 2025,	8-K	4.1	11/15/2017	0-20388
10.69	Subsidiary Guaranty Agreement, dated as of January 16, 2018, made by LFUS LLC, Littelfuse Commercial Vehicle, LLC, Iron Merger Co., Inc., IXYS Merger Co., LLC and SymCom, Inc. in favor of the note purchasers and the other holders.	8-K	10.2	01/18/2018	0-20388
10.70	Seventh Amended and Restated Employment Agreement, dated as of August 25, 2017, by and between IXYS Corporation and Nathan Zommer. ++	8-K	10.3	01/18/2018	0-20388
10.71	Littelfuse, Inc. Executive Severance Policy. ++	8-K	10.4	01/18/2018	0-20388

Exhibit No.	Description	Incorporated by Reference Herein			
		Form	Exhibit	Filing Date	File No.
10.72	Form of Tier I Change of Control Agreement.++	8-K	10.1	01/23/2018	0-20388
10.73*	First Amendment to Littelfuse Deferred Compensation Plan for Non-Employee Directors, effective as of January 1, 2008.++				
10.74*	Second Amendment to the Littelfuse Deferred Compensation Plan for Non-Employee Directors, effective as of October 25, 2013.++				
10.75*	First Amendment to the Littelfuse, Inc. 401(K) Retirement and Savings Plan, effective January 1, 2018.++				
10.76*	Altra In-Plan Roth Rollover Amendment to the Littelfuse, Inc. 401(K) Retirement and Savings Plan, effective as of February 1, 2018.++				
10.77*	Summary of Non-Employee Director Compensation.++				
10.78	Form of Indemnity Agreement by and between Nathan Zommer and IXYS Corporation.++	10-K	10.3	06/12/2008	000-26124
10.79	IXYS Corporation 1999 Equity Incentive Plan, as amended.++	S-8	4.3	01/19/2018	333-221147
10.80	IXYS Corporation 2009 Equity Incentive Plan++	S-8	4.4	01/19/2018	333-221147
10.81	IXYS Corporation 2011 Equity Incentive Plan++	S-8	4.5	01/19/2018	333-221147
10.82	IXYS Corporation 2013 Equity Incentive Plan++	S-8	4.6	01/19/2018	333-221147
10.83	IXYS Corporation 2016 Equity Incentive Plan++	S-8	4.7	01/19/2018	333-221147
10.84	Zilog, Inc. 2002 Omnibus Stock Incentive Plan++	S-8	4.8	01/19/2018	333-221147
10.85	Zilog, Inc. 2004 Omnibus Stock Incentive Plan++	S-8	4.9	01/19/2018	333-221147
10.86	Form of Stock Option Agreement for the IXYS Corporation 1999 Equity Incentive Plan++	10-Q	10.3	11/09/2004	000-26124
10.87	Form of Stock Option Agreement for the IXYS Corporation 1999 Equity Incentive Plan with net exercise provision.++	10-K	10.23	06/22/2006	000-26124
10.88	Form of Stock Option Agreement for the IXYS Corporation 1999 Equity Incentive Plan for non-employee directors++	10-K	10.24	06/22/2006	000-26124
10.89	Notice of Stock Option Grant and Agreement for the IXYS Corporation 2009 Equity Incentive Plan++	10-Q	10.4	08/10/2009	000-26124
10.90	Form of Nonqualified Stock Option Agreement for Stock Options pursuant to the Zilog, Inc. 2002 Omnibus Stock Incentive Plan++	10-K	10.26	06/11/2010	000-26124

Exhibit No.	Description	Incorporated by Reference Herein			
		Form	Exhibit	Filing Date	File No.
10.91	Form of Nonqualified Stock Option Agreement for Stock Options pursuant to the Zilog, Inc. 2004 Omnibus Stock Incentive Plan++	10-K	10.28	06/11/2010	000-26124
10.92	Notice of Stock Option Grant and Agreement for IXYS Corporation 2011 Equity Incentive Plan++	10-Q	10.2	08/05/2011	000-26124
10.93	Notice of Stock Option Grant and Agreement for IXYS Corporation 2013 Equity Incentive Plan++	10-Q	10.6	08/09/2013	000-26124
10.94	Notice of Stock Option Grant and Agreement for IXYS Corporation 2016 Equity Incentive Plan++	10-Q	10.1	11/03/2016	000-26124
21.1*	Subsidiaries.				
23.1*	Consent of Independent Registered Public Accounting Firm.				
31.1*	Certification of Chief Executive Officer Pursuant to Section 302 of the Sarbanes-Oxley Act of 2002.				
31.2*	Certification of Chief Financial Officer Pursuant to Section 302 of the Sarbanes-Oxley Act of 2002.				
32.1+++	Certification of the Chief Executive Officer and Chief Financial Officer Pursuant to Section 906 of the Sarbanes-Oxley Act of 2002.				
101.INS*	XBRL Instance Document.				
101.SCH*	XBRL Taxonomy Extension Schema Document.				
101.CAL*	XBRL Taxonomy Extension Calculation Linkbase Document.				
101.LAB*	XBRL Taxonomy Extension Label Linkbase Document.				
101.PRE*	XBRL Taxonomy Extension Presentation Linkbase Document.				
101.DEF*	XBRL Taxonomy Extension Definition Linkbase Document.				

* Filed with this Report.

+ Exhibits and schedules omitted pursuant to Item 601(b)(2) of Regulation S-K. Littelfuse agrees to furnish a supplemental copy of an omitted exhibit or schedule to the SEC upon request.

++ Management contract or compensatory plan or arrangement.

+++ Furnished with this Report.

SECTION 302 CERTIFICATION

I, David W. Heinzmann, certify that:

1. I have reviewed this Annual Report on Form 10-K of Littelfuse Inc.;
2. Based on my knowledge, this report does not contain any untrue statement of a material fact or omit to state a material fact necessary to make the statements made, in light of the circumstances under which such statements were made, not misleading with respect to the period covered by this report;
3. Based on my knowledge, the financial statements, and other financial information included in this report, fairly present in all material respects the financial condition, results of operations and cash flows of the registrant as of, and for, the periods presented in this report;
4. The registrant's other certifying officer and I are responsible for establishing and maintaining disclosure controls and procedures (as defined in Exchange Act Rules 13a-15(e) and 15d-15(e)) and internal control over financial reporting (as defined in Exchange Act Rules 13a-15(f) and 15d-15(f)) for the registrant and have:
 - (a) designed such disclosure controls and procedures, or caused such disclosure controls and procedures to be designed under our supervision, to ensure that material information relating to the registrant, including its consolidated subsidiaries, is made known to us by others within those entities, particularly during the period in which this report is being prepared;
 - (b) designed such internal control over financial reporting, or caused such internal control over financial reporting to be designed under our supervision, 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;
 - (c) evaluated the effectiveness of the registrant's disclosure controls and procedures and presented in this report our conclusions about the effectiveness of the disclosure controls and procedures, as of the end of the period covered by this report based on such evaluation; and
 - (d) disclosed in this report any change in the registrant's internal control over financial reporting that occurred during the registrant's most recent fiscal quarter (the registrant's fourth fiscal quarter in the case of an annual report) that has materially affected, or is reasonably likely to materially affect, the registrant's internal control over financial reporting; and
5. The registrant's other certifying officer and I have disclosed, based on our most recent evaluation of internal control over financial reporting, to the registrant's auditors and the audit committee of the registrant's board of directors (or persons performing the equivalent functions):
 - (a) all significant deficiencies and material weaknesses in the design or operation of internal control over financial reporting which are reasonably likely to adversely affect the registrant's ability to record, process, summarize and report financial information; and
 - (b) any fraud, whether or not material, that involves management or other employees who have a significant role in the registrant's internal control over financial reporting.

Dated: February 23, 2018

/s/ DAVID W HEINZMANN
David W. Heinzmann
President and Chief Executive Officer

SECTION 302 CERTIFICATION

I, Meenal A. Sethna, certify that:

1. I have reviewed this Annual Report on Form 10-K of Littelfuse Inc.;
2. Based on my knowledge, this report does not contain any untrue statement of a material fact or omit to state a material fact necessary to make the statements made, in light of the circumstances under which such statements were made, not misleading with respect to the period covered by this report;
3. Based on my knowledge, the financial statements, and other financial information included in this report, fairly present in all material respects the financial condition, results of operations and cash flows of the registrant as of, and for, the periods presented in this report;
4. The registrant's other certifying officer and I are responsible for establishing and maintaining disclosure controls and procedures (as defined in Exchange Act Rules 13a-15(e) and 15d-15(e)) and internal control over financial reporting (as defined in Exchange Act Rules 13a-15(f) and 15d-15(f)) for the registrant and have:
 - (a) designed such disclosure controls and procedures, or caused such disclosure controls and procedures to be designed under our supervision, to ensure that material information relating to the registrant, including its consolidated subsidiaries, is made known to us by others within those entities, particularly during the period in which this report is being prepared;
 - (b) designed such internal control over financial reporting, or caused such internal control over financial reporting to be designed under our supervision, 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;
 - (c) evaluated the effectiveness of the registrant's disclosure controls and procedures and presented in this report our conclusions about the effectiveness of the disclosure controls and procedures, as of the end of the period covered by this report based on such evaluation; and
 - (d) disclosed in this report any change in the registrant's internal control over financial reporting that occurred during the registrant's most recent fiscal quarter (the registrant's fourth fiscal quarter in the case of an annual report) that has materially affected, or is reasonably likely to materially affect, the registrant's internal control over financial reporting; and
5. The registrant's other certifying officer and I have disclosed, based on our most recent evaluation of internal control over financial reporting, to the registrant's auditors and the audit committee of the registrant's board of directors (or persons performing the equivalent functions):
 - (a) all significant deficiencies and material weaknesses in the design or operation of internal control over financial reporting which are reasonably likely to adversely affect the registrant's ability to record, process, summarize and report financial information; and
 - (b) any fraud, whether or not material, that involves management or other employees who have a significant role in the registrant's internal control over financial reporting.

Dated: February 23, 2018

/s/ MEENAL A. SETHNA

Meenal A. Sethna
Executive Vice President and
Chief Financial Officer

LITTELFUSE, INC.

Certification Pursuant to Section 906 of the Sarbanes-Oxley Act of 2002, 18 U.S.C. Section 1350

Pursuant to Section 906 of the Sarbanes-Oxley Act of 2002 (subsections (a) and (b) of Section 1350, Chapter 63 of title 18, United States Code), each of the undersigned officers of Littelfuse, Inc. (“the Company”) does hereby certify that to his knowledge:

The Annual Report of the Company on Form 10-K for the fiscal year ended December 30, 2017 (“the Report”) fully complies with the requirements of section 13(a) or 15(d) of the Securities Exchange Act of 1934, and the information contained in the Report fairly presents, in all material respects, the financial condition and results of operations of the Company.

/s/ DAVID W. HEINZMANN
David W. Heinzmann
President and Chief Executive
Officer

/s/ MEENAL A. SETHNA
Meenal A. Sethna
Executive Vice President and
Chief Financial Officer

Dated: February 23, 2018

Dated: February 23, 2018

EXECUTIVE OFFICERS

DAVID W. HEINZMANN

President and Chief
Executive Officer

MEENAL A. SETHNA

Executive Vice President
and Chief Financial Officer

RYAN K. STAFFORD

Executive Vice President, Chief Legal
and Human Resources Officer and
Corporate Secretary

MICHAEL P. RUTZ

Senior Vice President,
Global Operations

MATTHEW J. COLE

Senior Vice President and General
Manager, Industrial Business Unit

IAN HIGHLEY

Senior Vice President and General
Manager, Semiconductor Products
and Chief Technology Officer

DEEPAK NAYAR

Senior Vice President and General
Manager, Electronics Business Unit

BOARD OF DIRECTORS



TZAU-JIN CHUNG
Operating Partner
Core Industrial Partners LLC



JOHN E. MAJOR
President
MTSG



CARY T. FU
Co-Founder and
Retired Chairman
Benchmark Electronics, Inc.



WILLIAM P. NOGLOWS
Chairman of the Board
Cabot Microelectronics
Corporation



ANTHONY GRILLO
Founder
Ascribe Opportunities
Management, LLC



RONALD L. SCHUBEL
Retired Executive Vice President
and President of the Americas Region
Molex Incorporated



DAVID W. HEINZMANN
President and
Chief Executive Officer
Littelfuse, Inc.



DR. NATHAN ZOMMER
Founder, former Chairman
and Chief Executive Officer
IXYS Corporation



GORDON HUNTER
Chairman of the Board
Retired President and
Chief Executive Officer
Littelfuse, Inc.

Photography by Spencer Brown

CORPORATE INFORMATION

ANNUAL MEETING

The Annual Meeting of Littelfuse, Inc. will be held at 9:00 a.m. Central Time on April 27, 2018, at the O'Hare Plaza First Floor Conference Center, 8745 West Higgins Road, Chicago, IL 60631. Proxy materials and a copy of this report will be mailed or made available via the Internet in advance of the meeting to all shareholders of record as of March 1, 2018.

COMMON STOCK

Littelfuse, Inc. common stock is traded on the NASDAQ® Global Select Market under the symbol LFUS.

SHAREHOLDER INFORMATION

In addition to annual reports to shareholders, copies of the Company's filings with the Securities and Exchange Commission are available on the Investor Relations section of our website at: investor.littelfuse.com.

INDEPENDENT REGISTERED PUBLIC ACCOUNTING FIRM

Grant Thornton LLP
171 N. Clark Street
Suite 200
Chicago, IL 60601

TRANSFER AGENT

EQ Shareowner Services
110 Centre Pointe Curve, Suite 101
Mendota Heights, MN 55110
1.800.468.9716

LITTELFUSE WORLD HEADQUARTERS

Littelfuse, Inc.
8755 West Higgins Road
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Chicago, IL 60631
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Littelfuse.com



Expertise Applied | Answers Delivered

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