LITTELFUSE INC /DE
Form 10-K
February 22, 2019
Table of Contents

United States
Securities and Exchange Commission
Washington, D.C. 20549
FORM 10-K

	[X] Annual Report Pursuant to Section 13 or 15(d)
	of the Securities Exchange Act of 1934
(Mark one)	for the fiscal year ended December 29, 2018
	Or
	[ ] Transition Report Pursuant to Section 13 or 15(d)
	of the Securities Exchange Act of 1934
	for the transition period from to

Commission file number 0-20388

LITTELFUSE, INC.
(Exact name of registrant as specified in its charter)

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

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

773-628-1000
(Registrant’s telephone number, including area code)

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

Title of Each Class	Name of Each Exchange On Which Registered
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 [X] 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 [X]

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 [X] 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:

Large accelerated filer [X]	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 [X]

The aggregate market value of 24,414,037 shares of voting stock held by non-affiliates of the registrant was approximately $4,409,178,694 based on the last reported sale price of the registrant’s Common Stock as reported on the NASDAQ Global Select Market^{SM} on June 30, 2018.

As of February 18, 2019, the registrant had outstanding 24,706,335 shares of Common Stock, net of Treasury Shares.

DOCUMENTS INCORPORATED BY REFERENCE

Portions of the Littelfuse, Inc. Proxy Statement for the 2018 Annual Meeting of Stockholders (the “Proxy Statement”) are incorporated by reference into Part III of this Form 10-K.

Table of Contents

TABLE OF CONTENTS

Table of Contents

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. 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 "2018", "fiscal 2018" or "fiscal ye 2018" refer to the fiscal year ended December 29, 2018. 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. The Company operates on a 52-53 week fiscal year (4-4-5 basis) ending on the Saturday closest to December 31.

OVERVIEW

Founded in 1927, Littelfuse is a global manufacturer of leading technologies in circuit protection, power control and sensing. Sold in over 150 countries, the Company's products are found in automotive and commercial vehicles, industrial applications, data and telecommunications, medical devices, consumer electronics and appliances. With its broad product portfolio of fuses, semiconductors, polymers, ceramics, relays and sensors, and extensive global infrastructure, the Company's worldwide associates partner with its customers to design, manufacture and deliver innovative, high-quality solutions for a safer, greener and increasingly connected world.

Segments

The Company conducts its business through three reportable segments: Electronics, Automotive, and Industrial. Within these segments, the Company designs, manufactures and sells components and modules for circuit protection, power control and sensing
products throughout the world. The circuit protection products protect against electrostatic discharge, power surges, short circuits, voltage spikes and other harmful occurrences; our power control products safely and efficiently control power to mitigate equipment damage, minimize electrical hazards and improve productivity and our sensor products are 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 16, 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,

3

Table of Contents

reed switch based magnetic sensing, 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 industrial and automotive electronics, electric vehicle infrastructure, data and telecommunications, medical devices, LED lighting, consumer electronics and appliances.

- 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 passenger car, heavy duty truck, off-road vehicles, material handling, agricultural, construction and other commercial vehicle industries. Passenger car fuse products include fuses and fuse accessories for internal combustion engine vehicles and hybrid and electric vehicles including blade fuses, battery cable protectors, resettable fuses, high-current fuses, and high-voltage fuses. 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, safety 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 various industrial applications such as oil, gas, mining, alternative energy - solar and wind, electric vehicle infrastructure, construction, HVAC systems, elevator and other industrial equipment.

Strategy

In December 2016, the Company announced its five-year 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 an average annual accelerated organic growth of 5-7 percent and growth from strategic acquisitions of 5-7 percent. The Company's strategic goals include growing its circuit protection platform, accelerating growth in its power control platform and doubling its sensor platform. The Company expects to do this through content and share gains, targeting underpenetrated geographies and markets, leveraging investments in its people, innovations and operating systems, 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, a global pioneer in the power semiconductor and integrated circuit markets with a focus on medium to high voltage power 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 $856.5 million, which included consideration of cash, Littelfuse common stock, and the value of converted, or cash settled IXYS equity awards. The operations of IXYS are 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 thermistor 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. During 2018, the Company acquired the remaining outstanding stock of Monolith for $9.0 million based on Monolith meeting certain technical and sales targets, and now owns 100% of Monolith. 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

Table of Contents

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 protection end markets. The acquisition also significantly increases the Company’s presence in Japan.

Sales and Operations

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

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

	Fiscal Year		
(in millions)	2018	2017	2016
Electronics	$1,124.3	$661.9	$535.2
Automotive	479.8	453.2	415.2
Industrial	114.4	106.4	105.8
Total	$1,718.5	$1,221.5	$1,056.2

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

	Fiscal Year		
(in millions)	2018	2017	2016
Asia-Pacific	$753.3	$541.1	$444.8
Americas	578.6	436.5	411.1
Europe	386.6	243.9	200.3
Total	$1,718.5	$1,221.5	$1,056.2

The Company’s products are sold worldwide through distributors, a direct sales force and manufacturers’ representatives in certain regions. For the fiscal year 2018, approximately 70% of the Company’s net sales were to customers outside the United States (“U.S.”), including approximately 27% 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 IATF

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 16, Segment Information, of the Notes to Consolidated Financial Statements included in this Annual Report.

Table of Contents

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 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. The Company expects to continue 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. In October, the Company completed the acquisition of Monolith and now owns 100% of the company. The Monolith silicon carbide technology provides a very broad portfolio of products to address the medium- to high-end side of the growing power semiconductor electronics 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.

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 exceeding global auto production, with the increased electronification of vehicles, as well as the continued electrification of vehicles with the 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, 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 also continues to expand its automotive sensor business and products and expects this market to provide future long-term growth opportunities. Products sold into the market include a wide range of automotive and commercial vehicle sensors designed to monitor the passenger compartment occupants, safety 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 oil, gas and mining, and general industrial

Table of Contents

markets. The Company sees growth opportunities by expanding both the end markets it serves and channel partnerships, 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 oil, gas and mining, 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.

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 with primary locations in China, Germany, Italy, Japan, Lithuania, Mexico, Philippines, Taiwan, United Kingdom, and the United States. 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 a few years based on the complexity of development, with continuous efforts to reduce the development cycle. During fiscal years 2018, 2017, and 2016, the Company expended $87.3 million, $50.5 million, and $42.2 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's manufacturing facilities are in China, Germany, Italy, Japan, Lithuania, Mexico, Philippines, Portugal, the United Kingdom, and the United States. The Company performs the majority of its own fabrication and maintains in-house capabilities for metal stamping, surface mount assembly, plating (silver, nickel, zinc, and oxides) and thermoplastic molding. In addition, the Company fabricates semiconductor wafers for certain applications and maintains in-house capability for epitaxy fabrication, die attach, and wafer probe testing. After sub-components are 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, including safety and reliability, and customer satisfaction. Additionally, the Company utilizes external wafer foundries and subcontracted test and assembly facilities for a portion of its semiconductor business.

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 has specifically identified capable alternative heat-resistant plastics and zinc sources. All other raw materials are purchased from a number of readily available outside sources.

MARKETING

The Company goes to market through a worldwide selling organization consisting of direct sales personnel, distribution partners and manufacturers’ representatives. The direct sales force closely works with global OEM, Tier One automotive, consulting engineers, and major end user customers to design-in and sell the Company’s circuit protection, power control and sensing products. The distributors provide fulfillment for a majority of customers including those partnered with electronic manufacturing services (EMS). The direct sales force is supplemented with manufacturers’ representatives. The Company has sales offices and direct sales channels in all major regions of the world.

Electronics Segment

Most Electronics segment products are sold through distribution partners, including global distributors such as Arrow Electronics, Inc., Future Electronics and TTI, Inc, and regional and high service distributors. Many of our products are incorporated into applications with complex design technical support requirements. These may be sold through our direct salesforce and fulfilled through our distribution partners. The Company is leveraging IXYS sales channels to continue growing OEM sales and customer relationships, and well as driving opportunities to cross-sell products.

Automotive Segment

The Company maintains a direct sales force to service all of the major automotive and commercial vehicle OEMs, system suppliers, and Tier One automotive and aftermarket customers globally.

The Company also leverages its automotive customer relationships to sell products from the Electronics segment into automotive end markets, primarily to Tier One automotive customers. These revenues are reported in the Electronics segment.

Industrial Segment

The Company markets and sells its power fuses and protection relays through a direct sales force, manufacturers' representatives, and electronics, industrial and electrical distributors, primarily across North America. The electrical and industrial distribution network is comprised of over 2,500 distributor branch locations. These distributors have customers that include electrical contractors, municipalities, utilities and factories.

CUSTOMERS

The Company sells to nearly 7,000 customers and distributors worldwide. Sales to Arrow Electronics, Inc., which were reported in our Electronics, Automotive and Industrial segments were 10.7% and 10.6% of consolidated net sales in 2018 and 2017, respectively, but less than 10% in 2016. No other single customer accounted for more than 10% of net sales during any of the last three years. During fiscal 2018, 2017, and 2016, net sales to customers outside the U.S. accounted for approximately 70%, 69%, and 66%, 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 segment, the Company's competitors include Eaton Corporation, Bel Fuse Inc., Bourns Inc., EPCOS, ON Semiconductor Corporation, Infineon Technologies, STMicroelectronics NV, Semtech Corporation, and Vishay Intertechnology Inc. In the Automotive segment, 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 segment, 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 29, 2018 was approximately $405.7 million, compared to $676.1 million at December 30, 2017 with the decrease primarily driven by the Automotive segment, partially offset by an increase from the Electronics segment. Substantially all the orders currently in backlog are scheduled for delivery in 2019.

EMPLOYEES

As of December 29, 2018, the Company employed approximately 12,300 employees worldwide. Approximately 20% of the Company's total workforce was employed under collective bargaining agreements at December 29, 2018. 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. In Germany, the Company has collective bargaining agreements with approximately 340 employees in Lampertheim and Essen, expiring March 31, 2020. In the United Kingdom, the Company has a collective bargaining agreement with some of the employees in Chippenham. Overall, the Company has historically maintained satisfactory employee relations and considers employee relations to be good.

Table of Contents

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 chemical engineers 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 in Germany 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 estimated costs 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, product performance and 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 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 and results of operations.

Table of Contents

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 and 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 Risk.

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 non-U.S. 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"). Although certain administrative guidance has been issued, the appropriate application of many provisions of the Tax Act remain uncertain. As discussed more fully in Note 14, Income Taxes, of the Notes to Consolidated Financial Statements included in this Annual Report, adjustments to income tax expense may be necessary in future periods 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, whether through issuance of additional administrative guidance, or through further review of the Tax Act by the Company and its advisors. Such adjustments 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. The Company’s income tax rate in certain non-U.S. jurisdictions is substantially lower than the U.S. statutory tax rate. Legislative proposals have been made from time to time to reduce these tax benefits, in some cases with the tax increase phased in over a multi-year transition period. In addition, certain non-U.S. jurisdictions are considering tax legislation

Table of Contents

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 and other 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’s tax returns are subject to examination by various U.S. and non-U.S. tax authorities, including the U.S. Internal Revenue Service. 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.
Changes in U.S. trade policy, including the imposition of tariffs and the resulting consequences, may have a material adverse impact on our business and results of operations.

The U.S. government has adopted a new approach to trade policy and in some cases to renegotiate, or potentially terminate, certain existing bilateral or multi-lateral trade agreements. It has also imposed tariffs on certain foreign goods and products. These measures may materially increase costs for goods imported into the United States. This in turn could require us to materially increase prices to our customers which may reduce demand, or, if we do not or are unable to increase prices, could result in lower margins on products sold. Changes in U.S. trade policy have resulted in, and could result in more, U.S. trading partners adopting responsive trade policies making it more difficult or costly for us to export our products to those countries.

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 could have an adverse effect on the Company's results of operations, financial position and cash flows.

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 auto

Table of Contents

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. Sales to customers outside the United States constituted approximately 70% of the Company's net sales in fiscal 2018. 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 on the Company's business, financial condition and 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 business, financial condition and results of operations.

Table of Contents

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 30, 2017 and December 29, 2018, the closing sale price of the Company’s common stock ranged between a low of $155.15 and a high of $238.11. 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 directly by the Company, while others 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 employees or customers or other third parties; 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 Company 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 and 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 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 considers 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 engineering and research and development, manufacturing, sales, and distribution centers are located in approximately 65 owned or leased facilities worldwide with primary operations in China, Germany, Italy, Japan, Lithuania, Mexico, Netherlands, Philippines, South Korea, Taiwan, United Kingdom, and the United States totaling approximately 3.2 million square feet. The Company’s owned facilities include approximately 2.0 million square feet and the Company’s leased facilities include approximately 1.2 million square feet. The Company’s corporate headquarters is located in the U.S. in Chicago, Illinois.

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.

Table of Contents

PART II

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

Shares of the Company's common stock are traded under the symbol "LFUS" on the NASDAQ Global Select Market[SM]

Number of Holders

As of February 18, 2019, there were 75 holders of record of the Company's common stock.

Dividend Policy

The 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 fiscal year ended December 29, 2018.

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, 2018 to April 30, 2019. The Company repurchased 391,972 shares of its common stock during fiscal 2018 and 608,028 shares may yet be purchased under the program as of December 29, 2018. As of February 18, 2019, the Company has repurchased 79,916 shares of its common stock since the fiscal year ended December 29, 2018.

The table below presents shares of the Company's common stock which were acquired by the Company during fiscal year ended December 29, 2018:

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	200,000	179.55	200,000	800,000
November 1 through November 30	100	175.00	100	799,900
December 1 through December 29	191,872	166.64	191,872	608,028
Total	391,972	—	—	608,028

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.

During June, 2018 Littelfuse common stock was moved from the Russell 2000 Index to Russell 1000 Index. The Company has included the Russell 1000 Index and Russell 2000 Index for the fiscal year ended December 29, 2018. 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 1000 Index and the Dow Jones Electrical Components and Equipment Industry Group Index. The Company believes that the Russell 1000 Index and the Dow Jones Electrical Components and Equipment Industry Group Index represent a

Table of Contents

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.

	12/13	12/14	12/15	12/16	12/17	12/18
Littelfuse, Inc.	$ 100	$ 105	$ 118	$ 169	$ 221	$ 193
Russell 1000	100	113	114	128	156	148
Russell 2000	100	105	100	122	139	124
Dow Jones US Electrical Components & Equipment	100	108	102	123	157	138

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.

For Littelfuse, Inc. and all indexes noted above, a $100 investment made on December 28, 2013 and reinvestment of all dividends 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 27, 2014, January 2, 2016, December 31, 2016, December 30, 2017, and December 29, 2018 for the fiscal years 2014, 2015, 2016, 2017, and 2018, respectively.

Table of Contents

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)	2018	2017	2016	2015	2014
Net sales	$1,718,468	$1,221,534	$1,056,159	$867,864	$851,995
Gross profit	652,541	506,533	413,117	330,499	324,428
Operating income	225,049	218,511	130,644	104,157	133,830
Net income	164,565	119,519	104,488	80,866	98,100
Per share of common stock:					
Income from continuing operations					
- Basic	6.62	5.27	4.63	3.58	4.35
- Diluted	6.52	5.21	4.60	3.56	4.32
Cash dividends paid	1.60	1.40	1.24	1.08	0.94
Cash and cash equivalents	489,733	429,676	275,124	328,786	297,571
Total assets	2,614,306	1,740,102	1,491,194	1,065,475	1,069,859
Short-term debt	10,000	6,250	6,250	87,000	88,500
Long-term debt, less current portion	684,730	489,361	447,892	83,753	105,691

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.

2018 EXECUTIVE OVERVIEW

Net sales increased by $496.9 million, or 40.7%, in 2018 compared to 2017. The increase was primarily driven by the acquisition of IXYS, which added $378.2 million in net sales and higher volume in Electronics segment due to strong demand across various end markets and geographies within the segment. Additionally, net sales increased by $16.7 million due to favorable changes in foreign exchange rates. The Company recognized net income of $164.6 million, or $6.52 per diluted share for the year ended December 29, 2018 compared to net income of $119.5 million, or $5.21 per diluted share, for the year ended December 30, 2017. The increase in net income reflects operating income increases in both the Electronics and Automotive segments and lower income tax expense driven by a one-time tax charge (the "Toll Charge") of $49.0 million in 2017 due to the enactment of the Tax Cuts and Jobs Act, partially offset by $36.9 million of purchase accounting inventory step-up charges, higher amortization expense and acquisition-related and integration charges related to the IXYS acquisition. Additionally, the per share results reflect an increase of 2.1 million shares in the weighted average diluted shares outstanding resulting from the shares issued in conjunction with the acquisition of IXYS.

Net cash provided by operating activities was $331.8 million for the year ended December 29, 2018 as compared to $269.2 million for the year ended December 30, 2017. The increase in net cash provided by operating activities reflected higher earnings and favorable working capital management, which more than offset higher payments related to cash taxes and acquisition and integration costs.

On January 17, 2018, the Company acquired IXYS, a global pioneer in the power semiconductor and integrated circuit markets with a focus on medium to high voltage power 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 $856.5 million, which included consideration of cash, Littelfuse common stock, and the value of converted or cash settled IXYS equity awards. IXYS' operations are included in the Electronics segment.

Table of Contents

On July 6, 2018, the Trump administration imposed Section 301 tariffs on certain products (known as List 1) that are imported into the United States where the country of origin is China. Additionally, on August 23, 2018, List 2 was put into effect which imposed an additional 25% tariff to products on the list items. These tariffs primarily impact the Electronics segment and, to a lesser extent, our Automotive segment. The Company continues to evaluate the impact on our future results of operations.

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 a safer, greener and increasingly connected world in virtually every market that uses electrical energy, including automotive and commercial vehicles, industrial applications, data and telecommunications, medical devices, consumer electronics and appliances. 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	2019 and Future Priorities
Double digit sales growth	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	Focus on higher profitability growth opportunities Grow operating margins through operational excellence Disciplined approach to managing costs
Cash flow and liquidity	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. Through cycles, the Company targets double-

Table of Contents

digit long-term (2017-2021) sales growth, split between 5-7% accelerated organic sales growth and 5-7% 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 or exceed 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.

Revenue Recognition

On December 31, 2017, the Company adopted new guidance on revenue from contracts with customers using the modified retrospective method. The adoption did not have a significant impact on the Company's consolidated financial statements.

Revenue Disaggregation

The following table disaggregates the Company's revenue by primary business units for the fiscal year ended December 29, 2018:

	Fiscal Year Ended December 29, 2018			
(in thousands)	Electronics Segment	Automotive Segment	Industrial Segment	Total
Electronics – Semiconductor	$648,967	$ —	$—	$648,967
Electronics – Passive Products and Sensors	475,329	—	—	475,329
Passenger Car Products	—	240,501	—	240,501
Commercial Vehicle Products	—	121,562	—	121,562
Automotive Sensors	—	117,728	—	117,728
Industrial Products	—	—	114,381	114,381
Total	$1,124,296	$ 479,791	$114,381	$1,718,468

See Note 16, Segment Information, for net sales by segment and countries.

Revenue Recognition

The Company recognizes revenue on product sales in the period in which the Company satisfies its performance obligation and control of the product is transferred to the customer. The Company’s sales arrangements with customers are predominately short term in nature and generally provide for transfer of control at the time of shipment as this is the point at which title and risk of loss of the product transfers to the customer. At the end of each period, for those shipments where title to the products and the risk of loss and rewards of ownership do not transfer until the product has been received by the customer, the Company adjusts revenues and cost of sales for the delay between the time that the products are shipped and when they are received by the customer. The amount of revenue recorded reflects the consideration to which the Company expects to be entitled in exchange for goods and may include adjustments for customer allowance, rebates and price adjustments. The Company’s distribution channels are primarily through direct sales and independent third-party distributors.

Table of Contents

The Company has elected the practical expedient under Accounting Standards Codification ("ASC") 340-40-25-4 to expense commissions when incurred as the amortization period of the commission asset the Company would have otherwise recognized is less than one year.

Revenue and Billing

The Company generally accepts orders from customers through receipt of purchase orders or electronic data interchange based on written sales agreements and purchasing contracts. Contract pricing and selling agreement terms are based on market factors, costs, and competition. Pricing is often 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. As the Company’s standard payment terms are less than one year, the Company has elected the practical expedient under ASC 606-10-32-18 to not assess whether a contract has a significant financing component. The Company also elected the practical expedient provided in ASC 606-10-25-18B to treat all product shipping and handling activities as fulfillment activities, and therefore recognize the gross revenue associated with the contract, inclusive of any shipping and handling revenue. This is similar to the Company’s prior practice and therefore the effect of the new guidance is immaterial.

Ship and Debit Program

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 for pricing allowances to reduce its price. When 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 certain customers, 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 volume based sales incentives to certain customers to encourage greater product sales. If customers achieve their specific quarterly or annual sales targets, they are entitled to rebates. The Company estimates the projected amount of rebates that will be achieved by the customer 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.

Table of Contents

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, 2018 indicated that the estimated fair values for each of the seven reporting units exceeded their respective carrying values. Accordingly, there were no goodwill impairment charges recorded as part of the Company's 2018 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 63% and 370% of their respective estimated fair values. As of the most recent annual test conducted on October 1, 2018, the Company noted that the excess of fair value over the carrying value, was 176%, 80%, 233%, 202%, 63%, 114%, and 370% for its reporting units: Electronics-Passive Products and Sensors, Electronics-Semiconductor, Passenger Car Products, Commercial Vehicle Products, Automotive 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

Table of Contents

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 11.7% for the Electronics-Passive Products and Sensors, Commercial Vehicle Products, Automotive Sensors and Power Fuse reporting units, 9.7% for the Electronics-Semiconductor and Passenger Car Products reporting units, and 12.7% for Relays. 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 29, 2018, the Company recognized non-cash impairment charges of $1.6 million and $0.5 million related to a building for sale and the Custom Products reporting unit trade name, respectively, associated with the exit of the Custom business within the Industrial Segment. During the year ended December 30, 2017, the Company recognized a loss 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.

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 29, 2018 and December 30, 2017 were 3.1% and 3.1%, respectively.

A 50 basis point change in the discount rates at December 29, 2018 would have the following effect on the projected benefit obligation:

(in millions)	0.5% Increase	0.5% Decrease
Projected benefit obligation	$ (7.4)	$ 8.1

22

Table of Contents

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 $28.2 million, $17.3 million, and $12.8 million in 2018, 2017, and 2016, respectively. Further information regarding this expense is provided in Note 12, Stock-Based Compensation, 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 and other tax attribute carryforwards (excluding carryforwards where usage has been determined to be remote). 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 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. 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, non-U.S. 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.

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 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, except for the IXYS impact, was applicable to the Company for 2017), the provisions are generally 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 $47.0 million as a provisional reasonable estimate of the impact of the Tax Act, including $49.0 million for the Toll Charge net of $2.0 million for other net tax benefits. In the fourth quarter of

2018, within the measurement period outlined in SAB No. 118, the Company finalized its estimates of the impact of the Tax Act as of December 30, 2017 and recorded a charge of $3.2 million, including $2.3 million for the Toll Charge and $0.9 million for the net impact of other items. In addition, the Company recorded $7.0 million for the Toll Charge associated with IXYS as part of the IXYS acquisition purchase price allocation. This was reflected in the opening balance sheet as an increase to goodwill and other long-term liabilities.

One of the base broadening provisions of the Tax Act is commonly referred to as the tax on global intangible low-taxed income provisions (the "GILTI"). In accordance with guidance issued by the FASB staff, the Company has adopted an accounting policy to treat any GILTI inclusions as a period cost if and when incurred. Thus, for the year ended December 29, 2018, deferred taxes were computed without consideration of the possible future impact of the GILTI provisions, and any current year impact was recorded as a part of the current portion of income tax expense.

Table of Contents

Further information regarding income taxes, including a detailed reconciliation of current year activity, is provided in Note 14, 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.

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.

RESULTS OF OPERATIONS FOR THE YEAR ENDED DECEMBER 29, 2018 AS COMPARED TO THE YEAR ENDED DECEMBER 30, 2017

The following table summarizes the Company's consolidated results of operations for periods presented. The fiscal year 2018 includes approximately $88.7 million of non-segment charges, of which $82.9 million of charges are primarily related to the IXYS acquisition as described in Note 2, Acquisitions and Dispositions, of the Notes to Consolidated Financial Statements included in this Annual Report. These charges include $36.9 million of purchase accounting inventory step-up charges, $18.7 million in acquisition-related and integration costs primarily related to legal, accounting and other expenses, $12.4 million in backlog amortization costs, $8.3 million of employee termination costs and other restructuring charges, $4.5 million of stock compensation expense recognized immediately upon close for converted IXYS options related to prior service periods, and $2.1 million change in control expense related to IXYS. In addition, there were $5.8 million of employee termination costs, impairment and other restructuring charges and acquisition-related expenses for other contemplated acquisitions and included charges associated with the exit of the Custom business in the second quarter within the Industrial segment.

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 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.

Fiscal year 2018 also included approximately $0.9 million in foreign currency exchange gains primarily attributable to changes in the value of the euro, Mexico peso, Philippine peso and Chinese renminbi against the U.S. dollar, while fiscal year 2017 also included approximately $2.4 million in foreign currency exchange losses primarily attributable to changes in the value of the euro, Philippine peso and Chinese renminbi against the U.S. dollar.

	Fiscal Year			
(in thousands, except % change)	2018	2017	Change	% Change
Net sales	$1,718,468	$1,221,534	$496,934	40.7 %
Gross profit	652,541	506,533	146,008	28.8 %
Operating expenses	427,492	288,022	139,470	48.4 %
Operating income	225,049	218,511	6,538	3.0 %
Other income, net	(1,599)	(1,282)	(317)	24.7 %
Income before income taxes	204,942	204,037	905	0.4 %

Income taxes	40,377	84,518	(44,141)	(52.2)%
Net income	164,565	119,519	45,046	37.7 %

Net Sales

Net sales for 2018 of $1,718.5 million increased $496.9 million, or 40.7%, compared to the prior year with increases of $378.2 million and $6.5 million resulting from incremental net sales related to the IXYS and U.S. Sensor acquisitions, respectively, $16.7 million of favorable changes in foreign exchange rates, and volume growth across all three segments.

Gross Profit

Gross profit was $652.5 million, or 38.0% of net sales, in 2018, compared to $506.5 million, or 41.5% of net sales, in 2017. The increase in gross profit reflects the IXYS acquisition and volume growth and expense leverage across all segments. The decrease in gross margin is primarily due to the purchase accounting inventory charges of $36.9 million, which negatively impacted gross margin by 2.1 percentage points, and an unfavorable mix of products from the IXYS acquisition, which historically had lower gross margins.

Operating Expenses

Total operating expenses were $427.5 million, or 24.9% of net sales, for 2018 compared to $288.0 million, or 23.6% of net sales, for 2017. The increase in operating expenses of $139.5 million was primarily due to the incremental operating expenses related to the IXYS and U.S. Sensor acquisitions, an increase in amortization expense of $27.5 million resulting from the acquisition of IXYS as well as higher acquisition-related and integration costs of $12.1 million. Total operating expenses as a percent of net sales increased from 23.6% in 2017 to 24.9% in 2018 primarily due to the higher amortization expense and acquisition-related and integration charges noted above.

Operating Income

Operating income for 2018 was $225.0 million, an increase of $6.5 million or 3.0% compared to $218.5 million for 2017. The increase in operating income is primarily due to the acquisition of IXYS and volume growth in the Electronics and Industrial segments, partially offset by $36.9 million of purchase accounting inventory charges, higher acquisition-related and integration charges and amortization expense. Operating margins decreased from 17.9% in 2017 to 13.1% in 2018 driven by the purchase accounting inventory charges, higher amortization expense and acquisition-related and integration charges that negatively impacted margins by 2.1%, 1.6% and 0.7%, respectively.

Income Before Income Taxes

Income before income taxes for 2018 was $204.9 million, or 11.9% of net sales compared to $204.0 million, or 16.7% of net sales, for 2017. In addition to the factors impacting comparative results for operating income discussed above, income before income taxes was unfavorably impacted by higher interest expense of $9.2 million mainly resulting from increased borrowings, partially offset by increases in foreign exchange gains of $3.2 million.

Income Taxes

Income tax expense for 2018 was $40.4 million, or an effective tax rate of 19.7% compared to income tax expense of $84.5 million, or an effective tax rate of 41.4%, for 2017. The 2018 income tax expense includes a charge of $3.2 million associated with finalizing the 2017 provisional reasonable estimate, including $2.3 million for the Toll Charge and $0.9 million for the net impact of other items. The 2017 income tax expense includes 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. Additionally, our tax rates are lower than the applicable 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 2018, the impact of the GILTI provisions of the Tax Act and non-U.S. losses and expenses with no tax benefit.

Segment Information

The Company reports its operations by the following segments: Electronics, Automotive and Industrial. Segment information is described more fully in Note 16, 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:

Table of Contents

	Fiscal Year			
(in millions)	2018	2017	Change	% Change
Electronics	$1,124.3	$661.9	$462.4	69.9 %
Automotive	479.8	453.2	26.6	5.9 %
Industrial	114.4	106.4	8.0	7.5 %
Total	$1,718.5	$1,221.5	$497.0	40.7 %

Electronics Segment

The Electronics segment net sales increased $462.4 million, or 69.9%, in 2018 compared to 2017 due to incremental net sales related to the IXYS and U.S. Sensor acquisitions of $378.2 million and $6.5 million, respectively, volume growth driven by the continued strong demand across various end markets and geographies, and favorable foreign exchange impacts of $6.5 million.

Automotive Segment

Net sales in the Automotive segment increased $26.6 million, or 5.9%, in 2018 compared to 2017 due to volume growth across all businesses primarily led by the commercial vehicle and sensor businesses, and favorable foreign exchange impacts of $9.8 million.

Industrial Segment

The Industrial segment net sales increased $8.0 million, or 7.5%, in 2018 compared to 2017 primarily due to volume growth in the power fuse and relay businesses and favorable foreign exchange impacts of $0.4 million, partially offset by a decline in sales from the exit of the Custom business during 2018.

Geographic Net Sales Information

Net sales by geography represent net sales to customer or distributor locations. The following table is a summary of the Company’s net sales by geography:

	Fiscal Year			
(in millions)	2018	2017	Change	% Change
Asia-Pacific	$753.3	$541.1	$212.2	39.2 %
Americas	578.6	436.5	142.1	32.6 %
Europe	386.6	243.9	142.7	58.5 %
Total	$1,718.5	$1,221.5	$497.0	40.7 %

Asia-Pacific

Asia-Pacific net sales increased $212.2 million, or 39.2%, in 2018 compared to 2017. The increase in net sales was primarily due to incremental net sales related to the IXYS acquisition of $173.9 million and volume growth across all segments as well as favorable foreign exchange impacts of $3.7 million.

Americas

Net sales in the Americas increased $142.1 million, or 32.6%, in 2018 compared to 2017 driven by incremental net sales related to the IXYS and U.S. Sensor acquisitions of $90.7 million and $5.5 million, respectively, volume growth across all segments and favorable foreign exchange impacts of $0.4 million.

Europe

European net sales increased $142.7 million, or 58.5%, in 2018 compared to 2017. The increase in net sales was primarily due to incremental net sales related to the IXYS acquisition of $113.6 million with volume growth across the Electronics and Automotive segments as well as favorable foreign exchange impacts of $12.6 million.

Table of Contents

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 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 exchange losses 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 exchange losses primarily attributable to changes in the value of the euro, Philippine peso and Chinese renminbi against the U.S. dollar.

	Fiscal Year			
(in thousands, except % change)	2017	2016	Change	% Change
Net 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 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 %

Net 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 Menber'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 net sales, in 2017, compared to $413.1 million, or 39.1% of net 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

Table of Contents

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% in 2016 to 17.9% in 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 the 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. Additionally, 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 16, 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:

	Fiscal Year			
(in millions)	2017	2016	Change	% Change
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	$1,221.5	$1,056.2	$165.3	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 Menber'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 to 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 Net Sales Information

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

	Fiscal Year			
(in millions)	2017	2016	Change	% Change
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.

Liquidity and Capital Resources

Cash and cash equivalents were $489.7 million as of December 29, 2018, an increase of $60.0 million as compared to December 30, 2017.

As of December 29, 2018, $400 million of the Company's $489.7 million cash and cash equivalents was held by non-U.S. subsidiaries. Of the $400 million, at least $200 million can be repatriated with minimal tax consequences, although in certain cases a non-U.S. withholding tax would be payable but subsequently refunded. With respect to the remaining $200 million, the Company has recognized deferred tax liabilities on approximately $91.0 million as of December 29, 2018 because the amounts are not considered to be permanently reinvested, and the Company may access additional amounts through loans and other means. Repatriation of some non-U.S. cash balances is restricted by local laws. 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 and its foreign subsidiaries. Changes in economic and business conditions, non-U.S. or U.S. tax laws 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

Table of Contents

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.

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 ($2.5 million with the second advance on January 16, 2018) through maturity, with the remaining balance due on October 13, 2022. In addition to the quarterly principal payments, the Company paid $35.0 million of additional principal on the Term Loan during the fiscal year ended December 29, 2018.

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 in the agreement. 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 3.59% at December 29, 2018.

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 B due 2030”) (together, the “U.S. Senior Notes due 2025 and 2030” and with the Euro Senior Notes and the U.S. Senior Notes due 2022 and 2027, the “Senior Notes”) were funded. Interest on the U.S. Senior Notes due 2025 and 2030 is payable semiannually on February 15 and August 15, commencing August 15, 2018.

The Company was in compliance with its debt covenants as of December 29, 2018 and expects to remain in compliance based on management’s estimates of operating and financial results for 2019 and the foreseeable future. As of December 29, 2018, the

Table of Contents

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 29, 2018, the Company paid $306.5 million, net of cash acquired, for the acquisition of IXYS. Pursuant to the Securities Purchase Agreement, the Company paid $9.0 million for the acquisition of the remaining 38% outstanding common stock of Monolith during the year ended December 29, 2018. 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 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 $471.1 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.

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 29, 2018 and December 30, 2017:

	Fiscal Year	
(in millions)	2018	2017
Net cash provided by operating activities	$331.8	$269.2
Net cash used in investing activities	(382.3)	(96.1)
Net cash provided by (used in) financing activities	121.9	(24.7)
Effect of exchange rate changes on cash and cash equivalents	(11.4)	6.2
Increase in cash and cash equivalents	60.0	154.6
Cash and cash equivalents at beginning of year	429.7	275.1
Cash and cash equivalents at end of year	$489.7	$429.7

Cash Flow from Operating Activities

Net cash provided by operating activities was $331.8 million for 2018, compared to $269.2 million during 2017. The increase in net cash provided by operating activities was primarily driven by higher earnings and favorable working capital management that more than offset higher payments related to cash taxes and acquisition and integration costs.

Cash Flow from Investing Activities

Net cash used in investing activities was $382.3 million for 2018, compared to $96.1 million during 2017. Net cash used for the acquisition of IXYS was $306.5 million in 2018 compared to 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. Capital expenditures were $74.8 million, representing an increase of $8.8 million compared to 2017. The

Company also received proceeds of $9.6 million in 2018 primarily as a result of the sale of a building.

Cash Flow from Financing Activities

Net cash provided by financing activities was $121.9 million for 2018 compared to net cash used in financing activities of $24.7 million for 2017. The Company had $310.0 million of proceeds from the credit facility, term loan and senior notes payable partially offset by payments of $102.5 million on the credit facility and term loan in 2018 as compared to $149.4 million of proceeds from the credit facility, term loan and senior notes payable and $134.7 million of payments on the credit facility and term loan during 2017. The Company repurchased 391,972 shares of its common stock during fiscal 2018 totaling $63.6 million.

Table of Contents

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

	Fiscal Year	
(in millions)	2017	2016
Net cash provided by operating activities	$269.2	$180.1
Net cash 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 year	275.1	328.8
Cash and cash equivalents at end of year	$429.7	$275.1

Cash Flow 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 Flow 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 Flow from Financing Activities

Net cash used in financing activities was $24.7 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, term loan 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, term loan and senior notes payable and $421.2 million of payments on the term loan and credit facility during 2016.

Dividends

Cash dividends paid totaled $40.0 million, $31.8 million and $27.9 million for 2018, 2017 and 2016, respectively. On January 24, 2019, the Board of Directors of the Company declared a quarterly cash dividend of $0.43 per share, payable on March 7, 2019 to stockholders of record as of February 21, 2019.

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, 2018 to April 30, 2019 ("Share Repurchase Program"). During the fiscal year 2018, the Company repurchased 391,972 shares of its common stock. The Company did not repurchase any shares of its common stock during fiscal 2017.

As of February 18, 2019, the Company has repurchased 79,916 shares of its common stock since the fiscal year ended December 29, 2018.

Table of Contents

Contractual Obligations and Commitments

The following table summarizes outstanding contractual obligations and commitments as of December 29, 2018:

(in thousands)	Total	Less than 1 Year	1 to 3 Years	3 to 5 Years	Greater than 5 Years
Long-term debt[(a)]	$699,366	$10,000	$20,000	$286,036	$383,330
Interest payments[(b)]	135,902	19,124	37,156	29,440	50,182
Operating lease payments[(c)]	32,607	9,133	13,164	7,536	2,774
Income Tax Obligation[(d)]	32,364	3,571	5,738	8,045	15,010
Purchase obligations[(e)]	30,886	27,814	711	700	1,661
Total	$931,125	$69,642	$76,769	$331,757	$452,957

(a)Excludes offsetting issuance costs of $4.6 million. Euro denominated debt amounts are converted based on the Euro to U.S. Dollar spot rate at year end. For more information see Note 9, Debt, of the Notes to Consolidated Financial Statements.

(b)Amounts represent estimated contractual interest payments on outstanding debt. Rates in effect as of December 29, 2018 are used for variable rate debt. For more information see Note 9, Debt, of the Notes to Consolidated Financial Statements.

(c)For more information see Note 7, Lease Commitments, of the Notes to Consolidated Financial Statements.

(d)The Income Tax Obligation represents the remaining amounts payable in regard to the 2017 Littelfuse Toll Charge and the 2018 IXYS Toll Charge. The Company has elected to pay the 2017 Littelfuse Toll Charge and will elect to pay the 2018 IXYS Toll Charge over the eight-year period prescribed by the Tax Act. For more information see Note 14, Income Taxes, of the Notes to Consolidated Financial Statements.

(e)Purchase obligations include purchase commitments and 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 29, 2018:

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 29, 2018, the Company had a net unfunded status of $32.2 million. The Company expects to make approximately $2.3 million of contributions to the plans in 2019. For additional information, see Note 11, Benefit Plans, of the Notes to 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 29, 2018, there was $9.1 million of accrued compensation benefits included in Other long-term liabilities. For additional information, see Note 11, Benefit Plans, of the Notes to Consolidated Financial Statements.

As of December 29, 2018, the Company recognized various accruals related to employee compensation including its annual incentive program that are expected to be paid in 2019.

Due to the uncertainty with respect to the cash outflows, the preceding table excludes unrecognized tax benefits of $18.3 million. The Company does not expect to make significant payments of these liabilities within the next year. For additional information, see Note 14, Income Taxes, of the Notes to Consolidated Financial Statements.

Off-Balance Sheet Arrangements

As of December 29, 2018, 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.

Table of Contents

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 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 $155.0 million in debt outstanding at December 29, 2018 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 $1.6 million in annual interest expense. The Company is not party to any currency exchange or interest rate protection agreements as of December 29, 2018.

Foreign Exchange Rates

The majority of the company's operations consist of manufacturing and sales activities in foreign countries. The Company has operations in China, Germany, Mexico, Philippines, United Kingdom, Japan, Lithuania, Netherlands, Portugal, Singapore, South Korea, Spain, and the United States. During 2018, sales to customers outside the U.S. were approximately 70% of total net sales. During 2017, sales to customers outside the U.S. were approximately 69% 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, Chinese renminbi, Japanese yen, or Korean won.

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 foreign currency exposures are to the euro, 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 29, 2018, the net value of the Company's assets with exposure to foreign currency risk was approximately $143 million, with the largest exposure being Japanese yen 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 asset instruments would be $14 million at December 29, 2018. At December 29, 2018, the net value of the Company's liabilities with exposure to foreign currency risk was $348 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 $35 million at December 29, 2018. 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 rise and result in materially higher costs of producing our products. The Company believes it has adequate primary and secondary sources of supply for each of our key materials and that, in periods of rising prices, the Company expects to recover a majority of the increased cost in the form of higher selling prices. However, recoveries typically lag the effect of cost increases due to the nature of our markets.

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 2019 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.

Table of Contents

ITEM 8. FINANCIAL STATEMENTS AND SUPPLEMENTARY DATA.

Table of Contents

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 29, 2018 and December 30, 2017, the related consolidated statements of net income, comprehensive income, equity, and cash flows for each of the three years in the period ended December 29, 2018, and the related notes and financial statement schedule included under Item 15(a) (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 29, 2018 and December 30, 2017, and the results of its operations and its cash flows for each of the three years in the period ended December 29, 2018, 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 29, 2018, 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 22, 2019, expressed an unqualified opinion.

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 22, 2019

36

Table of Contents

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 29, 2018, 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 29, 2018, 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 29, 2018, and our report dated February 22, 2019 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 22, 2019

Table of Contents

LITTELFUSE, INC.
CONSOLIDATED BALANCE SHEETS

(in thousands, except share and per share data)	December 29, 2018	December 30, 2017
ASSETS		
Current assets:		
Cash and cash equivalents	$ 489,733	$ 429,676
Short-term investments	34	35
Trade receivables, less allowances of $36,038 and $27,516 at December 29, 2018 and December 30, 2017, respectively	232,892	182,699
Inventories	258,228	140,789
Prepaid income taxes and income taxes receivable	2,339	1,689
Prepaid expenses and other current assets	49,291	37,452
Total current assets	1,032,517	792,340
Net property, plant, and equipment	339,894	250,577
Intangible assets, net of amortization	361,474	203,850
Goodwill	826,715	453,414
Investments	25,405	10,993
Deferred income taxes	7,330	11,858
Other assets	20,971	17,070
Total assets	$ 2,614,306	$ 1,740,102
LIABILITIES AND EQUITY		
Current liabilities:		
Accounts payable	$ 126,323	$ 101,844
Accrued liabilities	138,405	100,415
Accrued income taxes	20,547	16,285
Current portion of long-term debt	10,000	6,250
Total current liabilities	295,275	224,794
Long-term debt, less current portion	684,730	489,361
Deferred income taxes	51,853	17,069
Accrued post-retirement benefits	31,874	18,742
Other long-term liabilities	72,232	62,580
Shareholders’ equity:		
Common stock, par value $0.01 per share: 34,000,000 shares authorized; shares issued, 25,641,959 and 23,153,396 in 2018 and 2017, respectively	254	229
Treasury stock, at cost: 868,045 and 439,598 shares, respectively	(116,454)	(41,294)
Additional paid-in capital	835,828	310,012
Accumulated other comprehensive loss	(97,924)	(63,668)
Retained earnings	856,507	722,140
Littelfuse, Inc. shareholders’ equity	1,478,211	927,419
Non-controlling interest	131	137
Total equity	1,478,342	927,556
Total liabilities and equity	$ 2,614,306	$ 1,740,102

See accompanying Notes to Consolidated Financial Statements.

Table of Contents

LITTELFUSE, INC.
CONSOLIDATED STATEMENTS OF NET INCOME

(in thousands, except per share data)	Fiscal Year Ended December 29, 2018	December 30, 2017	December 31, 2016
Net sales	$1,718,468	$1,221,534	$1,056,159
Cost of sales	1,065,927	715,001	643,042
Gross profit	652,541	506,533	413,117
Selling, general, and administrative expenses	288,001	212,833	206,129
Research and development expenses	87,301	50,489	42,198
Amortization of intangibles	52,190	24,700	19,337
Impairment of goodwill and intangible assets	—	—	14,809
Total operating expenses	427,492	288,022	282,473
Operating income	225,049	218,511	130,644
Interest expense	22,569	13,380	8,628
Foreign exchange (gain) loss	(863)	2,376	472
Other income, net	(1,599)	(1,282)	(1,730)
Income before income taxes	204,942	204,037	123,274
Income taxes	40,377	84,518	18,786
Net income	$164,565	$119,519	$104,488
Income per share:			
Basic	$6.62	$5.27	$4.63
Diluted	$6.52	$5.21	$4.60
Weighted average shares and equivalent shares outstanding:			
Basic	24,870	22,687	22,559
Diluted	25,235	22,931	22,727

See accompanying Notes to Consolidated Financial Statements.

Table of Contents

LITTELFUSE, INC.
CONSOLIDATED STATEMENTS OF COMPREHENSIVE INCOME

(in thousands)	Year Ended December 29, 2018	December 30, 2017	December 31, 2016
Net income	$164,565	$ 119,519	$ 104,488
Other comprehensive income (loss):			
Pension and postemployment adjustments, net of tax	877	1,147	(3,261)
Unrealized loss on investments	—	(974)	(815)
Foreign currency translation adjustments	(25,338)	10,738	(24,832)
Comprehensive income	$140,104	$ 130,430	$ 75,580

See accompanying Notes to Consolidated Financial Statements.

Table of Contents

LITTELFUSE, INC.
CONSOLIDATED STATEMENTS OF CASH FLOWS

(in thousands)	Year Ended December 29, 2018	December 30, 2017	December 31, 2016
OPERATING ACTIVITIES			
Net income	$164,565	$ 119,519	$ 104,488
Adjustments to reconcile net income to net cash provided by operating activities:			
Depreciation	51,003	38,311	33,800
Amortization of intangibles	52,190	24,700	19,337
Impairment charges	2,218	—	14,809
Deferred revenue	3,965	—	—
Non-cash inventory charges	36,927	1,607	7,834
Stock-based compensation	27,431	16,315	11,987
Excess tax benefit on share-based compensation	—	—	(3,421)
Deferred income taxes	(4,679)	17,063	(5,269)
Other	(50)	6,048	3,973
Changes in operating assets and liabilities:			
Trade receivables	(3,539)	(11,087)	(22,779)
Inventories	(33,971)	(20,180)	8,539
Accounts payable	13,708	6,494	19,190
Accrued liabilities and income taxes	29,329	50,626	(9,644)
Prepaid expenses and other assets	(7,269)	19,754	(2,711)
Net cash provided by operating activities	331,828	269,170	180,133
INVESTING ACTIVITIES			
Acquisitions of businesses, net of cash acquired	(318,474)	(38,512)	(471,118)
Proceeds from sales and maturities of short-term investments	1,407	3,739	345
Decrease in entrusted loan	—	3,599	5,510
Purchases of property, plant, and equipment	(74,753)	(65,925)	(46,228)
Proceeds from sale of property, plant, and equipment	9,572	962	248
Net cash used in investing activities	(382,248)	(96,137)	(511,243)
FINANCING ACTIVITIES			
Proceeds of revolving credit facility	60,000	15,000	367,000
Proceeds of term loan	75,000	9,375	125,000
Proceeds from senior notes payable	175,000	125,000	226,428
Payments of term loan	(42,500)	(7,188)	(89,688)
Payments of revolving credit facility	(60,000)	(127,500)	(331,500)
Net proceeds (payments) related to stock-based award activities	18,857	(2,373)	20,494
Payments of entrusted loan	—	(3,599)	(5,510)
Cash dividends paid	(39,993)	(31,770)	(27,866)
Purchases of common stock	(63,564)	—	—
Other	(903)	(1,626)	(162)
Net cash provided by (used in) financing activities	121,897	(24,681)	284,196
Effect of exchange rate changes on cash and cash equivalents	(11,420)	6,200	(6,748)

Increase (decrease) in cash and cash equivalents	60,057	154,552	(53,662)
Cash and cash equivalents at beginning of year	429,676	275,124	328,786
Cash and cash equivalents at end of year	$489,733	$ 429,676	$ 275,124

See accompanying Notes to Consolidated Financial Statements.

Table of Contents

LITTELFUSE, INC.
CONSOLIDATED STATEMENTS OF EQUITY

	Littelfuse, Inc. Shareholders' Equity						
(in thousands, except share and per share data)	Common Stock	Addl. Paid in Capital	Treasury Stock	Accum. Other Comp. Inc. (Loss)	Retained Earnings	Non-controlling Interest	Total
Balance at January 2, 2016	$224	$259,553	$(32,766)	$(45,671)	$557,769	$ 143	$739,252
Net income	—	—	—	—	104,488	—	104,488
Other comprehensive income, net of tax				(28,908)			(28,908)
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
Net income	—	—	—	—	119,519	—	119,519
Other comprehensive income, net of tax				10,911			10,911
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	$229	$310,012	$(41,294)	$(63,668)	$722,140	$ 137	$927,556
Net income	—	—	—	—	164,565	—	164,565
Other comprehensive income, net of tax				(24,461)			(24,461)
Cumulative effect adjustment	—	—	—	(9,795)	9,795	—	—
Stock-based compensation	—	27,431	—	—	—	—	27,431
Non-controlling interest	—	—	—	—	—	(6)	(6)
Withheld 36,482 shares on restricted share units for withholding taxes	—	—	(7,252)	—	—	—	(7,252)
Stock options exercised	4	26,105	—	—	—	—	26,109
Issuance of common stock	21	472,280	—	—	—	—	472,301
Repurchases of common stock	—	—	(67,908)	—	—	—	(67,908)
Cash dividends paid ($1.60 per share)	—	—	—	—	(39,993)	—	(39,993)
Balance at December 29, 2018	$254	$835,828	$(116,454)	$(97,924)	$856,507	$ 131	$1,478,342

See accompanying 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 manufacturer of leading technologies in circuit protection, power control and sensing. The company's products are found in automotive and commercial vehicles, industrial applications, data and telecommunications, medical devices, consumer electronics and appliances. With its broad product portfolio of fuses, semiconductors, polymers, ceramics, relays and sensors, and extensive global infrastructure, the Company’s worldwide associates partner with its customers to design, manufacture and deliver innovative, high-quality solutions for a safer, greener and increasingly connected world.

Fiscal Year

References herein to “2018”, “fiscal 2018” or “fiscal year 2018” refer to the fiscal year ended December 29, 2018. 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. The Company operates on a 52-53 week fiscal year (4-4-5 basis) ending on the Saturday closest to December 31.

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 29, 2018, the Company has an investment in Polytronics Technology Corporation Ltd. (“Polytronics”). The Company’s Polytronics shares held at the end of fiscal 2018 and 2017 represent approximately 7.2% of total Polytronics shares outstanding. The Polytronics investment is classified as available-for-sale and is carried at fair value. The fair value of the Polytronics investment was €8.9 million (approximately $10.2 million) at December 29, 2018 and €9.2 million (approximately $11.0 million) at December 30, 2017.

As a result of the Company's acquisition of IXYS, the Company has equity ownerships in various investments that are accounted for under the equity method. The Company owns 45% of the outstanding equity of Powersem GmbH, a module manufacturer based in Germany, approximately 20% of the outstanding equity of EB Tech Ltd., a company with expertise in radiation technology based in South Korea, and approximately 24% of the outstanding common shares of Automated Technology, Inc., a supplier located in the Philippines that provides assembly and test services. All equity-level investments are less than majority owned. The Company recognized $0.7 million in gains from its equity method investments for the fiscal year ended December 29, 2018. The balance of these investments under the equity method was $11.6 million as of the fiscal year ended December 29, 2018. See Note 18, Related Party Transactions, for further discussion.

The Company has certain investments that are accounted for under the cost method that have a balance of investments under the cost method was $7.9 million as of the fiscal year ended December 29, 2018.

In January 2016, the Financial Accounting Standards Board ("FASB") issued Accounting Standards Update ("ASU") No. 2016-01, "Financial Instruments-Recognition and Measurement of Financial Assets and Financial Liabilities" which addressed certain aspects of the recognition, measurement, presentation and disclosure of financial instruments. The ASU requires the Company to recognize any changes in the fair value of certain equity investments in net income. Previously these changes were recognized in other comprehensive income ("OCI"). The Company adopted the new standard on December 31, 2017, on a modified retrospective basis, recognizing the cumulative effect as a $9.8 million increase to retained earnings. As a result of the adoption of the new standard and change in fair value of our equity investments, for the twelve months ended December 29, 2018, the Company recognized an unrealized loss of $0.7 million in Other income, net in the Consolidated Statements of Net Income.

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. As of December 29, 2018 and December 30, 2017, there was $9.1 million and $8.0 million of marketable securities, respectively, 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 trade receivables 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 ten 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, 2018 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, 2018, the Company noted that the excess of fair value over the carrying value, was 176%, 80%, 233%, 202%, 63%, 114%, and 370% for its reporting units; Electronics-Passive Products and Sensors, Electronics-Semiconductor, Passenger Car Products, Commercial Vehicle Products, Automotive 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 5, Goodwill and Other Intangible Assets, for additional information.

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 29, 2018, 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 fiscal 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 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

Adoption

On December 31, 2017, the Company adopted new guidance on revenue from contracts with customers using the modified retrospective method. The adoption did not have a significant impact on the Company's consolidated financial statements.

Revenue Disaggregation

The following table disaggregates the Company's revenue by primary business units for the fiscal year ended December 29, 2018:

Table of Contents
NOTES TO CONSOLIDATED FINANCIAL STATEMENTS

	Fiscal Year Ended December 29, 2018			
(in thousands)	Electronics Segment	Automotive Segment	Industrial Segment	Total
Electronics – Semiconductor	$648,967	$ —	$—	$648,967
Electronics – Passive Products and Sensors	475,329	—	—	475,329
Passenger Car Products	—	240,501	—	240,501
Commercial Vehicle Products	—	121,562	—	121,562
Automotive Sensors	—	117,728	—	117,728
Industrial Products	—	—	114,381	114,381
Total	$1,124,296	$ 479,791	$114,381	$1,718,468

See Note 16, Segment Information, for net sales by segment and countries.

The Company recognizes revenue on product sales in the period in which the Company satisfies its performance obligation and control of the product is transferred to the customer. The Company’s sales arrangements with customers are predominately short term in nature and generally provide for transfer of control at the time of shipment as this is the point at which title and risk of loss of the product transfers to the customer. At the end of each period, for those shipments where title to the products and the risk of loss and rewards of ownership do not transfer until the product has been received by the customer, the Company adjusts revenues and cost of sales for the delay between the time that the products are shipped and when they are received by the customer. The amount of revenue recorded reflects the consideration to which the Company expects to be entitled in exchange for goods and may include adjustments for customer allowance, rebates and price adjustments. The Company’s distribution channels are primarily through direct sales and independent third-party distributors.

The Company has elected the practical expedient under Accounting Standards Codification ("ASC") 340-40-25-4 to expense commissions when incurred as the amortization period of the commission asset the Company would have otherwise recognized is less than one year.

Revenue and Billing

The Company generally accepts orders from customers through receipt of purchase orders or electronic data interchange based on written sales agreements and purchasing contracts. Contract pricing and selling agreement terms are based on market factors, costs, and competition. Pricing is often 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. As the Company’s standard payment terms are less than one year, the Company has elected the practical expedient under ASC 606-10-32-18 to not assess whether a contract has a significant financing component. The Company also elected the practical expedient provided in ASC 606-10-25-18B to treat all product shipping and handling activities as fulfillment activities, and therefore recognize the gross revenue associated with the contract, inclusive of any shipping and handling revenue. This is similar to the Company’s prior practice and therefore the effect of the new guidance is immaterial.

Ship and Debit Program

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 for pricing allowances to reduce its price. When 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 certain customers, 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 volume based sales incentives to certain customers to encourage greater product sales. If customers achieve their specific quarterly or annual sales targets, they are entitled to rebates. The Company estimates the projected amount of rebates that will be achieved by the customer 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.

Advertising Costs

The Company expenses advertising costs as incurred, which amounted to $2.8 million in fiscal year 2018 and $2.9 million in both fiscal year 2017 and 2016, 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 $12.3 million, $10.9 million, and $9.1 million in fiscal year 2018, 2017, and 2016, respectively, are classified in selling, general, and administrative expenses.

Foreign Currency Translation / Remeasurement

The Company's foreign subsidiaries use the local currency or the U.S. dollar as their functional currency, as appropriate. Assets and liabilities are translated using exchange rates at the balance sheet date, and revenues and expenses are translated at weighted average rates. The amount of foreign currency gain or loss from remeasurement recognized in the income statement was a gain of $0.9 million in fiscal year 2018, a loss of $2.4 million in fiscal year 2017, and a loss of $0.5 million in fiscal year 2016. Adjustments from the translation process are recognized in "Shareholders' equity" as a component of "Accumulated other comprehensive loss."

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 12, Stock-Based Compensation, for additional information on stock-based compensation.

Coal Mining Liability

Included in other long-term liabilities is an accrual related to former coal mining operations at Littelfuse GmbH (formerly known as Heinrich Industries, AG) for the amounts of €1.1 million ($1.3 million) and €0.9 million ($1.1 million) at December 29, 2018 and December 30, 2017, 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.

Other Income, Net

Other income, net generally consists of interest income, royalties, change in fair value of available-for-sale securities, pension non-service costs and other non-operating expense (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 and other tax attribute carryforwards (excluding carryforwards where usage has been determined to be remote). 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 and its non-U.S. 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 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, except for the IXYS impact, was applicable to the Company for 2017), the provisions are generally 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 $47.0 million as a provisional reasonable estimate of the impact of the Tax Act, including $49.0 million for the Toll Charge net of $2.0 million for other net tax benefits. In the fourth quarter of 2018, within the measurement period outlined in SAB No. 118, the Company finalized its estimates of the impact of the Tax Act as of December 30, 2017 and recorded a charge of $3.2 million, including $2.3 million for the Toll Charge and $0.9 million for the net impact of other items. In addition, the Company recorded $7.0 million for the Toll Charge associated with IXYS as part of the IXYS acquisition purchase price allocation. This was reflected in the opening balance sheet as an increase to goodwill and other long-term liabilities.

Although certain administrative guidance has been issued, including final and proposed regulations, the appropriate application of many provisions of the Tax Act remain uncertain. The Company used its best judgment as to the application of these provisions in determining its final estimates of the impact of the Tax Act as of December 30, 2017, the Toll Charge associated with the IXYS acquisition as well as the Company’s income tax expense for the year ended December 29, 2018. Adjustments to income tax expense may be necessary in future periods 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, whether through issuance of additional administrative guidance, or through further review of the Tax Act by the Company and its advisors. In this regard, on January 15, 2019, final regulations were issued addressing the Toll Charge (replacing the proposed regulations issued in August of 2018). The Company is evaluating these final regulations and has yet to determine their impact.

The Company has elected to pay the 2017 Littelfuse Toll Charge and will elect to pay the 2018 IXYS Toll Charge over the eight-year period prescribed by the Tax Act. The long-term portion of these Toll Charges totaling $28.8 million (which includes the Littelfuse and IXYS Toll Charges, partially offset by foreign tax credits, the tax benefit of current year losses and the actual 2018 and anticipated 2019 annual installment payments) is recorded in Other long-term liabilities on the Consolidated Balance Sheet as of December 29, 2018. The anticipated 2019 annual installment payments are included in accrued income taxes.

One of the base broadening provisions of the Tax Act is the tax on the global intangible low-taxed income ("GILTI") commonly referred to as the “GILTI” provisions. In accordance with guidance issued by the FASB staff, the Company has adopted an accounting policy to treat any GILTI inclusions as a period cost if and when incurred. Thus, for the year ended December 29, 2018, deferred taxes were computed without consideration of the possible future impact of the GILTI provisions, and any current year impact was recorded as a part of the current portion of income tax expense.

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.

Recently Adopted Accounting Standards

In January 2018, the FASB released guidance on the accounting for the GILTI provisions of the 2017 U.S. Tax Act. The GILTI provisions impose a tax on foreign income in excess of a deemed return on tangible assets of foreign corporations. The guidance indicates that either accounting for deferred taxes related to GILTI inclusions or treating any taxes on GILTI inclusions as period cost are both acceptable methods subject to an accounting policy election. The Company has adopted an accounting policy to treat any GILTI inclusions as a period cost if and when incurred. Thus, for the year ended December 29, 2018, deferred taxes were computed without consideration of the possible future impact of the GILTI provisions, and any current year impact was recorded as a part of the current portion of income tax expense.

In March 2017, the FASB issued ASU No. 2017-07 “Compensation-Retirement Benefits (Topic 715): Improving the Presentation of Net Periodic Pension Cost and Net Periodic Post-Retirement Benefit Cost,” which changed the presentation of net periodic pension and post-retirement benefit cost (net benefit cost) within the Statement of Income. Under the previous guidance, net benefit cost was reported as an employee cost within operating income. The amendment required the bifurcation of net benefit cost, with the service cost component to be presented with other employee compensation costs in operating income while the other components will be reported separately outside of income from operations. ASU No. 2017-07 was effective for the first quarter of 2018 with the Company adopting the new standard on December 31, 2017.

In January 2016, the FASB issued ASU No. 2016-01, “Financial Instruments-Recognition and Measurement of Financial Assets and Financial Liabilities” which addressed certain aspects of the recognition, measurement, presentation and disclosure of financial instruments.The ASU requires the Company to recognize any changes in the fair value of certain equity investments in net income. Previously these changes were recognized in other comprehensive income ("OCI"). The Company adopted the new standard on December 31, 2017, on a modified retrospective basis, recognizing the cumulative effect as a $9.8 million increase to retained earnings. As a result of the adoption of the new standard and change in fair value of our equity investments, for the twelve months ended December 29, 2018, the Company recognized an unrealized loss of $0.7 million in Other income, net in the Consolidated Statements of Net Income.

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. The Company adopted the new standard on December 31, 2017 using the modified retrospective method, however, no adjustment to retained earnings was needed. The new guidance did not have a material effect on the Company’s Consolidated Statements of Net Income. See the Revenue Recognition section above for further discussion.

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 Company adopted the new standard on December 31, 2017 and it did not have a material impact.

Recently Issued Accounting Standards

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 requires using a modified retrospective transition with either 1) periods prior to the adoption date being recast or 2) a cumulative-effect adjustment recognized to the opening balance of retained earnings on the adoption date with prior periods not recast.The Company adopted the standard on December 30, 2018 under the modified retrospective transition method with the cumulative-effect adjustment recognized to the retained earnings. The new standard provides a number of optional practical expedients in transition. The Company has elected the ‘package of practical expedients’, which permits it not to reassess under the new standard our prior conclusions about lease identification, lease classification and initial direct costs. The Company has not elected the use-of-hindsight.The Company assessed its portfolio of leases and compiled a central repository of all active leases. Key lease data elements have been evaluated including developing a methodology for determining the incremental borrowing rate across all countries where we have operations. The Company has implemented a new leasing software and is in the process of assessing the design of the future lease process and drafting a policy to address the new standard requirements. While the Company is continuing to assess the potential impacts of ASU 2016-02, the Company estimates that the adoption of ASU 2016-02 will result in the recognition of right-of-use assets of approximately $27 million and related lease liabilities for operating leases on its Consolidated Balance Sheets, with no material impact to its Consolidated Statements of Net Income.

In February 2018, the FASB issued ASU No. 2018-02 “Income Statement—Reporting Comprehensive Income (Topic 220): Reclassification of Certain Tax Effects from Accumulated Other Comprehensive Income,” which permits the reclassification of tax effects stranded in accumulated other comprehensive income to retained earnings as a result of the T