

REFINITIV

DELTA REPORT

10-K

LFUS - LITTELFUSE INC /DE

10-K - DECEMBER 30, 2023 COMPARED TO 10-K - DECEMBER 31, 2022

The following comparison report has been automatically generated

TOTAL DELTAS 2301

■ CHANGES 487

■ DELETIONS 770

■ ADDITIONS 1044

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

Annual Report Pursuant to Section 13 or 15(d) of the Securities Exchange Act of 1934
(Mark one) for the fiscal year ended **December 31, 2022** **December 30, 2023**
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.

Delaware
(State or other jurisdiction of incorporation or organization)

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

(Exact name of registrant as specified in its charter)

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

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

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

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

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

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

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

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

Indicate by check mark 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 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 has filed a report on and attestation to its management's assessment of the effectiveness of its internal control over financial reporting under Section 404(b) of the Sarbanes-Oxley Act (15 U.S.C. 7262(b)) by the registered public accounting firm that prepared or issued its audit report.

If securities are registered pursuant to Section 12(b) of the Act, indicate by check mark whether the financial statements of the registrant included in the filing reflect the correction of an error to previously issued financial statements.

Indicate by check mark whether any of those error corrections are restatements that required a recovery analysis of incentive-based compensation received by any of the registrant's executive officers during the relevant recovery period pursuant to §240.10D-1(b).

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

The aggregate market value of **24,754,870** **24,869,814** shares of voting stock held by non-affiliates of the registrant was approximately **\$6,146,881,720** **\$7,244,825,467** based on the last reported sale price of the registrant's Common Stock as reported on the NASDAQ Global Select MarketsSM on **July 2, 2022** **July 1, 2023**.

As of [February 10, 2023](#) [February 9, 2024](#), the registrant had outstanding [24,773,837](#) [24,917,925](#) shares of Common Stock, net of Treasury Shares.

DOCUMENTS INCORPORATED BY REFERENCE

Portions of the Litteluse, Inc. Proxy Statement for the [2022](#) [2023](#) 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

	Page
FORWARD-LOOKING STATEMENTS	3
PART I	
Item 1. Business	3
Item 1A. Risk Factors	12 13
Item 1B. Unresolved Staff Comments	18 19
Item 1C. Cybersecurity	19
Item 2. Properties	18 20
Item 3. Legal Proceedings	18 20
Item 4. Mine Safety Disclosures	18 21
PART II	
Item 5. Market for Registrant's Common Equity, Related Stockholder Matters and Issuer Purchases of Equity Securities	20 23
Item 6. [Reserved.]	22 25
Item 7. Management's Discussion and Analysis of Financial Condition and Results of Operations	22 25
Item 7A. Quantitative and Qualitative Disclosures About Market Risk	36 42
Item 8. Financial Statements and Supplementary Data	37 43
Item 9. Changes in and Disagreements with Accountants on Accounting and Financial Disclosure	84 90
Item 9A. Controls and Procedures	84 90
Item 9B. Other Information	85 91
PART III	
Item 10. Directors, Executive Officers and Corporate Governance	86 92
Item 11. Executive Compensation	86 92
Item 12. Security Ownership of Certain Beneficial Owners and Management and Related Stockholder Matters.	88 94
Item 13. Certain Relationships and Related Transactions, and Director Independence	88 94
Item 14. Principal Accounting Fees and Services	88 94
PART IV	
Item 15. Exhibits and Financial Statement Schedules.	89 95
Item 16. Form 10-K Summary	89 95
Schedule II – Valuation and Qualifying Accounts and Reserves	90 96
Signatures	91 97
Exhibit Index	92 98

[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"). The Company cautions that forward-looking statements, which speak only as of the date they are made, are subject to risks, uncertainties and other factors, and actual results and outcomes may differ materially from those indicated or implied by the forward-looking statements.

These risks, uncertainties and other factors include, but are not limited to, risks and uncertainties relating to general economic conditions; the severity and duration of the coronavirus disease 2019 ("COVID-19") pandemic and the measures taken in response thereto and the effects of those items on the Company's business; 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; cybersecurity matters; 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 or regulatory changes; integration of acquisitions 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://investor.littelfuse.com>) as soon as reasonably practicable after it electronically files them with, or furnishes 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 "2023", "fiscal 2023" or "fiscal year 2023" refer to the fiscal year ended December 30, 2023. References herein to "2022", "fiscal 2022" or "fiscal year 2022" refer to the fiscal year ended December 31, 2022. References herein to "2021", "fiscal 2021" or "fiscal year 2021" refer to the fiscal year ended January 1, 2022. References herein to "2020", "fiscal 2020" or "fiscal year 2020" refer to the fiscal year ended December 26, 2020. The Company operates on a 52-53 week fiscal year (4-4-5 basis) ending on the Saturday closest to December 31. Therefore, the financial results of certain fiscal years and the associated 14 week quarters will not be exactly comparable to the prior 52 week fiscal years and the associated quarters having only 13 weeks. As a result of using this convention, the fiscal year 2021 contained 53 weeks while each of fiscal 2022 and fiscal 2020 2023 contained 52 weeks.

OVERVIEW

Founded in 1927, Littelfuse is a diversified, industrial technology manufacturing company empowering a sustainable, connected, and safer world. Across more than 20 countries, and with approximately 18,000 17,000 global associates, the Company partners we partner with customers to design and deliver innovative, reliable solutions. Serving over 100,000 end customers, the Company's our products are found in a variety of industrial, transportation and electronics end markets – everywhere, every day.

[Table of Contents](#)

Segments

The Company conducts its business through three reportable segments: Electronics, Transportation, and Industrial. Within these segments, the Company designs, manufactures and sells electronic components, modules and subassemblies to empower the long-term mega secular growth themes of sustainability, connectivity and safety. Over the last decade the Company has positioned itself within the center of these global structural growth themes by helping to enable its customers' applications focused on a more sustainable, connected, and safer world. The ever-increasing complexity of applications surrounding these themes continues to drive greater demand for the Company's innovative, reliable products and a higher level of product content within a broad range of applications. With its expanding, diversified, product portfolio, the Company has evolved its presence across the industrial, transportation and electronics end markets it serves. The Company's exposure with each of these end markets is relatively balanced. With a deep list of target applications within each primary end market, the Company believes its balanced approach is healthy positions its business for the long-term sustainability. Of its business, increases diversification and creates additional growth opportunities. Across electronics end markets, product demand is largely driven by electrification, energy and power efficiency, automation, connectivity, artificial intelligence, and safety. In transportation end markets, including passenger and commercial vehicles, the ongoing electronification and electrification of applications is driving increased product demand. Across industrial end markets, product demand is driven by a more sustainable ecosystem. an ecosystem that continues to advance sustainability, safety and automation capabilities. For example, renewables, including solar and wind energy, and energy storage systems that enable lower carbon emissions, the ongoing proliferation of electric vehicles and charging stations, more efficient climate control units, increasing requirements for electrical safety, the rising demand for factory and process automation, and motor drives and power supplies. 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, electromechanical switches and interconnect solutions, polymer electrostatic discharge ("ESD") suppressors, varistors, reed switch based magnetic sensing, gas discharge tubes; semiconductor products such as discrete transient voltage suppressor ("TVS") diodes, TVS diode arrays, protection and switching thyristors, silicon and silicon carbide metal-oxide-semiconductor field effect transistors ("MOSFETs") and diodes; and insulated gate bipolar transistors ("IGBT") technologies. The segment covers a broad range of end markets, including industrial motor drives and power conversion, automotive electronics, electric vehicle and related charging infrastructure, aerospace, power supplies, data centers and telecommunications, medical devices, alternative energy and energy storage, building and home automation, appliances, and mobile electronics.

- **Transportation Segment:** Formerly known as Automotive segment. The term "Transportation" represents a more comprehensive description of the Company's broad range of products, and the applications and end markets it serves. Consists of a wide range of circuit protection, power control and sensing technologies for global original equipment manufacturers ("OEMs"), Tier-one suppliers and parts and aftermarket distributors in passenger vehicle, heavy-duty truck and bus, off-road vehicle, and recreational vehicles, material handling equipment, agricultural machinery, construction equipment and other commercial vehicle end markets. Passenger vehicle products are used in internal combustion engine, hybrid and electric vehicles including blade fuses, battery cable protectors, resettable fuses, high-current fuses, high-voltage fuses, and sensor products designed to monitor the occupant's safety and environment as well as the vehicle's powertrain. Commercial vehicle products include fuses, switches, circuit breakers, relays, and power distribution modules and units used in applications serving a number of end markets, including heavy-duty truck and bus, construction, agriculture, material handling and marine.
- **Industrial Segment:** Consists of industrial circuit protection (industrial fuses), industrial controls (protection relays, contactors, transformers, residual current devices, ground fault circuit interrupters, residual current monitors, and transformers) arc fault detection devices) and temperature sensors for use in various applications such as renewable energy and energy storage systems, electric industrial safety, factory automation, electric vehicle infrastructure, HVAC systems, industrial safety, non-residential construction, MRO, mining and industrial automation. mining.

Strategy

In February 2021, the Company announced its five-year strategic plan which builds upon its strengths from its previous strategy. The Company is well-positioned within the center of the global structural growth themes of sustainability, connectivity, and safety, which will continue to drive increased demand for the Company's products across the transportation, industrial and electronics end markets that it serves. The Company is targeting average annual organic sales growth of 5-7 percent and average annual sales growth from strategic acquisitions of 5-7 percent. The Company expects to achieve this through content and share gains, expanded presence in high-growth markets and geographies, and targeting adjacent high-growth and niche applications. The Company continues to drive commercial excellence through investments in its people,

[Table of Contents](#)

customer-driven innovation, strategic acquisitions and integration of these businesses, eMobility, and its digital infrastructure to improve the

[Table of Contents](#)

customer experience, and its operating systems. These investments enable the Company to capitalize on growth opportunities where technologies and applications are converging across its product segments. The Company's resilient growth strategy and business model has delivered sustained double-digit sales and earnings growth over the last five, ten and fifteen years.

Recent Acquisitions

- **Dortmund Fab:** On June 28, 2023, the Company entered into a definitive purchase agreement to acquire a 200mm wafer fab located in Dortmund, Germany ("Dortmund Fab") from Elmos Semiconductor SE. The acquisition of the Dortmund Fab is expected to close in early fiscal year 2025. The total purchase price for the fab is approximately 93 million Euro, of which 37.2 million Euro down payment (approximately \$40.5 million) recorded in Other long-term assets in the Consolidated Balance Sheets was paid in the third quarter after regulatory approvals and approximately 56 million Euro will be paid at closing. The transaction did not have a material impact on the Company's fiscal year 2023 financial results and is not expected to have a material impact on the Company's 2024 financial results and will be reported in the semiconductor business within the Company's Electronics segment. The Company paid 37.2 million Euro down payment (approximately \$40.5 million) with cash on hand.
- **Western Automation:** On February 3, 2023, the Company completed the acquisition of Western Automation Research and Development Limited ("Western Automation") for approximately \$162 million in cash. Headquartered in Galway, Ireland, Western Automation is a designer and manufacturer of electrical shock protection devices used across a broad range of high-growth end markets, including e-Mobility off-board charging infrastructure, industrial safety and renewables. At the time the Company and Western Automation entered into the definitive agreement, Western Automation had annualized sales of approximately \$25 million. The business is reported within the Company's Industrial segment. The Company financed the transaction with cash on hand.
- **C&K Switches:** On July 19, 2022, the Company acquired C&K Switches ("C&K") for \$540 million in cash. Founded in 1928, C&K is a leading designer and manufacturer of high-performance electromechanical switches and interconnect solutions with a strong global presence across a broad range of end markets, including industrial, transportation, datacom, and aerospace. At the time the Company and C&K entered into a definitive agreement, C&K had annualized sales of over \$200 million. The business is reported as part of the electronics-passive products and sensors business within the Company's Electronics segment. The Company financed the transaction through a combination of cash on hand and debt.
- **Embed:** On April 12, 2022, the Company acquired Embed Ltd. ("Embed"). Founded in 2005, Embed is a proven provider of embedded software and firmware developed for a broad range of applications serving transportation end markets, primarily including commercial vehicle electrification and eMobility. The business is included in the commercial vehicle business within the Company's Transportation segment. The acquisition was funded with the Company's cash on hand. The total purchase consideration was \$9.2 million, net of cash.
- **Carling Technologies:** On November 30, 2021, the Company acquired Carling Technologies ("Carling"), a leader in switching, circuit protection and power distribution technologies with a strong global presence in commercial vehicle electrification, communications infrastructure and marine markets. At the time of acquisition, Carling had annualized sales of approximately \$170 million. \$170 million. The purchase price for Carling was \$315 \$315.5 million subject to change for working capital adjustments and

the operations of Carling are included in the commercial vehicle business within the Company's Transportation segment. The acquisition was funded with the Company's cash on hand.

- Hartland Controls:** On January 28, 2021, the Company acquired Hartland Controls ("Hartland"), a manufacturer and leading supplier of electrical components used primarily in heating, ventilation, air conditioning ("HVAC") and other industrial and control systems applications, and eMobility. At the time of acquisition, Hartland had annualized sales of approximately \$70 million. The purchase price for Hartland was \$111.0 million and the operations of Hartland are included in the Industrial segment. The net cash payment of \$108.5 million was funded by the Company's cash on hand.

IXYS Corporation: On January 17, 2018, the Company acquired IXYS Corporation ("IXYS"), a global pioneer in the power semiconductor and integrated circuit markets with a focus on medium to high voltage power semiconductors across the industrial, eMobility, communications, consumer and medical end markets. IXYS had 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.

Sales and Operations

The Company conducts its business through three reportable segments: Electronics, Transportation, and Industrial.

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

[Table of Contents](#)

(in millions)	(in millions)	Fiscal Year			(in millions)	Fiscal Year		
		2022	2021	2020		2023	2022	2021
Electronics	Electronics	\$1,492.8	\$1,300.7	\$ 937.7				
Transportation	Transportation	716.2	528.1	395.8				
Industrial	Industrial	304.9	251.1	112.2				
Total	Total	\$2,513.9	\$2,079.9	\$1,445.7				

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

[Table of Contents](#)

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

(in millions)	(in millions)	Fiscal Year			(in millions)	Fiscal Year		
		2022	2021	2020		2023	2022	2021
Americas	Americas							
Asia-Pacific	Asia-Pacific	\$1,019.9	\$ 955.7	\$ 670.5				
Americas	Americas	992.3	694.3	457.8				
Europe	Europe	501.7	429.9	317.4				
Total	Total	\$2,513.9	\$2,079.9	\$1,445.7				

The Company's products are sold worldwide through distributors, direct sales force and manufacturers' representatives in certain regions. For the fiscal year 2022, 2023, approximately 64% 65% of the Company's net sales were to customers outside the United States ("U.S."), including approximately 25% 23% 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.

BUSINESS ENVIRONMENT

Electronics Segment

The Company designs, manufactures and sells electronic components and modules empowering its customers' applications focused on a more sustainable, connected, and safer world. The ever-increasing complexity advancements of applications surrounding these themes continues to drive greater demand for the Company's innovative, reliable products and a higher level of product content within a broad range of applications.

Technologies within the Electronics segment provide protection, power control and sensing capabilities. Circuit protection technologies in the Electronics Segment segment are designed to protect against harmful occurrences like voltage spikes, short circuits, power surges and electrostatic discharge. Products include fuses and fuse accessories, PTC resettable fuses, ESD suppressors, varistors, gas discharge tubes, and semiconductor products such as discrete TVS diodes, TVS diode arrays, and protection thyristors.

The need for complex sensor technologies continues to grow, as products become increasingly sophisticated, smarter and more connected. Sensor products in the Segment are used in a wide variety of applications including appliances, building and home automation, industrial controls, and commercial vehicles.

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 industrial applications like renewable energy and energy storage systems, motor drives and power conversion. Products include a comprehensive portfolio of semiconductor components and modules including thyristors, MOSFETs, rectifiers and fast recovery diodes, IGBTs and wide band gap devices. The 2018 acquisition of IXYS expanded the Company's power semiconductor portfolio in devices, and medium and high-power industrial applications and technology expertise and OEM customer base, applications.

[Table of Contents](#)

The acquisition of C&K Switches in 2022 significantly expanded the Company's electromechanical switches and interconnect solutions portfolios, which primarily serves industrial, transportation and datacom applications. Through the growth of its product portfolio within the segment, the Company has expanded its presence across the industrial, transportation and electronics end markets it serves. The Company expects to continue to expanding expand its market market presence by leveraging its broad, global access and reach with its strong go-to-market strategy via its strategic distribution partnerships and deep OEM relationships, and by continuing to expand its product portfolio through organic and inorganic investments, investments in high growth, niche applications.

[Table of Contents](#)

Transportation Segment

The Company is a primary supplier of circuit protection technologies, as well as certain sensing technologies to global automotive OEMs, mainly through sales made to Tier One automotive suppliers, main-fuse box, and wire harness manufacturers that incorporate these technologies into their products, as well as automotive component parts manufacturers, and automotive parts distributors. The Company also sells some of its circuit protection products in the replacement parts market, transportation aftermarket, with its products being sold through merchandisers, discount stores, and service stations, as well as under private label by national firms.

Passenger vehicle products include both protection and sensing technologies used in internal combustion engine based, hybrid and electric vehicles. Protection technologies include blade fuses, battery cable protectors, resettable fuses, high-current and high voltage fuses. Sensing technologies are used in a variety of applications including occupant safety, speed, solar, fluid, position, harness, and battery management systems.

The Company's commercial vehicle business includes a variety of products including power distribution modules and units, low and high current switches, circuit breakers, relays, battery management products, ignition key switches, and trailer connectors. These products are used in applications largely serving commercial vehicle end markets including heavy-duty truck, construction, agriculture, material handling and marine. Products are sold directly to a mix of OEMs, Tier One suppliers, aftermarket channels, as well as through general distribution.

The acquisition of Carling Technologies in 2021 significantly expanded the Company's presence in commercial vehicle end markets. The product portfolio, including switching, circuit protection and power distribution products portfolios, are primarily used in commercial vehicle applications, as well as certain telecom and datacom applications. The Company expects to continue to expand its presence across its transportation end markets, leveraging its strong OEM, Tier One and distributor customer base and go-to-market strength, and by continuing to expand its product portfolio through organic and inorganic investments.

Industrial Segment

The Company designs and sells a broad range of power industrial fuses, industrial controls (protection relays, contactors, transformers, residual current devices, ground fault circuit interrupters, residual current monitors, and holders, protection relays arc fault detection devices) and controls, temperature sensors and other circuit protection products, contactors and transformers, for use in various industrial applications such as renewable energy and energy storage systems, electric industrial safety, factory automation, electric vehicle infrastructure, HVAC systems, industrial safety, non-residential construction, MRO, mining and industrial automation, mining. These products are used to protect personnel and equipment from excessive currents, over voltages, and electrical shock hazards.

Products are sold direct to OEMs, and through both electrical and electronics distribution channels. The 2021 acquisition of Hartland expanded the Company's contactors and transformers product portfolios, which primarily services HVAC and e-Mobility off-board charging applications. The 2023 acquisition of Western Automation significantly expanded the Company's electrical shock protection devices portfolios, which primarily serves a broad range of high-growth end markets, including e-Mobility off-board charging infrastructure, industrial safety and renewables. The Company expects to continue to expand its presence across its end markets, leveraging its growing customer base, and go-to-market strength, and by continuing to expand its product portfolio through organic and inorganic investments, investments in high growth, niche applications.

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 Canada, China, France, Germany, India, Ireland, Italy, Japan, Lithuania, Mexico, Philippines, Spain, Taiwan (China), United Kingdom ("U.K."), and the U.S. The Company maintains a staff of engineers, chemists, material scientists and technicians whose primary responsibility is to design and develop new products.

[Table of Contents](#)

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 2023, 2022, 2021, and 2020, 2021, the Company expended \$95.6 million \$102.4 million, \$65.9 million \$95.6 million, and \$52.5 million \$65.9 million, respectively, on R&D.

Over the years, the Company has expanded its industry-leading technical expertise to support its customers, and ultimately diversify its solutions offering. With the intensifying complexity of applications, its superior engineering, and design-in capabilities and product portfolio, continue to deliver increasing value to customers. The Company's strong global presence allows it to utilize its deep and broad application knowledge to help enable its customers' applications across the industrial, transportation and electronics markets.

PATENTS, TRADEMARKS, AND OTHER INTELLECTUAL PROPERTY

[Table of Contents](#)

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, France, Germany, India, Ireland, Italy, Japan, Lithuania, Mexico, Philippines, the U.K., the U.S., and Vietnam. 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) thermoplastic molding, and high-precision manufacturing, miniaturization and haptics. 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, resin and heat-resistant plastics, zinc, melamine, glass, silver, gold, raw silicon, solder, rubber, and various gases. The Company's strategy is to prequalify suppliers for quality assurance and supply continuity, as much as possible, to localize supply sources close to its manufacturing sites. This helps to minimize the transportation of materials, and ultimately reduces the Company's environmental footprint by decreasing emissions, consistent with its sustainability strategy. For critical materials, the Company looks to diversify its supplier base by prequalifying second sources.

SALES AND MARKETING

The Company goes to market through selling organizations consisting of worldwide 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 customers to design-in and sell all of the Company's products. The Company has sales offices and direct sales channels in number of countries around the world. The Company's channel partners provide fulfillment services for its end customers, including those partnered with electronic manufacturing services ("EMS"), as well as some demand creation activities.

Electronics Segment

Our Electronics segment products are used across a variety of applications. While certain of our products require less design support for our customers, many Many of our products are incorporated into applications with complex design technical support requirements. requirements, while certain of our products require less design support for our customers. Most Electronics segment products are sold through our direct salesforce or through our channel distribution partners. The fulfillment of these products is primarily through our broad line distribution partners, including global distributors such as Arrow Electronics, Inc., Future Electronics and TTI, Inc., regional and high service distributors, including Digi-Key and Mouser, as well as directly to OEM's.

[Table of Contents](#)

Transportation Segment

The Company primarily uses 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. In selected areas, the Company also uses distributors to service smaller customers and to provide supply chain fulfillment for certain customers.

The Company also leverages its transportation customer relationships to sell products from the Electronics and Industrial segments into transportation end markets, primarily to Tier One and OEM automotive customers. Respective revenues are reported in the Electronics and Industrial segments.

Industrial Segment

[Table of Contents](#)

The Company markets and sells its Industrial segment products direct to OEMs, and through both electrical and electronics distribution channels to various end customers including electrical contractors, factories, municipalities, and utilities.

CUSTOMERS

The Company directly sells to over 5,000 4,000 customers and distributors worldwide. Sales to Arrow Electronics, Inc., which were reported in our Electronics, Transportation and Industrial segments, were 11.5% 11.2%, 10.7% 11.5% and 10.4% 10.7% of consolidated net sales in 2023, 2022, 2021, and 2020, 2021, respectively. No other single customer accounted for more than 10% of net sales during any of the last three years. During fiscal 2023, 2022, 2021, and 2020, 2021, net sales to customers outside the U.S. accounted for approximately 64% 65%, 69% 64%, and 73% 69%, respectively, of the Company's total net sales.

CYBERSECURITY

The cybersecurity and data protection program at Littelfuse is based on foundational principles outlined in applicable industry and internationally accepted-cybersecurity frameworks. The Company relies has experienced and will continue to experience cyber-attacks, attempts to breach its systems, and other similar incidents, however we do not believe that the prior cyber incidents have materially affected or currently are reasonably likely to materially affect the Company. Littelfuse faces risks from cybersecurity threats that could have a material adverse effect on its information technology systems business, financial condition, results of operations, cash flows, or reputation. Like all cybersecurity programs, there is no guarantee that every attack method and networks technique has been fully addressed, as these change constantly, but Littelfuse is diligent in connection with many its attempts to protect data 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 day-to-day control. We oversee the services provided by the third-party service providers. We continually evaluate ourselves its stakeholders.

Littelfuse strives to assess and update its cybersecurity program on a regular basis using an Information Security Management System (ISMS) comprised of three main elements – 1) independent internationally recognized vendors and technologies for appropriate business continuity assessments and disaster recovery planning, with test scenarios that include simulations monitoring, 2) strong internal controls based on industry standards, and penetration tests. Our networks are monitored by intrusion detection services, 3) Board and our systems Senior Leadership governance and applications are routinely tested for vulnerabilities and are operated with an appropriate patch management program. We employ a skilled IT workforce to implement our cybersecurity programs and to handle specific security responsibilities. Our IT workforce is trained to address security and compliance-related issues as they arise. support.

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, Bourns Inc., TDK, ON Semiconductor Corporation, Infineon Technologies, STMicroelectronics NV, Semtech Corporation, and Vishay Intertechnology Inc. In the Transportation segment, the Company's competitors include Eaton Corporation, Pacific Engineering, MTA (Meccanotecnica Codognese), 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 globally competes on the basis of innovative products, the breadth of its product line, the quality, design and performance of its products based on their reliability, consistency and safety, its technical capabilities, its global footprint and application expertise, and the responsiveness of its customer service.

BACKLOG

The backlog of unfilled orders at December 31, 2022 December 30, 2023 was approximately \$1,646.1 \$1,046.9 million, compared to \$1,657.1 \$1,646.1 million at January 1, 2022 December 31, 2022 with the decrease primarily driven by a reduction across in the Electronics and Transportation segments. segment. Substantially all the orders currently in backlog are scheduled for delivery in 2023, 2024.

[Table of Contents](#)

HUMAN CAPITAL MANAGEMENT

A passion for engineering excellence and an innovative spirit have been a part of what it means to work at Littelfuse since its founding in 1927. The Company hires bright minds who want to make a big impact and are committed to improve the safety, reliability and performance of our customers' products that use electrical energy. As the Company's human capital is critical to its success, the Company strives to make Littelfuse a safe, diverse, and inclusive workplace, provide competitive compensation, benefits, and health and wellness programs, offer appropriate training and promote community involvement.

Employee Data

On ~~December 31, 2022~~ December 30, 2023, the Company had approximately ~~18,000~~ 17,000 full-time, part-time and temporary employees; of which ~~52%~~ 51% are female and ~~48%~~ 49% are male; and of which 49%, 39% and 12% are located in the Americas, Asia-Pacific region, and Europe, respectively.

Governance & Oversight

The Chief Human Resources Officer ("CHRO") is responsible for developing and executing the Company's human capital strategy. This includes establishing and implementing global policies and programs for leadership and employee development,

[Table of Contents](#)

compensation, benefits, workforce planning, human resources systems, and ensuring effective and efficient internal company operations. The CHRO is responsible for developing and integrating the Company's diversity, inclusion, and belonging strategy in its business operations. The Chief Executive Officer ("CEO") and CHRO regularly update the Company's ~~board~~ Board of ~~directors~~ Directors on human capital matters.

Our Values & Culture

Littelfuse core values have been instrumental in driving success for our business. ~~Values in 2023, we rolled out new values of Respect, Customer Focus, Teamwork, Results-Driven, Integrity Agility, and Innovation have guided conversations Collaboration. We embed these values and decision-making that provided direction for behaviors in our company. As we continue talent processes and practices to grow and scale, we recognize that it is critical to help us evolve our already strong culture. In 2022, we engaged in The power of a project team environment where everyone can contribute and thrive allows us to evaluate enact our strategy and mature our values. Throughout 2023 we will roll-out new values deliver results today and provide regular engagement points for our associates as we drive culture advancement. into the future.~~

Diversity, Inclusion & Belonging

As part of driving sustainable success, The Company values and celebrates diversity in every aspect of work with customers, ~~stakeholders~~, suppliers, ~~partners~~, and each other. The Company's commitment to diversity, inclusion and belonging creates a collaborative environment that draws out associates' unique capabilities that contribute to innovation, deliver bold solutions and drive growth.

Long-standing programs, policies and initiatives supporting a diverse and inclusive workplace remain in place and continue to expand. The Company's employee resource groups (ERGs) continue to expand to support broader demographics and identities. Existing ERGs have grown to have a presence in more countries and provide impactful development and mentoring opportunities.

Leadership is accountable for creating a diverse ~~team~~ and inclusive work environment. ~~To support leadership team We incorporate such accountability in our annual performance process for our senior leaders. Our Diversity, Inclusion, and Belonging Council, consisting of diverse global leaders from across the organization, helps to evolve and advance programs to further improve diversity, inclusion, and belonging effort, we provided Inclusion training to senior leaders across the businesses. Our senior leaders have also established goals around diversity, inclusion & belonging which are part of the annual goal setting and performance process. in each region.~~

As an industrial technology manufacturing company, we are committed to challenging the status quo by strengthening existing and building new female talent pipelines to improve gender ~~equity. To equity. To demonstrate such commitment, the Company established an aspirational goal of achieving at least 25% female leadership representation globally by 2026. In 2022, 2023, female leadership increased by 1% 1.5% to 21%, 22.5% as compared to previous year, while overall, 52% 51% of the Company's associates identify as female.~~

We also believe that our workforce should be fully representative of the communities where it operates. The Company also established an aspirational goal to increase the representation of Black African American employees in the U.S. to at least 5% by 2026. As a result of the continued effort on recruiting, developing and retaining talent, Black African American representation has ~~increased from 3% remained relatively steady at 3.4% in 2021 2023 as compared to 3.5% in 2022. the previous year.~~

Talent Management, Development & Succession Planning

[Table of Contents](#)

Building and maintaining a strong talent pipeline is essential to sustained performance and achievement of the Company's growth strategy. The leadership team incorporates talent strategy into the annual business strategy review process to ensure the Company has the capabilities and capacity to meet current and future ~~requirements. goals and objectives.~~ The Company conducts enterprise-wide, global talent review processes with the CEO, business unit and function leaders focusing on the Company's high-performing and high-potential talent, diverse talent, and succession plans for the Company's most critical ~~roles. roles, as well as the development of our key talent.~~ Also, the Company's ~~board~~ Board of ~~directors~~ Directors reviews and assesses management development plans for senior executives and the succession plans relating to those ~~critical~~ positions.

In 2023, the Company introduced a leadership competency model that highlights the competencies and behaviors for success that strengthen the Company's values and culture. The leadership competency model provides a foundation for growth and development as leaders advance in their careers.

The Company is also actively investing in identifying and developing the pipeline of future global leaders and technical experts. One Efforts to enhance capabilities in this area include the creation of focus has been functional career paths and skills, early career talent pipelines and programs, resulting in an expanded focus on including internships and other college/university recruitment pipelines, programs. More specifically, accelerated development programs (e.g. such as the Company's global RISE engineering program) have been implemented to strengthen the pipeline of talent required to sustain business growth.

[Table of Contents](#)

As the Company continues to focus on developing the talent pipeline, we are also investing in strengthening our leadership capability through leadership mentoring, coaching and training. The leadership training includes a mix of internal and external programs and partnerships addressing fundamental leadership skills to engage, motivate and develop our talent.

Compensation, Benefits and Employee Wellness

The Company provides compensation and benefits programs designed to be competitive and equitable to attract, retain and motivate highly qualified associates. The components of the Company's compensation program vary by region and job-type, and include items such as base salary, performance-based bonus plans, equity awards, paid time off, and tuition reimbursement. Global programs include a combination of statutory and additional supplemental benefits in the areas of health, welfare and retirement.

We support our employees' mental and physical and financial well-being through various programs that promote a healthy lifestyle. Our health & wellness programs vary across countries and are tailored to the needs of our employees from location to location. Globally, we offer comprehensive medical benefits and an employee assistance program that provides confidential counseling and other wellbeing tools at no charge for all our employees and their families to receive support with personal, health, life, financial, or work issues.

Health and Safety

At Littelfuse, considers we take the continuous improvement health and safety of our team members very seriously and our unwavering commitment to global health and safety (H&S) programs as essential for all team members is integral to our continued success and competitive advantage. Our goal is to achieve a zero-injury workplace. As we continue to grow, we recognize the success of need to continuously evaluate our growing company, environment, health, and safety (EHS) organization. In 2023, we invested in adding resources to our H&S program to meet our obligations to provide a safe and secure working environment for our employees. We are committed to meeting or exceeding H&S EHS compliance requirements. Our EHS (environmental health and safety) personnel are involved in evaluating compliance requirements through audits (internal, external regulatory, internal and independent third-party) and providing training to employees to increase their H&S knowledge, third-party audits.

We strive for zero workplace injuries, incidents, EHS excellence by implementing and occupational illnesses. Our total case incident rate remains below the industry average, maintaining an effective EHS Management System that establishes objectives, targets and there were no work-related fatalities programs to achieve continual improvement. training and tools are provided to all appropriate individuals in 2022. In 2022 order to maintain a safe and 2021, we added additional EHS professionals to focus on targeted safety programs, healthy work environment.

Community Involvement

The Company works to affect positive change in the communities in which we work and live. Our giving and volunteerism philosophy is aligned to three pillars: Green – environment and conservation, STEM – technology innovation, and Equity – humanitarian, community and family. These overarching pillars guide our actions while providing us with the flexibility to serve the diverse needs of our local communities. We donate directly as a Company, match employee donations, and sponsor and encourage volunteerism that enables meaningful change around the globe.

[Table of Contents](#)

SUSTAINABILITY

The Company is committed to empowering change on its sustainability journey. Every Littelfuse employee, customer, and partner has the long-term value potential to drive positive change – environmentally, socially, and ethically. Together, we're shaping a future defined by sustainable choices and conscientious actions.

Sustainability is more than just a concept; it's integrated into the Company's business strategy, processes, and daily actions. Innovation and collaboration are at the heart of a robust its sustainability strategy, and has journey. Accordingly, the Company is positioned our business within the global sustainability megatrend to enhance our product offering to help empower a sustainable, connected, and safer world. Many of the Company's key end markets are linked to sustainable applications such as electric vehicles and charging infrastructure, renewable energy, and power management.

The Company publishes its an annual Sustainability Report annually to communicate its our commitment, approach, and impact on each of our focus areas. The 2022 Sustainability Report was prepared in alignment with the GRI Standards – 2021, the Sustainability Accounting Standards Board ("SASB"), and outlines our governance, strategy, risk management, and metrics identified in the Task Force on Climate-Related Financial Disclosures ("TCFD") recommendations. The following goals have further been established, and progress towards key internal sustainability initiatives. The focus areas of is reported on an annual basis in the Company's sustainability program include: Sustainability Report:

- Reduce Scope 1 and 2 Greenhouse Gas Emissions 38% by 2035, based on a 2019 baseline - in line with keeping global temperatures well below 2° above pre-industrial temperatures
- innovation
- climate change and greenhouse gas emissions
- Achieve zero waste in operations
- Aspire to increase diversity to have 25% female leaders by 2026, and 5% US African American employees by 2026
- Achieve zero accident workplace
- Achieve 100% Code of Conduct training
- Elevate product stewardship as a competitive advantage
- business ethics
- training, education, and career development
- water and wastewater management
- sustainable supply chain
- health and safety in the workplace
- diversity and equal opportunity
- community involvement
- economic performance
- energy management
- waste and hazardous material management

Additional information on how the Company manages each Company's progress towards these goals and areas of these key areas and focus within its sustainability program is available in the Company's Sustainability Reports, located on the Company's website at <https://www.littelfuse.com/about-us/sustainability.aspx>. The contents of the Company's Sustainability Reports and website are not incorporated by reference in this Annual Report on Form 10-K.

[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 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.

[Table of Contents](#)

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.

1) Operational Risks:

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

[Table of Contents](#)

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.

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 sells product through various global 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 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

[Table of Contents](#)

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 if 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 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.

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

The Company's success in its existing and acquired businesses, 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.

The Company may not be successful protecting its intellectual property.

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 consolidated results of operations, financial position and cash flows; however, multiple losses or expirations could have a material adverse effect upon the Company's consolidated results of operations, financial position and cash flows.

2) Regulatory Risks:

Climate change, and the regulatory and legislative developments related to climate change, may have a material adverse impact on our business and results of operations.

The potential physical impacts of climate change on our business operations are highly uncertain and differ in each geographic region where we operate. These impacts may include changes in weather patterns and increased weather intensity, water shortages, changing sea levels and changing temperatures. The impacts of climate change may materially and adversely impact the cost of production, insurance availability, and financial performance of our operations. Further, any impacts to our business and financial condition as a result of climate change are likely to occur over a sustained period of time and are therefore difficult to quantify with any degree of specificity. For example, extreme weather events may result in adverse physical effects on portions of our or others infrastructure, which could disrupt our supply chain and our customers and ultimately our business operations. In addition, disruption of transportation and distribution systems could result in reduced operational efficiency and customer service interruption. Climate-related events have the potential to disrupt our business, including the business of our suppliers and customers, and may cause us to experience higher attrition, and additional costs to resume operations.

Increased government or governmental bodies contemplating legislative and regulatory changes in response to the potential impact of climate change could impose significant costs on us and our suppliers and customers, including increased cost of

materials and natural resources, sources and supply of energy, capital equipment, environmental monitoring and reporting, or other costs to comply with such regulations. Potential regulations or standards could mandate more restrictive manufacturing requirements, such as stricter limits on greenhouse gas emissions and material used in production. **Some jurisdictions have already passing such laws. For example, California enacted legislation in 2023 requiring disclosure of certain companies' greenhouse gas (GHG) emissions, climate-related financial risks, voluntary carbon offsets (VCOs), and certain climate-related emission claims.** Any future climate change regulations could also adversely impact our ability to compete with companies not subject to such regulations.

Changes in U.S. and other countries trade policy, including the imposition of tariffs and the resulting consequences, may have a material adverse impact on our business and results of operations.

In the past several years, the U.S. government 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 also imposed tariffs on certain foreign goods and products. These measures may materially increase costs for goods imported into the U.S. 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. Additionally, continued geo-political issues may result in customers in China seeking to source products from local suppliers, which could result in lower sales or lost customers.

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

The Company's customers, suppliers, employees and operations are located in numerous countries around the world, and contribute significantly to its revenues and earnings. Sales to customers outside the U.S. constituted approximately **64%** **65%** of the Company's net sales in fiscal **2023**, including approximately **23%** to China, which decreased from **25%** in fiscal 2022.

Economic conditions in China have been, and may continue to be, volatile and uncertain. In addition, the legal and regulatory system in China continues to evolve and is subject to change. There also continues to be significant uncertainty about the relationship between the U.S. and China, including with respect to geopolitics, trade policies, treaties, government regulations, and tariffs. Further deterioration of economic conditions or outlook, such as lower economic growth, recession or fears of recession in China may adversely affect the demand for or profitability of our products and services.

Many of the Company's key customers are located outside of U.S. and maintain global operations. Serving a global customer base and remaining competitive in the global marketplace requires the Company to diversify its operations outside the U.S. to capitalize on customer and market opportunities, build a global workforce and maintain a cost efficient structure. In addition, the Company sources a significant amount of raw materials, components and finished goods from third-party suppliers and contract manufacturers. 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;

[Table of Contents](#)

- terrorist activities;
- war and acts of war
- public health concerns, including the outbreak of the coronavirus or other pandemics;
- 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 consolidated results of operations, financial position and cash flows.

The effects

[Table of the COVID-19 pandemic could adversely affect our business, results of operations and financial condition.](#) [Contents](#)

The coronavirus (COVID-19) pandemic and related measures to reduce its spread have impacted, and may continue to impact, our operations across markets in which the Company operates and those of our suppliers, customers and distributors. Although COVID-19 had less of an effect on fiscal year 2022 as compared to fiscal year 2021, the extent to which the COVID-19 pandemic will continue to affect our business, results of operations and financial condition is difficult to predict and depends on numerous evolving factors including the duration and scope of the pandemic; government, social, business and other actions that have been and will be taken in response to the pandemic including lockdowns and travel restrictions; appearance of new variants of COVID-19; the availability, adoption and efficacy of vaccines and treatments. In addition, any economic downturn or recession brought on by the COVID-19 pandemic or other public health crises could adversely affect demand for our products and impact our results of operations and financial condition. These effects, alone or taken together, could have a material adverse effect on our business, results of operations, or financial condition.

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 consolidated results of operations, financial position and cash flows.

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.

3) Financial Risks:

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.

[Table of Contents](#)

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. The Company saw a reduction in supply chain constraints and costs during the second half of 2022, including material availability and transportation costs and expects to see further supply chain improvements during 2023. The Company increased its prices during both 2022 and 2021 to help mitigate the impact of rising input costs. However, if future significant shortages disrupt the supply of raw materials or result in price increases, this 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 exposures in changes in commodity prices, foreign currency exchange rates, and interest rates 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 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.

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, including changes discussed in the paragraphs below. The outcome of these and other legislative developments, including changes to interpretations of recently enacted legislation, could have a material adverse effect on the Company's future effective tax rate and cash flows.

The Organization for Economic Cooperation and Development ("OECD") has been working with a group of more than 100 countries to significantly change the tax treatment of multinational businesses, subjecting them to tax in additional jurisdictions, modifying the methods by which they allocate profits among jurisdictions, and subjecting them to a minimum level of tax of 15%, on a country-by-country-basis. As part of this effort, in December of 2021, the OECD published model rules to assist with implementation of the minimum tax regime.

In December of 2022, the European Union reached an agreement pursuant to which all European Union countries agreed to enact laws based upon the OECD-led minimum tax proposals. Such law changes, if enacted, would be effective beginning in 2024. Other countries outside As of the end of 2023, many of the European Union are also countries have already enacted these rules effective for years beginning on or after December 31, 2023. Similar legislation was adopted, or is expected to enact rules that will incorporate be adopted, in other countries with widespread implementation of the OECD-led global minimum tax proposals and go into effect beginning in 2024, anticipated by the end of 2025. The Company's income tax rate in certain non-U.S. jurisdictions is lower than 15%. Enactment of Once these minimum tax proposals, and the other proposals discussed above, rules are effective, they could have a material significant adverse effect on the Company's future effective tax rate and cash flows.

The Company has two subsidiaries in China which benefit from lower income tax rates due to "tax holidays" which apply for three-year periods. The tax holiday for one of the subsidiaries expired at the end of 2022 but was later extended for an additional three years, retroactive to include all of 2023, as well as 2024 and 2025, and for the other subsidiary the tax holiday will expire expired at the end of 2023. The Company intends to apply for renewals of these tax holidays, but future Future year tax benefits will depend upon the Company's ability to obtain extensions, after the three-year periods expire. There can be no assurance that future extensions will be granted.

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.

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 continues to hold 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

[Table of Contents](#)

assets. Such

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. The Company monitors and manages exposures in changes in commodity prices, foreign currency exchange rates, and interest rates as an occurrence 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 consolidated results of operations and financial position condition. In addition, significant portions of its revenues and cash flows, 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](#).

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 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.

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. ***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.***

[Table of Contents](#)

The Company continues to hold 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 could have a material adverse effect on the Company's consolidated results of operations, financial position and cash flows.

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 consolidated results of operations, financial position and cash flows. In addition, the bankruptcy or insolvency of a major auto manufacturer or significant supplier likely could lead to substantial disruptions in the automotive supply base, resulting in lower demand for the Company's products, which would likely cause a decrease in sales revenue and have a substantial adverse impact on the Company's consolidated results of operations, financial position and cash flows.

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 consolidated results of operations, financial position and cash flows.

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 not be able to reduce spending quickly enough to compensate for reductions in sales. Accordingly, shortfalls in sales could materially and adversely affect the Company's consolidated results of operations, financial position and cash flows.

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 **January 1, 2022** **December 31, 2022** and **December 31, 2022** **December 30, 2023**, the closing sale price of the Company's common stock ranged between a low of **\$197.16** **\$212.8** and a high of **\$326.82**, **\$309.9**. 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, market 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

[Table of Contents](#)

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.

[Table of Contents](#)

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 position and cash flows.

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."

ITEM 1B. UNRESOLVED STAFF COMMENTS.

None.

ITEM 1C. CYBERSECURITY.

The cybersecurity and data protection program at Littelfuse is based on foundational principles outlined in applicable industry and internationally accepted-cybersecurity frameworks. The Company has experienced and will continue to experience cyber-attacks, attempts to breach its systems, and other similar incidents, however we do not believe that the prior cyber incidents have materially affected or currently are reasonably likely to materially affect the Company. Littelfuse faces risks from cybersecurity threats that could have a material adverse effect on its business, financial condition, results of operations, cash flows, or reputation. Like all cybersecurity programs, there is no guarantee that every attack method and technique has been fully addressed, as these change constantly, but Littelfuse is diligent in its attempts to protect data of the Company and its stakeholders.

Littelfuse strives to assess and update its cybersecurity program on a regular basis using an Information Security Management System (ISMS) comprised of three main elements – 1) independent internationally recognized vendors and technologies for assessments and monitoring, 2) strong internal controls based on industry standards, and 3) Board and Senior Leadership governance and support.

From an external assessment and monitoring perspective, Littelfuse engages third parties to monitor and report on known exploitable vulnerabilities, within and external to Littelfuse's information technology (IT) ecosystems. These third parties provide assessment and vulnerability scanning tools to detect exploitable unauthorized access into the Littelfuse environments.

The Audit Committee of the Board of Directors is tasked with reviewing the Company's policies and procedures related to cybersecurity risks and incidents. The Company's Chief Information Officer ("CIO") oversees its cybersecurity program, and regularly provides updates to Littelfuse Senior Leadership and the Audit Committee, as well as the full Board, which include information regarding our cybersecurity program initiatives, insurance coverage, acquisition integration processes, program performance as well as the maturity of the Littelfuse cybersecurity program. These cybersecurity maturity updates are based on cybersecurity maturity reporting and analysis by the Littelfuse internal IT team, as well as reporting provided by independent third parties. The updates help Senior Leadership, the Audit Committee, and the Board to understand the risks the organization faces based on changing cybersecurity threats and on changes to the Littelfuse environment due to factors such as acquisitions

[Table of Contents](#)

and new technology upgrades and improvements. Representatives from Littelfuse's technology team and other business functions receive regular cybersecurity risk reports and use this information for its decision making in operational improvements as well as budget and resource allocations. The CIO has managed and evolved the cyber security function at Littelfuse for the past five years and is supported by a cyber security leader with over 20 years of Littelfuse experience in IT infrastructure, IT operations, and cybersecurity.

The ISMS within Littelfuse consists of internationally recognized program elements that reduce the risk of an operational or cybersecurity incident from significantly impacting Littelfuse and its customers, vendors, and employees. These ISMS elements include but are not limited to:

Security Awareness and Training – Littelfuse has an IT security awareness program consisting of training on the fundamentals of information security protection. These training courses are provided annually.

Network Protection – Network protection, detection, and monitoring technologies have been deployed on all external and internal network connections to segment different sections of the business from each other to strengthen key protection capabilities.

Identity and Access Management (IAM) – Littelfuse has implemented user authentication controls on its systems, devices, data, and applications. In addition, multi-factor authentication is implemented for all personnel who remotely access or have privileged account access to Littelfuse systems and networks.

Data Classification and Protection – Littelfuse has implemented data loss prevention and classification labels and encryption on its internal unstructured data to prevent unauthorized data loss and data sharing. Structured data in ERP systems and core business systems are encrypted and protected by industry cybersecurity standards and procedures.

Endpoint Protection – Littelfuse has implemented anti-virus, malware, and endpoint protection management detection and monitoring solutions on end-user devices and servers. Logs and alerts from these monitoring solutions are routed to independent third-party monitoring vendors that provide 24/7 monitoring, around the world.

Threat and Vulnerability Management – Littelfuse uses an internationally recognized managed security services provider (MSSP) and technologies to collect security alert and audit logs on a 24/7 basis, monitor and assess latest threat intelligence, provide analysis on new identified potential vulnerabilities, and provide response and support services to rapidly reduce any identified vulnerabilities.

Security Incident Management – Security incident response plans and procedures have been developed in collaboration with our MSSP. They allow us to assess potential threats, first and second level notification and response protocols, and supporting notification protocols – both internally and externally. These plans, procedures, and protocols are tested and updated on a regular basis.

Resiliency and Contingency Planning – Risk assessments are performed on a regular basis to assess the IT risk of single points of failure, security maturity, and security vulnerabilities. The results of these assessments are used to define various resiliency and contingency mitigation strategies, corrective action plans, on-site and remote data back-up strategies and technologies and allocation of IT resources.

ITEM 2. PROPERTIES.

The Company's engineering and research and development, manufacturing, sales, warehouses, and distribution centers are located in approximately 9376 owned or leased facilities worldwide with primary operations in China, France, Germany, India, Ireland, Italy, Japan, Lithuania, Mexico, Netherlands, Philippines, South Korea, Spain, U.K, the U.S., and Vietnam totaling approximately 4.8 million 5.0 million square feet. The Company's owned facilities include approximately 2.6 million square feet and the Company's leased facilities include approximately 2.2 million 2.4 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.

[Table of Contents](#)

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.

Information about our Executive Officers.

[Table of Contents](#)

The executive officers of the Company are as follows:

Name	Age	Position
David W. Heinzmann	59 60	President and Chief Executive Officer
Meenal A. Sethna	53 54	Executive Vice President and Chief Financial Officer
Ryan K. Stafford	55 56	Executive Vice President, Mergers and Acquisitions, Chief Legal Officer and Corporate Secretary
Maggie Chu	54 55	Senior Vice President and Chief Human Resources Officer
Matthew J. Cole	51 52	Senior Vice President, eMobility and Corporate Strategy
Alexander Conrad	57	Senior Vice President and General Manager, Passenger Vehicle Business
Peter Kim	51	Senior Vice President and General Manager, Industrial Business
Chad Marak	44	Senior Vice President and General Manager, Semiconductor Products
Deepak Nayar	63 64	Senior Vice President and General Manager, Electronics Business

David W. Heinzmann, President and Chief Executive Officer and a member of the Board of Directors. Mr. Heinzmann began his career at Littelfuse in 1985 as a manufacturing engineer and has held positions of increasing responsibility since that time, including Vice President, Global Operations, from 2007 to 2014, and Chief Operating Officer from 2014 until assuming his current position in 2017.

Meenal A. Sethna, Executive Vice President and Chief Financial Officer. Ms. Sethna joined Littelfuse in 2015 as Senior Vice President of Finance until assuming her current position in 2016. Prior to joining Littelfuse, Ms. Sethna served from 2011 to 2015 as Vice President and Corporate Controller of Illinois Tool Works Inc., a diversified manufacturer of specialized industrial equipment, consumables, and related service businesses. Ms. Sethna is a Certified Public Accountant in Illinois.

Ryan K. Stafford, Executive Vice President, Mergers and Acquisitions, Chief Legal Officer and Corporate Secretary. Mr. Stafford joined Littelfuse as its first General Counsel and Chief Human Resources Officer in 2007, became Corporate Secretary in 2017, and assumed his current position in 2021. Prior to joining Littelfuse, Mr. Stafford served in a number of roles at Tyco International Ltd., including Vice President of China Operations and Vice President & General Counsel for its Engineered Products & Services Business Segment.

Maggie Chu, Senior Vice President and Chief Human Resources Officer. Ms. Chu joined Littelfuse in 2021 as Senior Vice President and Chief Human Resources Officer. Prior to joining Littelfuse, Ms. Chu served from 2018 to 2021 at Caterpillar, Inc., a leading manufacturer of construction and mining equipment, diesel and natural gas engines, industrial gas turbines and diesel-electric locomotives, as Segment Human Resources Director for the Energy & Transportation segment and Corporate Services group. Prior to Caterpillar, Ms. Chu spent 15 years with General Electric Company, a high-tech industrial company, in a number of global human resources leadership roles across several of General Electric's industrial businesses.

Matthew J. Cole, Senior Vice President, eMobility and Corporate Strategy. Mr. Cole joined Littelfuse in 2015 as Senior Vice President and General Manager, Industrial Business Unit, and in 2019 became Senior Vice President, Business Development and Corporate Strategy until assuming his current position in 2021. Prior to joining Littelfuse, Mr. Cole served from 2009 to 2015 as Vice President and General Manager of the Advanced Measurement Technology division of AMETEK, a global leader in electronic instruments and electromechanical devices.

Alexander Conrad, Senior Vice President and General Manager, Passenger Vehicle Business. Mr. Conrad joined Littelfuse in 2005 as Sales Manager, Germany & Eastern Europe. He then held various positions of increasing responsibility at Littelfuse including Sales Director EMEA; Global Director of Sales; Managing Director, Passenger Car Products from 2013 to 2014; and Vice President, **Passenger Passenger** Car Products, from 2015 until assuming his current position in 2018.

[Table of Contents](#)

Peter Kim, Senior Vice President and General Manager, Industrial Business. Mr. Kim joined Littelfuse in 2003 as Manager, Global Procurement. He then held various positions of increasing responsibility at Littelfuse including Director, Global Procurement; Director, Electronics Product Management; Vice President, Asia Sales; Vice President, Global Sales from 2017 to 2019; and Vice President and General Manager, Industrial Business from 2019 until assuming his current position in 2022.

Chad Marak, Senior Vice President and General Manager, Semiconductor Products. Mr. Marak joined Littelfuse in 2007 as Senior Design Engineer. Mr. Marak held various positions of increasing responsibility at Littelfuse including Technical Marketing Manager; Director of Technical Marketing; Director of Semiconductor Business Development; Vice President, Product Management from 2019 to 2020; and Vice President and General Manager, Semiconductor Products from 2020 until assuming his current position in 2022.

Deepak Nayar, **Senior Senior** Vice President and General Manager, Electronics Business. Mr. Nayar joined Littelfuse in 2005 as Business Line Director of the Electronics Business Unit. He then held various positions of increasing responsibility at Littelfuse including Vice President, Global Sales, Electronics Business Unit; Senior Vice President, Electronics Business Unit from 2011 until 2019; and Senior Vice President and General Manager, Electronics and Industrial Business from 2019 until assuming his current position in 2022.

[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 Markets™.

Number of Holders

As of February 10, 2023 February 9, 2024, there were 55 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 31, 2022 December 30, 2023.

Purchases of Equity Securities

On April 29, 2020, the Company announced that the Board of Directors authorized a new program to repurchase up to 1,000,000 shares of the Company’s common stock for the period May 1, 2020 to April 30, 2021 (the “2020 program”). On April 28, 2021, the Company announced that the Board of Directors authorized a new three-year program to repurchase up to \$300 million in the aggregate of shares of the Company’s common stock for the period May 1, 2021 to April 30, 2024 to replace its previous 2020 program.

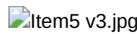
The Company did not repurchase shares of its common stock during the fiscal year ended December 31, 2022 December 30, 2023. There are \$300 million in the aggregate of shares available for purchase under the new program as of December 31, 2022 December 30, 2023.

Stock Performance Graph

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

The following stock performance graph compares the five-year cumulative total return on Littelfuse common stock to the five-year cumulative total returns on the Russell 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 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.

[Table of Contents](#)



		12/2017	12/2018	12/2019	12/2020	12/2021	12/2022	12/2018	12/2019	12/2020	12/2021	12/2022	12/2023
Littelfuse, Inc.	Littelfuse, Inc.	\$ 100	\$ 87	\$ 99	\$ 132	\$ 165	\$ 116						
Russell 1000	Russell 1000	100	95	125	151	191	155						
Dow Jones US Electrical Components & Equipment	Dow Jones US Electrical Components & Equipment	100	88	109	131	164	136						
Dow Jones US Electrical Components & Equipment	Dow Jones US Electrical Components & Equipment												

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. Eaton Corp plc; Emerson Electric Co.;

Hubbell Inc. Class B; Jabil Circuit, Inc.; Littelfuse, Inc.; Methode Electronics, Inc.; Plexus Regal Rexnord Corp.; Powerwave Sensata Technologies Inc.; Regal-Beloit Corp.; Vicor Corp. Holding plc; and Vishay Intertechnology, Inc. TE Connectivity Ltd.

For Littelfuse, Inc. and all indexes noted above, a \$100 investment made on December 30, 2017 December 29, 2018 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 29, 2018, December 28, 2019, December 26, 2020, January 1, 2022, December 31, 2022 and December 31, 2022 December 30, 2023 for the fiscal years 2018, 2019, 2020, 2021, 2022 and 2022, 2023, respectively.

[Table of Contents](#)

ITEM 6. [RESERVED.]

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

The following discussion of the Company'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*.

2022 2023 EXECUTIVE OVERVIEW

Net sales were \$2,513.9 million \$2,362.7 million, which increased decreased by \$434.0 million \$151.2 million or 20.9% 6.0% in 2022 2023 compared to 2021. 2022 including \$0.7 million favorable changes in foreign exchange rates. The increase decrease was primarily driven by higher lower volume and price realization in the Electronics segment and Industrial segments, \$202.8 million or 9.8% of incremental net sales from the Carling acquisition commercial vehicle business within the Transportation segment and \$81.7 million that more than offset \$91.9 million or 3.9% 3.7% of incremental net sales from the C&K acquisition within the Electronics segment partially offset by \$65.3 million and \$13.2 million or 3.1% 0.5% of unfavorable changes in foreign exchange rates. net sales from the Western Automation acquisition within the Industrial segment. The Company recognized net income of \$259.5 million, or \$10.34 per diluted share, in 2023 compared to net income of \$373.3 million, or \$14.94 per diluted share in 2022 compared to net income of \$283.8 million, or \$11.38 per diluted share in 2021. 2022. The increase decrease in net income is was primarily due to an increase in lower operating income of \$122.0 million and \$26.2 million \$131.0 million in the Electronics segment and Industrial segments, respectively, partially offset \$29.9 million in the Transportation segment mainly driven by higher interest expense of \$7.7 million and foreign exchange losses of \$7.2 million.

Supply chain constraints, including material shortages and transportation capacity and costs impacted the Company, its suppliers and customers during the first half of 2022 and to a lesser extent during the second half of 2022. The Company expects to see continued improvement in supply chain availability during 2023. commercial vehicle business.

Net cash provided by operating activities was \$419.7 million \$457.4 million for the fiscal year ended December 31, 2022 December 30, 2023 representing an increase of \$46.4 million \$37.7 million as compared to the fiscal year ended January 1, 2022 December 31, 2022. The increase in net cash provided by operating activities was primarily due to higher cash earnings reductions in working capital partially offset by increases in working capital resulting from higher sales growth and larger annual incentive bonus payments made in 2022 as compared to 2021. lower cash earnings.

On June 30, 2022 June 28, 2023, the Company amended entered into a definitive purchase agreement to acquire a 200mm wafer fab located in Dortmund, Germany ("Dortmund Fab") from Elmos Semiconductor SE. The acquisition of the Dortmund Fab is expected to close in early fiscal year 2025. The total purchase price for the fab is approximately 93 million Euro, of which 37.2 million Euro down payment (approximately \$40.5 million) was made with cash on hand and restated its Credit Agreement, dated as of April 3, 2020 (as so amended recorded in Other long-term assets in the Consolidated Balance Sheets was paid in the third quarter after regulatory approvals and restated, the "Credit Agreement") to effect certain changes, including, among other changes: (i) adding approximately 56 million Euro will be paid at closing. The transaction did not have a \$300 million unsecured term loan credit facility; (ii) making certain financial and non-financial covenants less restrictive material impact on the Company Company's fiscal year 2023 financial results and its subsidiaries; (iii) replacing LIBOR-based interest rate benchmarks is not expected to have material impact on the Company's 2024 financial results and modifying performance-based interest rate margins; and (iv) extending will be reported in the maturity date to June 30, 2027 (the "Maturity Date"). Pursuant to semiconductor business within the Credit Agreement, the Company may, from time to time, increase the size of the revolving credit facility or enter into one or more tranches of term loans in minimum increments of \$25 million if there is no event of default and the Company is in compliance with certain financial covenants. Company's Electronics segment.

On February 3, 2023, the Company acquired completed the acquisition of Western Automation Research and Development Limited ("Western Automation") for approximately \$162 million in cash. Headquartered in Galway, Ireland, Western Automation is a designer and manufacturer of electrical shock protection devices used across a broad range of high-growth end markets, including e-Mobility off-board charging infrastructure, industrial safety and renewables. At the time the Company and Western Automation has entered into the definitive agreement, Western Automation had annualized sales of approximately \$25 million and will be million. The business is reported within the company's Company's Industrial segment. The company does not expect the acquisition to have a material impact to its 2023 financial results. The Company financed the transaction with cash on hand.

On July 19, 2022, the Company acquired C&K for \$540 million in cash. Founded in 1928, C&K is a leading designer and manufacturer of high-performance electromechanical switches and interconnect solutions with a strong global presence across a broad range of end markets, including industrial, transportation, datacom, and aerospace. At the time the Company and C&K entered into a definitive agreement, C&K had annualized sales of over \$200 million. The business is reported as part of the electronics-passive products and sensors business within the Company's Electronics segment. The Company financed the transaction through a combination of cash on hand and debt.

Impact of COVID-19 on Business

The effects from COVID-19 continue to drive higher ongoing costs including spending on personal protective equipment ("PPE"), additional personnel and employee transportation costs, and manufacturing inefficiencies as well as an increase in material costs and transportation costs due to global supply chain and logistics constraints around the world.

[Table of Contents](#)

Although COVID-19 had less of an effect on fiscal year 2022 as compared to fiscal year 2021, it is difficult to estimate the ongoing magnitude of future COVID-19 disruptions, and its potential impact on the Company's employees, customers, suppliers and vendors. The Company will continue to actively monitor the situation and may take further actions altering its business operations that the Company determines are in the best interests of its employees, customers, partners, suppliers, and other stakeholders, or as required by federal, state, or local authorities. It is not clear what the potential effects any such alterations or modifications may have on the Company's business and operations, including the effects on its customers, employees, and prospects, or on the Company's financial results for the fiscal year 2023.

Risks Related to Market Conditions

The Company continues to operate in a more volatile challenging macro environment, including events related but not limited to, the supply chain disruptions, varying regional dynamics, and some pockets of end market softness. The ongoing war in Ukraine. Although Ukraine has had a minimal impact on the Company, as the Company suspended sales into and purchases from Russia. The Company does not have any direct operations in Ukraine or Russia, it had a modest impact on the Company, including higher transportation costs due to the Company modifying its shipping logistics as well as suspending sales into and purchases from Russia. Additionally, the war impacted some of the Company's customers who had lower production levels during 2022 due to shut-downs and ongoing material shortages.

[Table of Contents](#)

OUTLOOK

Vision and Strategy

The Company closely collaborates with strategic customers to design and manufacture innovative and reliable solutions to help empower a sustainable, connected, and safer world in virtually every market that uses electrical energy.

Within transportation end markets, the Company's products are found in passenger vehicles and commercial vehicles, like material handling equipment, heavy-duty truck and bus, off-road and recreational vehicles, construction equipment, agricultural machinery, rail, marine and aerospace. The Company is also a key enabler of electrification, or eMobility, across these transportation applications, and EV charging infrastructure applications. The Company is also a key enabler of electrification advancements across these transportation applications. The Company continues to advance its existing customer relationships with OEM, Tier One and channel partners while driving product content growth for advanced, high-growth applications.

Within industrial end markets, the Company's products are found in renewable energy and energy storage applications, HVAC, factory automation and industrial safety, industrial motor drives and power conversion, EV charging infrastructure, and heavy and general industrial type applications. The Company utilizes its deep technical engineering capabilities and design support to drive product content growth across high-growth applications like renewables, energy storage, HVAC, and industrial automation and safety.

Within electronics end markets, the Company's products are found in data center, cloud storage and telecom infrastructure applications, building technologies and automation, appliances, medical devices, gaming and entertainment applications and mobile electronics. The Company leverages its strategic distribution partnerships and deep OEM relationships, coupled with its comprehensive product offerings, to drive product content growth across a broad range of applications.

The Company expects the ever-increasing complexity advancements of application architectures, driven by ongoing electrification and electrification across these end markets, to drive increasing product content opportunities. Built upon that framework, the Company has positioned itself around the structural growth themes of sustainability, connectivity, and safety, which will continue to drive increased demand for the Company's innovative, reliable solutions across the transportation, industrial and electronics end markets that it serves.

The Company's five-year strategic plan, built around these structural growth themes, is focused on delivering top-tier shareholder returns by driving double-digit sales growth, best-in-class profitability, earnings per share growth, strong cash flow generation, and deploying capital to drive value creation. The Company pursues the following major strategic objectives, which are summarized below, along with more specific areas of focus. The Company uses the financial measures below to gauge progress toward achieving these strategic objectives. These measures include organic sales growth, operating margins, cash flow from operations, and returns on invested capital.

[Table of Contents](#)

Strategic Objectives	Priorities
<p>Double-digit sales growth</p> <p>5-7% average annual organic sales growth</p> <p>5-7% average annual growth from strategic acquisitions</p>	<ul style="list-style-type: none"> • Increase product content with existing and new customers, and expand market share • Expand presence (i.e. with portfolio and infrastructure) into new and underpenetrated, high-growth geographies and end markets • Increase innovation capabilities and investments • Leverage breadth of go-to-market strategies • Target mergers and acquisitions that enhance and sustain organic growth
<p>EPS growth</p> <p>Earnings per share growth greater than revenue growth</p>	<ul style="list-style-type: none"> • Focus on higher profitability growth opportunities • Improve operating margins through operational and commercial excellence • Disciplined approach to balancing costs with long-term strategic investments
<p>Capital allocation and returns</p> <p>Cash flow from operations less capital expenditures (free cash flow) is targeted to approximate or exceed net income</p> <p>Target 40% of free cash flow returned to shareholders</p> <p>Remainder focused on strategic acquisitions</p> <p>Return on invested capital percentage in the high-teens</p>	<ul style="list-style-type: none"> • Disciplined management of working capital • Deployment of capital consistent with capital allocation priorities • Mergers and acquisitions that align with strategy and financial metrics • Grow dividend in line with earnings • Opportunistic share repurchases

The Company's strategy is focused on accelerating organic growth by increasing its product content in applications and share gains, enhancing technology efforts to drive innovation, expanding its digital presence, capitalizing on cross segment opportunities, and gaining traction in underpenetrated, niche, high-growth geographies and end markets. The Company also leverages strategic acquisitions to enhance and sustain its organic growth. The Company will continue to make targeted strategic acquisitions that align to its strategy and financial metrics to drive growth across its businesses, products, markets, and technologies while leveraging existing customers and targeting new customers.

Management believes that profitable growth through a combination of organic growth and strategic acquisitions is critical to the Company's competitiveness, while enhancing the value the Company it delivers to all of its stakeholders. In addition, the Company continues to implement initiatives across all businesses to enhance productivity, and its commercial and operational capabilities, while managing its cost structure to align with business conditions, and the markets it serves. Primary areas of focus include optimizing its global operations, successfully integrating strategic acquisitions, and streamlining administrative and support activities to drive improved operating margins.

The Company seeks to deploy its capital consistent with its capital allocation priorities. These priorities include investments to drive increased organic growth, targeted acquisitions that align to the Company's strategic and financial metrics, and enhance and sustain its organic growth, and returning capital to shareholders through dividends and opportunistic share repurchases.

[Table of Contents](#)

Critical Estimates and Significant Accounting Policies

The preparation of financial statements in conformity with generally accepted accounting principle ("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.

Critical Accounting Estimates

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.

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.

There were no impairment charges recorded during the fiscal years of 2023, 2022 and 2021. During the second quarter of 2020, the Company recorded a non-cash charge of \$33.8 million to recognize the impairment of goodwill in the automotive sensors reporting unit within the Transportation segment.

Quantitative Assessment for Impairment

For the seven reporting units with goodwill, the Company compares the estimated fair value of each reporting unit to its carrying value. If the carrying value of a reporting unit exceeds 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 2, 2022 October 1, 2023 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 2022 2023 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 between 42% 23% and 191% 369% of their respective estimated fair values. As of the most recent annual test conducted on October 2, 2022 October 1, 2023, the Company noted that the excess of fair value over the carrying value was 151% 110%, 66% 80%, 98% 126%, 42% 47%, 44% 58%, 57% 23%, and 191% 369% for its reporting units: Electronics-Passive Products and Sensors, Electronics-Semiconductor, Passenger Car Products, Commercial Vehicle Products, Automotive Sensors, Relays, Industrial Controls and Power Fuse, Sensors, and Industrial Circuit Protection, respectively. Relatively small changes in the Company's key assumptions would not have resulted in any reporting units failing the goodwill impairment test.

Generally, changes in estimates of expected future cash flows would have a similar effect on the estimated fair value of the reporting unit. That is, a 1.0% decrease in estimated annual future cash flows would decrease the estimated fair value of the reporting unit by approximately 1.0%. The estimated long-term net sales growth rate can have a significant impact on the estimated future cash flows, and therefore, the fair value of each reporting unit. A 1.0% decrease in the long-term net sales growth rate would have resulted in no reporting units failing the goodwill impairment test. Of the other key assumptions that impact the estimated fair values, most reporting units have the greatest sensitivity to changes in the estimated discount rate. The estimated discount rate was 13.4% 12.6% for the Electronics-Passive Products and Sensors, the Electronics-Semiconductor, Passenger Car Products, and Commercial Vehicle Products, Automotive Sensors, and Industrial Circuit Protection reporting units, 14.3% and 16.8% for the Electronics-Semiconductor Industrial Controls and Sensors reporting unit, and 15.2% for each of the Automotive Sensors, Power Fuse and Relays reporting units. 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.

Income Taxes

The Company accounts for income taxes using the asset and 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, 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.

The 2017 Tax Cuts and Jobs Act (the "Tax Act"), among other things, imposed a one-time tax (the "Toll Charge") on accumulated earnings of certain non-U.S. subsidiaries and included base broadening provisions commonly referred to as the global intangible low-taxed income provisions ("GILTI").

In accordance with guidance issued by the Financial Accounting Standards Board ("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 fiscal years ended December 31, 2022, December 30, 2023, January 1, 2022, December 31, 2022, and December 26, 2020, January 1, 2022, 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.

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.

Critical Accounting Policies

Revenue Recognition

Revenue Disaggregation

The following table disaggregates the Company's revenue by primary business units for the fiscal years ended December 31, 2022, December 30, 2023 and January 1, 2022, December 31, 2022:

(in thousands)	(in thousands)	Fiscal Year Ended December 31, 2022				(in thousands)	Fiscal Year Ended December 30, 2023			
		Electronics Segment	Transportation Segment	Industrial Segment	Total		Electronics Segment	Transportation Segment	Industrial Segment	Total
		Electronics – Semiconductor	Electronics – Semiconductor	\$ 802,281	\$ —		\$ —	\$ 802,281		
Electronics – Passive Products and Sensors	Electronics – Passive Products and Sensors	690,538	—	—	690,538					
Commercial Vehicle Products	Commercial Vehicle Products	—	374,707	—	374,707					
Passenger Car Products	Passenger Car Products	—	249,470	—	249,470					
Automotive Sensors	Automotive Sensors	—	91,963	—	91,963					
Industrial Products	Industrial Products	—	—	304,938	304,938					
Total	Total	\$1,492,819	\$ 716,140	\$304,938	\$2,513,897					

(in thousands)	(in thousands)	Fiscal Year Ended January 1, 2022				(in thousands)	Fiscal Year Ended December 31, 2022			
		Electronics Segment	Transportation Segment	Industrial Segment	Total		Electronics Segment	Transportation Segment	Industrial Segment	Total
		Electronics – Semiconductor	Electronics – Semiconductor	\$ 678,861	\$ —		\$ —	\$ 678,861		
Electronics – Passive Products and Sensors	Electronics – Passive Products and Sensors	621,883	—	—	621,883					
Commercial Vehicle Products	Commercial Vehicle Products	—	160,300	—	160,300					
Passenger Car Products	Passenger Car Products	—	266,020	—	266,020					
Automotive Sensors	Automotive Sensors	—	101,738	—	101,738					
Industrial Products	Industrial Products	—	—	251,126	251,126					

Total	Total	\$1,300,744	\$ 528,058	\$251,126	\$2,079,928
-------	-------	-------------	------------	-----------	-------------

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 sales 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.

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, distributor inventory levels 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 the Company's 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 Credit Losses

The Company currently measures the expected credit losses based on our historical credit loss experience. The Company has not experienced significant recent or historical credit losses and is not forecasting any significant credit losses which would require adjustments to our methodology. If current conditions and supportable forecasts indicate that our historical loss experience is not reasonable and no longer supportable, the Company may adjust its historical credit loss experience and to reflect these conditions and forecasts. The Company regularly analyzes its significant customer accounts and, when the Company becomes aware of a 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 analyzes 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 historical collection and loss experience. Historically, the allowance for credit losses 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 value.

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. For the fiscal year ended December 30, 2023, the Company recognized a \$3.9 million impairment charge related to the land and building of a property in the commercial vehicle business within the Transportation segment that the Company made the decision to donate, a \$0.9 million impairment charge substantially related to certain patents in a business within the Industrial segment, and a \$0.1 million impairment on certain machinery and equipment in the semiconductor business within the Electronics segment. For the fiscal year ended December 31, 2022, the Company recorded a \$2.9 million non-cash impairment charge for certain acquired technology and patent intangible assets due to a change in use and projected cash flows within the Electronics segment. Additionally, the Company recorded a non-cash impairment charge of \$1.7 million for certain machinery and equipment within the Electronics segment due to a decision to cease further production of a product line during the fourth quarter of 2022. For the fiscal year ended December 26, 2020, the Company recognized a \$2.2 million impairment charge related to the land and building associated with the Company's announced consolidation of a manufacturing facility within the Industrial segment.

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 Plans

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 (loss) income. 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 weighted-average discount rates for the Company's defined benefit plans primarily in Europe and the Asia-Pacific regions at December 30, 2023 and December 31, 2022 were 5.6% and January 1, 2022 were 5.8% and 3.1%, respectively.

A 50 basis point change in the discount rates at December 31, 2022 December 30, 2023 would have the following effect on the projected benefit obligation:

(in millions)	(in millions)	0.5% Increase	0.5% Decrease	(in millions)	0.5% Increase	0.5% Decrease
Projected benefit obligation	Projected benefit obligation	\$ (3.4)	\$ 3.6			

On April 7, 2020, the Company entered into a definitive agreement to purchase a group annuity contract, under which an insurance company is required to directly pay and administer pension payments to certain of the Company's U.K. pension plan participants, or their designated beneficiaries. The Company completed the buy-out of this U.K. pension plan during the fourth quarter of 2021 and as a result recorded a non-cash pension settlement charge of \$19.9 million (£14.9 million), inclusive of the accelerated recognition of prior service cost of \$0.5 million (£0.4 million).

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 for the foreseeable future. The fair value of restricted share units is determined based on the Company's stock price on the grant date reduced by the present value of expected dividends through the vesting period.

Total equity-based compensation expense for all equity compensation plans was \$24.6 million \$25.7 million, \$24.6 million, and \$21.4 million in 2023, 2022, and \$19.1 million in 2022, 2021, and 2020, 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.

Off-Balance Sheet Arrangements

The Company does not have off-balance sheet arrangements as defined under SEC rules. 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.

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 30, 2023 AS COMPARED TO THE YEAR ENDED DECEMBER 31, 2022

Fiscal year 2023 included \$28.2 million of non-segment charges, of which \$11.7 million related to legal and professional fees and other integration expenses related to completed and contemplated acquisitions and \$16.5 million of restructuring, impairment and other charges, primarily associated with employee termination costs and a \$3.9 million impairment charge for the land and building in the commercial vehicle business within the Transportation segment. See Note 8, *Restructuring, Impairment and Other Charges*, for further discussion.

Fiscal year 2022 included \$43.2 million of non-segment charges, of which \$17.6 million related to legal and professional fees and other integration expenses primarily associated with the C&K and Carling acquisitions and other contemplated acquisitions, \$15.6 million of purchase accounting inventory step-up charges, and \$10.0 million of restructuring, impairment and other charges, primarily related to employee termination costs and a \$2.9 million intangible asset impairment charge within the Electronics segment in the fourth quarter of 2022. See Note 8, *Restructuring, Impairment and Other Charges*, for further discussion.

Fiscal year 2023 also included approximately \$12.3 million in foreign currency exchange losses primarily attributable to changes in the value of the Euro, Sterling, and Chinese renminbi against the U.S. dollar, while fiscal year 2022 included approximately \$24.4 million in foreign currency exchange losses primarily attributable to changes in the value of the Euro, Philippine peso, Sterling, and Chinese renminbi against the U.S. dollar.

(in thousands, except % change)	Fiscal Year			
	2023	2022	Change	% Change
Net sales	\$ 2,362,657	\$ 2,513,897	\$ (151,240)	(6.0)%
Cost of sales	1,462,416	1,506,984	(44,568)	(3.0)%
Gross profit	900,241	1,006,913	(106,672)	(10.6)%
Operating expenses	539,379	506,087	33,292	6.6 %
Operating income	360,862	500,826	(139,964)	(27.9)%
Other (income) expense, net	(19,901)	7,207	(27,108)	(376.1)%
Income before income taxes	328,598	443,044	(114,446)	(25.8)%
Income taxes	69,113	69,738	(625)	(0.9)%
Net income	259,485	373,306	(113,821)	(30.5)%

Net Sales

Net sales were \$2,362.7 million, which decreased by \$151.2 million, or 6.0% compared to 2022, including \$0.7 million of favorable changes in foreign exchange rates for 2023 compared to 2022. The sales decrease was primarily due to lower volume in the Electronics segment and the commercial vehicle business within the Transportation segment that more than offset \$105.1 million or 4.2% of incremental net sales from the C&K and Western Automation acquisitions and higher volume from the Industrial segment.

Table of Contents

Cost of Sales

Cost of sales was \$1,462.4 million, or 61.9% of net sales, in 2023, compared to \$1,507.0 million, or 59.9% of net sales, in 2022. As a percent of net sales, cost of sales increased 2.0% driven by lower volume in the Electronics segment and the commercial vehicle business within the Transportation segment, partially offset by volume leverage and favorable product mix from the Industrial segment compared to 2022, and \$15.6 million or 0.6% of purchase accounting inventory charges recorded during 2022.

Gross Profit

Gross profit was \$900.2 million, or 38.1% of net sales, in 2023, compared to \$1,006.9 million, or 40.1% of net sales, in 2022. The \$106.7 million decrease in gross profit was primarily due to lower volume in the Electronics segment and the commercial vehicle business within the Transportation segment, partially offset by the acquisition of C&K within the Electronics segment, and volume leverage and favorable product mix from the Industrial segment and \$15.6 million or 0.6% of purchase accounting inventory charges recorded during the first nine months of 2022.

Operating Expenses

Total operating expenses were \$539.4 million, or 22.8% of net sales, for 2023 compared to \$506.1 million, or 20.1% of net sales, for 2022. The increase in operating expenses of \$33.3 million was primarily due to higher selling, general, and administrative expenses of \$9.8 million, higher amortization expense of \$10.1 million and research and development expenses of \$6.8 million mainly due to the C&K and Western Automation acquisitions. Additionally, the Company incurred an increase in restructuring, impairment, and other charges of \$6.5 million primarily related to the reorganization of certain manufacturing, selling and administrative functions within the Transportation and Industrial segments and a \$3.9 million impairment charge related to the land and building of a property in the commercial vehicle business within the Transportation segment. This increase in operating expenses was partially offset by lower variable incentive compensation expense.

Operating Income

Operating income for 2023 was \$360.9 million, a decrease of \$140.0 million or 27.9% compared to \$500.8 million for 2022. The decrease in operating income was due to lower gross profit from the Electronics and Transportation segments and higher operating expenses as noted above. Operating margins decreased from 19.9% in 2022 to 15.3% in 2023 primarily driven by lower volume in the Electronics and Transportation segments and the higher operating expenses mentioned above.

Income Before Income Taxes

Income before income taxes for 2023 was \$328.6 million, or 13.9% of net sales compared to \$443.0 million, or 17.6% of net sales, for 2022. In addition to the factors impacting comparative results for operating income discussed above, income before income taxes was primarily benefited by lower foreign exchange losses of \$12.1 million and lower unrealized losses of \$13.7 million related to one of the Company's equity investments for 2023 compared to 2022.

Income Taxes

Income tax expense for 2023 was \$69.1 million, or an effective tax rate of 21.0%, compared to income tax expense of \$69.7 million, or an effective tax rate of 15.7% for 2022. The effective tax rate for 2023 is higher than the effective tax rate for 2022.

primarily due to less income earned in lower tax jurisdictions in 2023, as well as one-time tax benefits in 2022 resulting from losses on investments in the stock of two of the Company's affiliates. The effective tax rate for 2022 was lower than the applicable U.S. statutory tax rate primarily due to income earned in lower tax jurisdictions as well as the impact of the one-time deductions previously noted. Further information regarding these items is provided in Note 14, *Income Taxes*, of the Notes to Consolidated Financial Statements included in this Annual Report.

Segment Information

The Company reports its operations by the following segments: Electronics, Transportation 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 and operating income by segment:

[Table of Contents](#)

Net Sales (in millions)	Fiscal Year			
	2023	2022	Change	% Change
Electronics	\$ 1,350.4	\$ 1,492.8	\$ (142.4)	(9.5)%
Transportation	678.3	716.2	(37.9)	(5.3)%
Industrial	334.0	304.9	29.1	9.5 %
Total	\$ 2,362.7	\$ 2,513.9	\$ (151.2)	(6.0)%

Operating Income (in millions)	Fiscal Year			
	2023	2022	Change	% Change
Electronics	\$ 300.6	\$ 431.6	\$ (131.0)	(30.4)%
Transportation	33.7	63.5	(29.8)	(47.0)%
Industrial	54.8	48.9	5.9	12.1 %
Other (a)	(28.2)	(43.2)	15.0	
Total	\$ 360.9	\$ 500.8	\$ (139.9)	(30.9)%

(a) Included in "Other" Operating income for the 2023 was \$28.2 million of non-segment charges, of which \$11.7 million was for legal and professional fees and other integration expenses related to completed and contemplated acquisitions, \$16.5 million of restructuring, impairment and other charges, primarily related to employee termination costs and a \$3.9 million impairment charge related to the land and building in the commercial vehicle business within the Transportation segment. See Note 8, *Restructuring, Impairment and Other Charges*, for further discussion.

Included in "Other" Operating income for 2022 was \$43.2 million of non-segment charges, of which \$17.6 million of legal and professional fees and other integration expenses related to completed and contemplated acquisitions, \$15.6 million of purchase accounting inventory step-up charges, and \$10.0 million of restructuring, impairment and other charges, primarily related to employee termination costs and a \$2.9 million non-cash impairment charge for certain acquired technology and patent intangible assets due to a change in use and projected cash flows within the Electronics segment in the fourth quarter of 2022. See Note 8, *Restructuring, Impairment and Other Charges*, for further discussion.

Electronics Segment

Net Sales

Net sales for the Electronics segment decreased \$142.4 million, or 9.5%, in 2023 compared to 2022 and included favorable changes in foreign exchange rates of \$2.1 million or 0.1%. The sales decrease was mainly due to lower volume from the Electronics products business driven by inventory rebalancing at certain distributors and reduced demand across certain electronics markets, including consumer facing and personal electronics, and telecom, which more than offset the incremental net sales of \$91.9 million from the C&K acquisition.

Operating Income

Operating income was \$300.6 million, representing a decrease of \$131.0 million, or 30.4%, in 2023 compared to \$431.6 million in 2022. The decrease in operating income was primarily due to lower volume mainly driven from the Electronics products business, which more than offset the incremental volume from the C&K acquisition. Operating margins decreased from 28.9% in 2022 to 22.3% in 2023 primarily due to the lower volume.

Transportation Segment

Net Sales

Net sales in the Transportation segment decreased \$37.9 million, or 5.3%, in 2023 compared to 2022 and included unfavorable changes in foreign exchange rates of \$0.7 million or 0.1%. The commercial vehicle business net sales declined \$50.9 million, largely driven by reduced demand largely due to inventory rebalancing at certain distributors and customers, and some demand reduction in commercial vehicle end markets. The automotive sensors business had net sales declines of \$3.4 million primarily due to lower demand in the United States and China. These declines were partially offset by an increase of \$16.5 million from

[Table of Contents](#)

the passenger car products business driven by the ongoing electronification and electrification of vehicles and global passenger vehicle production growth.

Operating Income

Operating income was \$33.7 million, representing a decrease of \$29.8 million, or 47.0%, in 2023 compared to \$63.5 million in 2022. Operating margins declined from 8.9% to 5.0% primarily due to lower volume from the commercial vehicle business, partially offset by higher volume and price realization in the passenger car business.

Industrial Segment

Net Sales

The Industrial segment net sales increased by \$29.1 million, or 9.5%, in 2023 compared to 2022 and included unfavorable changes in foreign exchange rates of \$0.7 million or 0.2%. The increase in net sales was primarily due to higher volume across multiple end markets, and the acquisition of Western Automation.

Operating Income

Operating income was \$54.8 million, representing an increase of \$5.9 million, or 12.1%, in 2023 compared to \$48.9 million in 2022. The increase in operating income was due to price realization and higher volume, partially offset by higher amortization expenses from the acquisition of Western Automation. Operating margins were 16.4% in 2023 compared to 16.0% in 2022.

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:

(in millions)	Fiscal Year		Change	% Change
	2023	2022		
Americas	\$ 901.5	\$ 992.3	\$ (90.8)	(9.2)%
Asia-Pacific	898.9	1,019.9	(121.0)	(11.9)%
Europe	562.3	501.7	60.6	12.1 %
Total	\$ 2,362.7	\$ 2,513.9	\$ (151.2)	(6.0)%

Americas

Net sales in the Americas decreased \$90.8 million, or 9.2%, in 2023 compared to 2022 and included unfavorable changes in foreign exchange rates of \$0.1 million. The decrease in net sales was primarily due to lower volume from the electronics products business within the Electronics segment and lower sales from the commercial vehicle business within the Transportation segment, partially offset by incremental sales from C&K acquisition within the Electronics segment and higher sales within the Industrial segment compared to 2022.

Asia-Pacific

Asia-Pacific net sales decreased \$121.0 million, or 11.9%, in 2023 compared to 2022 and included unfavorable changes in foreign exchange rates of \$12.3 million. The decrease in net sales was primarily due to lower net sales from electronics products business within the Electronics segment and lower net sales from the commercial vehicle business within the Transportation segment, partially offset by incremental sales from C&K acquisition within the Electronics segment and Western Automation acquisition within in the Industrial segment compared to 2022.

Europe

European net sales increased \$60.6 million, or 12.1%, in 2023 compared to 2022 and included favorable changes in foreign exchange rates of \$13.1 million. The increase in net sales was primarily due to incremental sales from the acquisition of C&K, increased volume from the semiconductor business within the Electronics segment and the passenger car products business within the Transportation segment, and the incremental sales from the Western Automation acquisition included within the Industrial segment, partially offset by lower net sales from the electronics products business within the Electronics segment.

[Table of Contents](#)

RESULTS OF OPERATIONS FOR THE YEAR ENDED DECEMBER 31, 2022 AS COMPARED TO THE YEAR ENDED JANUARY 01, 2022

Fiscal year 2022 included \$43.2 million of non-segment charges, of which \$17.6 million related to legal and professional fees and other integration expenses primarily associated with the C&K and Carling acquisitions and other contemplated acquisitions, \$15.6 million of purchase accounting inventory step-up charges, and \$10.0 million of restructuring, impairment and other charges, primarily related to employee termination costs and a \$2.9 million intangible asset impairment charge within the Electronics segment in the fourth quarter of 2022. See Note 8, *Restructuring, Impairment and Other Charges*, for further discussion.

Fiscal year 2021 included \$12.6 million of non-segment charges, of which \$8.4 million relates to purchase accounting inventory step-up charges, \$7.0 million of acquisition-related and integration charges related to the Carling and Hartland acquisitions and other contemplated acquisitions, and \$2.2 million of restructuring, impairment and other charges, primarily related to employee termination costs. See Note 8, *Restructuring, Impairment and Other Charges*, for further discussion. Additionally, partially offsetting the above amounts was a gain of \$5.0 million recorded for the sale of buildings within the Electronics segment.

Fiscal year 2022 also included approximately \$24.4 million in foreign currency exchange losses primarily attributable to changes in the value of the Euro, Philippine peso, Sterling, and Chinese renminbi against the U.S. dollar, while fiscal year 2021 included approximately \$17.2 million in foreign currency exchange losses primarily attributable to changes in the value of the Euro, Chinese renminbi, Mexican peso, and Philippine peso against the U.S. dollar.

(in thousands, except % change)	Fiscal Year		Change	% Change
	2022	2021		
Net sales	\$ 2,513,897	\$ 2,079,928	\$ 433,969	20.9 %
Cost of sales	1,506,984	1,308,002	198,982	15.2 %
Gross profit	1,006,913	771,926	234,987	30.4 %
Operating expenses	506,087	386,284	119,803	31.0 %
Operating income	500,826	385,642	115,184	29.9 %
Other expense, net	7,207	8,932	(1,725)	(19.3)%
Income before income taxes	443,044	341,025	102,019	29.9 %
Income taxes	69,738	57,219	12,519	21.9 %
Net income	373,306	283,806	89,500	31.5 %

Net Sales

Net sales were \$2,513.9 million, which increased \$434.0 million, or 20.9% compared to 2021, including \$202.8 million or 9.8% of incremental net sales within the Transportation segment from the Carling acquisition and \$81.7 million or 3.9% of net sales within the Electronics segment from the C&K acquisition, partially offset by \$65.3 million or 3.1% of unfavorable changes in foreign exchange rates for 2022 compared to 2021. The remaining increase of \$110.3 million in the Electronics segment was due to higher volume and price realization across numerous end markets while the Industrial segment increased \$53.8 million as a result of higher volume and price realization.

[Table of Contents](#)

Cost of Sales

Cost of sales was \$1,507.0 million, or 59.9% of net sales, in 2022, compared to \$1,308.0 million, or 62.9% of net sales, in 2021. The increase in cost of sales was primarily due to greater volume across the Electronics and Industrial segments driven by the factors discussed above along with the acquisitions of Carling and C&K. As a percent of net sales, cost of sales decreased 3.0% driven by volume leverage, partially offset by higher purchase accounting inventory charges of \$7.2 million or 0.2% compared to 2021.

Gross Profit

Gross profit was \$1,006.9 million, or 40.1% of net sales, in 2022, compared to \$771.9 million, or 37.1% of net sales, in 2021. The \$235.0 million increase in gross profit was primarily due to higher volume and price realization in the Electronics and

[Table of Contents](#)

Industrial segments along with the acquisitions of Carling and C&K. The increase in gross margin of 3.0% was primarily driven by volume leverage and price realization, partially offset by higher purchase accounting inventory charges of \$7.2 million or 0.2% compared to 2021.

Operating Expenses

Total operating expenses were \$506.1 million, or 20.1% of net sales, for 2022 compared to \$386.3 million, or 18.6% of net sales, for 2021. The increase in operating expenses of \$119.8 million was primarily due to higher selling, general, and administrative expenses, which increased by \$69.4 million, research and development expenses, which increased by

\$29.7 million and increased amortization expense of \$13.0 million and acquisition-related expenses of \$10.6 million largely due to the Carling and C&K acquisitions.

Operating Income

Operating income for 2022 was \$500.8 million, an increase of \$115.2 million or 29.9% compared to \$385.6 million for 2021. The increase in operating income was primarily due to higher gross profit across from Electronics and Industrial segments, partially offset by higher operating expenses as discussed above. Operating margins increased from 18.5% in 2021 to 19.9% in 2022 primarily driven by higher operating income in the Electronics segment of \$122.0 million.

Income Before Income Taxes

Income before income taxes for 2022 was \$443.0 million, or 17.6% of net sales compared to \$341.0 million, or 16.4% of net sales, for 2021. In addition to the factors impacting comparative results for operating income discussed above, income before income taxes was impacted by \$14.0 million of unrealized losses during 2022 compared to unrealized gains of \$8.8 million during 2021 related to the Company's equity investment, higher interest expense of \$7.7 million due to an increase in borrowings outstanding, and higher foreign exchange losses of \$7.2 million compared to 2021, partially offset by a \$19.9 million non-cash pension settlement charge recognized in 2021.

Income Taxes

Income tax expense for 2022 was \$69.7 million, or an effective tax rate of 15.7%, compared to income tax expense of \$57.2 million, or an effective tax rate of 16.8% for 2021. The Company's 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, the GILTI tax provisions, and non-U.S. losses and expenses with no tax benefit. The effective tax rate for 2022 is lower than the effective tax rate for 2021, primarily due to one-time tax benefits resulting from losses on investments in the stock of two of the Company's affiliates. Further information regarding these items is provided in Note 14, *Income Taxes*, of the Notes to Consolidated Financial Statements included in this Annual Report.

Segment Information

The Company reports its operations by the following segments: Electronics, Transportation 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 and operating income by segment:

(in millions)	Fiscal Year			
	2022	2021	Change	% Change
Electronics	\$ 1,492.8	\$ 1,300.7	\$ 192.1	14.8 %
Transportation	716.2	528.1	188.1	35.6 %
Industrial	304.9	251.1	53.8	21.4 %
Total	\$ 2,513.9	\$ 2,079.9	\$ 434.0	20.9 %

[Table of Contents](#)

		Fiscal Year						Fiscal Year			
Operating Income		Operating Income				Operating Income		Fiscal Year			
(in millions)	(in millions)	2022	2021	Change	% Change	(in millions)	2022	2021	Change	% Change	
Electronics	Electronics	\$1,492.8	\$1,300.7	\$192.1	14.8 %	Electronics	\$ 431.6	\$ 309.6	\$ 122.0	39.4 %	
Transportation	Transportation	716.2	528.1	188.1	35.6 %	Transportation	63.5	66.0	(2.5)	(3.7) %	
Industrial	Industrial	304.9	251.1	53.8	21.4 %	Industrial	48.9	22.6	26.3	116.0 %	
Other (a)											
Total	Total	\$2,513.9	\$2,079.9	\$434.0	20.9 %	Total	\$ 500.8	\$ 385.6	\$ 115.2	29.9 %	

(a) Included in "Other" Operating income for 2022 was \$17.6 million of legal and professional fees and other integration expenses related to completed and contemplated acquisitions, \$15.6 million of purchase accounting inventory step-up charges, and \$10.0 million of restructuring, impairment and other charges, primarily related to employee termination costs and a \$2.9 million non-cash impairment charge for certain acquired technology and patent intangible assets due to a change in use and projected cash flows within the Electronics segment in the fourth quarter of 2022. See Note 8, *Restructuring, Impairment and Other Charges*, for further discussion.

Included in "Other" Operating income for 2021 was \$8.4 million of purchase accounting inventory step-up charges, \$7.0 million of legal and professional fees and other integration expenses related to Carling, Hartland and other contemplated acquisitions, and \$2.2 million of restructuring, impairment and other charges, primarily related to employee termination costs. In addition, there was a gain of \$5.0 million recorded for the sale of buildings within the Electronics segment. See Note 8, *Restructuring, Impairment and Other Charges*, for further discussion.

Electronics Segment

Net Sales

Net sales for the Electronics segment increased \$192.1 million, or 14.8%, in 2022 compared to 2021 and included unfavorable changes in foreign exchange rates of \$37.1 million or 2.9%. The sales increase was \$123.4 million for the semiconductor products business and \$68.7 million in the electronics products business, primarily driven by increased volume and price realization. The sales increase in electronics products business also included the incremental \$81.7 million of sales from the acquisition of C&K. These volume increases were driven by continued broad-based demand across numerous end markets.

Operating Income

Operating income was \$431.6 million, representing an increase of \$122.0 million, or 39.4%, in 2022 compared to \$309.6 million in 2021. The increase in operating income was primarily due to higher volume and price realization from the semiconductor and electronics products businesses and also the incremental operating income from the C&K acquisition. Operating margins increased from 23.8% in 2021 to 28.9% in 2022.

Transportation Segment

Net Sales

Net sales in the Transportation segment increased \$188.1 million, or 35.6%, in 2022 compared to 2021 and included unfavorable changes in foreign exchange rates of \$26.0 million or 4.9%. The sales increase was primarily due to the incremental sales of \$202.8 million from the Carling acquisition. Net sales in the commercial vehicle business increased by \$214.4 million, largely due to the Carling acquisition noted previously and continued demand across a number of commercial vehicle end markets. The passenger car products and automotive sensors businesses had sales decreases of \$16.6 million and \$9.8 million, respectively. The decreases were primarily driven by unfavorable changes in foreign exchange rates, certain automotive customers rebalancing their inventory levels of the Company's products, and supply chain constraints, partially offset by greater content growth from vehicle mix and electric vehicles.

Operating Income

Operating income was \$63.5 million, representing a decrease of \$2.5 million, or 3.7%, in 2022 compared to \$66.0 million in 2021. The decreased in operating income was primarily due to lower volume in the passenger car products and automotive sensors businesses, partially offset by the incremental operating income from the Carling acquisition. Operating margins declined from 12.5% to 8.9%.

Table of Contents

Industrial Segment

Net Sales

The Industrial segment net sales increased by \$53.8 million, or 21.4%, in 2022 compared to 2021 and included unfavorable changes in foreign exchange rates of \$2.2 million or 0.9%. The increase in net sales was primarily due to higher volume and demand across a number of end markets, price realization, and incremental one month net sales of \$9.1 million or 3.6% from the Hartland acquisition.

Operating Income

Operating income was \$48.9 million, representing an increase of \$26.3 million, or 116.0%, in 2022 compared to \$22.6 million in 2021. The increase in operating income was due to higher volume and price realization. Operating margins were 16.0% in 2022 compared to 9.0% in 2021.

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:

(in millions)	Fiscal Year		Change	% Change
	2022	2021		
Asia-Pacific	\$ 1,019.9	\$ 955.7	\$ 64.2	6.7 %
Americas	992.3	694.3	298.0	42.9 %
Europe	501.7	429.9	71.8	16.7 %
Total	\$ 2,513.9	\$ 2,079.9	\$ 434.0	20.9 %

Asia-Pacific

Asia-Pacific net sales increased \$64.2 million, or 6.7%, in 2022 compared to 2021 and included unfavorable changes in foreign exchange rates of \$18.4 million. The increase in net sales was primarily due to incremental sales from the C&K acquisition and higher volume and price realization from the semiconductor products business within the Electronics segment and incremental sales from the Carling acquisition included in the commercial vehicle products business, partially offset by lower net sales from the electronics products and passenger car products businesses.

[Table of Contents](#)

Americas

Net sales in the Americas increased \$298.0 million, or 42.9%, in 2022 compared to 2021 and included unfavorable changes in foreign exchange rates of \$1.4 million. The increase in net sales was primarily due to incremental sales from the Carling acquisition included in the commercial vehicle products business within the Transportation segment, higher volume and price realization from all businesses within the Electronics segment including incremental sales from the C&K acquisition and higher volume and price realization from the Industrial segment compared to 2021.

Europe

European net sales increased \$71.8 million, or 16.7%, in 2022 compared to 2021 and included unfavorable changes in foreign exchange rates of \$45.5 million. The increase in net sales was primarily due to increased volume across all businesses within the Electronics segment including incremental sales from C&K acquisition, and incremental sales from the Carling acquisition included in the commercial vehicle products business within the Transportation segment compared to 2021.

RESULTS OF OPERATIONS FOR THE YEAR ENDED JANUARY 01, 2022 AS COMPARED TO THE YEAR ENDED DECEMBER 26, 2020

Fiscal year 2021 included approximately \$12.6 million of non-segment charges, of which \$8.4 million relates to purchase accounting inventory step-up charges, \$7.0 million of acquisition-related and integration charges related to the Carling and Hartland acquisitions and other contemplated acquisitions, and \$2.2 million of restructuring, impairment and other charges, primarily related to employee termination costs. See Note 8, *Restructuring, Impairment and Other Charges*, for further discussion. Additionally, partially offsetting the above amounts was a gain of \$5.0 million recorded for the sale of buildings within the Electronics segment.

Fiscal year 2020 included approximately \$44.0 million of non-segment charges, of which \$2.3 million of charges are acquisition-related and integration charges related to the IXYS acquisition and other contemplated acquisitions. In addition, there were \$41.7 million of restructuring, impairment and other charges, primarily related to the goodwill impairment charge of \$33.8 million recorded in the second quarter associated with the automotive sensors reporting unit within the Transportation segment, employee termination costs of \$5.5 million, \$2.2 million of impairment charges recorded in the first quarter associated with the announced consolidation of a manufacturing facility within the Industrial segment and other restructuring charges of \$0.2 million.

Fiscal year 2021 also included approximately \$17.2 million in foreign currency exchange losses primarily attributable to changes in the value of the Euro, Chinese renminbi, Mexican peso, and Philippine peso against the U.S. dollar, while fiscal year 2020 included approximately \$14.9 million in foreign currency exchange gains primarily attributable to changes in the value of the Euro, Philippine peso, and Chinese renminbi against the U.S. dollar.

(in thousands, except % change)	Fiscal Year		Change	% Change
	2021	2020		
Net sales	\$ 2,079,928	\$ 1,445,695	\$ 634,233	43.9 %
Cost of sales	1,308,002	944,523	363,479	38.5 %
Gross profit	771,926	501,172	270,754	54.0 %
Operating expenses	386,284	338,800	47,484	14.0 %
Operating income	385,642	162,372	223,270	137.5 %
Other expense (income), net	8,932	(5,083)	14,015	(275.7)%
Income before income taxes	341,025	161,253	179,772	111.5 %
Income taxes	57,219	31,267	25,952	83.0 %
Net income	283,806	129,986	153,820	118.3 %

[Table of Contents](#)

Net Sales

Net sales increased \$634.2 million or 43.9% including \$27.4 million or 1.9% of favorable changes in foreign exchange rates for 2021 compared to 2020. The increase was due to volume growth across all segments and businesses while 2020 had temporary closures of manufacturing facilities resulting from government directives due to the impact of COVID-19. The increase was due to higher sales of \$363.0 million, \$138.9 million, and \$132.3 million in the Electronics, Industrial, and Transportation segments, respectively, primarily driven by higher volumes across all businesses within these segments. The volume increase within the Electronics segment was led by broad-based demand across electronics, transportation and industrial end markets. The increase within the Industrial segment was primarily due to \$100.5 million of net sales resulting from the Hartland acquisition and volume growth within the Industrial segment. The increase within the Transportation segment was due to volume growth driven by higher demand in the global auto and commercial

vehicle markets, greater content growth across passenger vehicles due to vehicle mix, including growth in electric vehicles and some customers maintaining additional inventory of our products, and \$15.3 million of net sales resulting from the Carling acquisition.

Cost of Sales

Cost of sales was \$1,308.0 million, or 62.9% of net sales, in 2021, compared to \$944.5 million, or 65.3% of net sales, in 2020. The increase in cost of sales was primarily due to greater volume across all segments driven by the factors discussed above along with the Hartland and Carling acquisitions. As a percent of net sales, cost of sales decreased 2.4% driven by volume leverage, partially offset by higher transportation, duty and tariff charges of 2.2%, the purchase accounting inventory charges of \$8.4 million or 0.4% resulting from the Hartland and Carling acquisitions, and higher material costs.

Gross Profit

Gross profit was \$771.9 million, or 37.1% of net sales, in 2021, compared to \$501.2 million, or 34.7% of net sales, in 2020. The \$270.8 million increase in gross profit was primarily due to higher volume across all segments while 2020 had additional costs associated with government-directed plant shutdowns and supply chain constraints. The increase in gross margin of 2.4% was primarily driven by volume leverage and favorable product mix within the Electronics segment, partially offset by higher transportation, duty and tariff charges as a percent of net sales of 2.2%, the purchase accounting inventory charges of \$8.4 million or 0.4%, and higher material costs.

Operating Expenses

Total operating expenses were \$386.3 million, or 18.6% of net sales, for 2021 compared to \$338.8 million, or 23.4% of net sales, for 2020. The increase in operating expenses of \$47.5 million is primarily due to higher selling, general, and administrative expenses of \$71.0 million largely due to higher accrued incentive compensation, the Hartland and Carling acquisitions and higher acquisition-related and integration charges of \$4.7 million, and higher research and development expenses of \$13.4 million, partially offset by the 2020 goodwill impairment charge of \$33.8 million, or 2.3% of net sales, in the automotive sensors reporting unit within the Transportation segment and impairment charges of \$2.2 million related to the Company's 2020 first quarter announcement to consolidate a manufacturing facility within the Industrial segment.

Operating Income

Operating income for 2021 was \$385.6 million, an increase of \$223.3 million or 137.5% compared to \$162.4 million for 2020. The increase in operating income was primarily due to higher gross margin across all segments, led by the Electronics segment partially offset by higher operating expenses noted above. Operating margins increased from 11.2% in 2020 to 18.5% in 2021 primarily driven by the factors mentioned above. The 2020 goodwill impairment charge of \$33.8 million negatively impacted the 2020 operating margin by 2.3%.

Income Before Income Taxes

Income before income taxes for 2021 was \$341.0 million, or 16.4% of net sales compared to \$161.3 million, or 11.2% of net sales, for 2020. In addition to the factors impacting comparative results for operating income discussed above, income before income taxes was impacted by foreign exchange losses of \$17.2 million during the fiscal year ended January 1, 2022 compared to foreign exchange gains of \$14.9 million during the fiscal year ended December 26, 2020, and a \$19.9 million non-cash pension settlement charge, partially offset by a \$4.0 million increase in unrealized investment gains associated with our equity investment, and lower interest expense of \$2.6 million due to lower outstanding borrowings under the credit facility along with a lower effective interest rate and a reduction in coal mining charges of \$1.6 million compared to 2020.

[Table of Contents](#)

Income Taxes

Income tax expense for 2021 was \$57.2 million, or an effective tax rate of 16.8%, compared to income tax expense of \$31.3 million, or an effective tax rate of 19.4% for 2020. The Company's 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, the GILTI tax provisions, and non-U.S. losses and expenses with no tax benefit. The effective tax rate for 2021 is lower than the effective tax rate for 2020, primarily due to an increase in the income earned in lower tax jurisdictions in 2021 as compared to 2020, as well as the impact of the goodwill impairment charge of \$33.8 million recorded in 2020, the substantial majority of which did not result in a tax benefit. Further information regarding these items is provided in Note 14, *Income Taxes*, of the Notes to Consolidated Financial Statements included in this Annual Report.

Segment Information

The Company reports its operations by the following segments: Electronics, Transportation 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:

(in millions)	Fiscal Year			
	2021	2020	Change	% Change
Electronics	\$ 1,300.7	\$ 937.7	\$ 363.0	38.7 %
Transportation	528.1	395.8	132.3	33.4 %
Industrial	251.1	112.2	138.9	123.8 %
Total	\$ 2,079.9	\$ 1,445.7	\$ 634.2	43.9 %

Electronics Segment

Net sales for the Electronics segment increased \$363.0 million, or 38.7%, in 2021 compared to 2020 and included favorable changes in foreign exchange rates of \$14.5 million or 1.5%. The sales increase was primarily due to increased volume for the electronics and semiconductor products businesses of \$206.5 million and \$156.5 million, respectively. The volume increases were driven by broad-based demand across electronics, transportation and industrial end markets while 2020 were negatively impacted by production disruptions and temporary plant shutdowns due to the impact of COVID-19.

Transportation Segment

Net sales in the Transportation segment increased \$132.3 million, or 33.4%, in 2021 compared to 2020 and included favorable changes in foreign exchange rates of \$12.0 million or 3.0%. The sales increase was due to higher volume in passenger car products, commercial vehicle products, and the automotive sensors businesses of \$65.6 million, \$59.0 million, and \$7.8 million, respectively, including the incremental net sales of \$15.3 million from the Carling acquisition within the commercial vehicle products business. These increases were due to volume growth driven by higher demand in the global auto and commercial vehicle markets, greater content growth across passenger vehicles due to vehicle mix, including growth in electric vehicles and some customers maintaining additional inventory of our products as compared to 2020, which had production disruptions and temporary plant shutdowns due to the impact of COVID-19.

Industrial Segment

The Industrial segment net sales increased by \$138.9 million, or 123.8%, in 2021 compared to 2020 and included favorable changes in foreign exchange rates of \$0.9 million or 0.8%. The increase in net sales was primarily due to the incremental net sales of \$100.5 million or 90% from the Hartland acquisition, growth across all product lines, and the transfer of the temperature sensor product line totaling \$4.7 million which was previously reported in the Electronics segment and moved to Industrial segment in the third quarter of 2020. Additionally, 2020 was negatively impacted by production disruptions and temporary plant shutdowns due to the impact of COVID-19.

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:

[Table of Contents](#)

(in millions)	Fiscal Year		Change	% Change
	2021	2020		
Asia-Pacific	\$ 955.7	\$ 670.5	\$ 285.2	42.5 %
Americas	694.3	457.8	236.5	51.7 %
Europe	429.9	317.4	112.5	35.4 %
Total	\$ 2,079.9	\$ 1,445.7	\$ 634.2	43.9 %

Asia-Pacific

Asia-Pacific net sales increased \$285.2 million, or 42.5%, in 2021 compared to 2020 and included favorable changes in foreign exchange rates of \$12.5 million. The increase in net sales was primarily due to higher volume across all segments and businesses compared to 2020 that had production disruptions due to the impact of COVID-19.

Americas

Net sales in the Americas increased \$236.5 million, or 51.7%, in 2021 compared to 2020 and included favorable changes in foreign exchange rates of \$0.7 million. The increase in net sales was primarily due to incremental sales from the Hartland and Carling acquisitions, higher volume across all segments and businesses compared to 2020 that had production disruptions due to the impact of COVID-19.

Europe

European net sales increased \$112.5 million, or 35.4%, in 2021 compared to 2020 and included favorable changes in foreign exchange rates of \$14.2 million. The increase in net sales was primarily due to higher volume across all businesses within the Electronics and Transportation segments compared to the 2020 that had production disruptions due to the impact of COVID-19.

Liquidity and Capital Resources

Cash and cash equivalents were \$562.6 million \$555.5 million as of December 31, 2022 December 30, 2023, an increase a decrease of \$84.1 million \$7.1 million as compared to January 1, 2022 December 31, 2022.

As of December 31, 2022 December 30, 2023, \$452.0 million \$376.9 million of the Company's \$562.6 million \$555.5 million cash and cash equivalents was held by non-U.S. subsidiaries. Of the \$452.0 million \$376.9 million, at least \$339.6 \$214.3 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 \$112.4 \$162.6 million, the Company has recognized deferred tax liabilities on approximately \$53.6 \$106.3 million as of December 31, 2022 December 30, 2023 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. and 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 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.

[Table of Contents](#)

Revolving Credit Facility

On June 30, 2022, the Company amended and restated its Credit Agreement, dated as of April 3, 2020 (as so amended and restated, the "Credit Agreement") to effect certain changes, including, among other changes: (i) adding a \$300 million unsecured term loan credit facility; (ii) making certain financial and non-financial covenants less restrictive on the Company and its subsidiaries; (iii) replacing LIBOR-based interest rate benchmarks and modifying performance-based interest rate margins; and (iv) extending the maturity date to

June 30, 2027 (the "Maturity Date"). Pursuant to the Credit Agreement, the Company may, from time to time, increase the size of the revolving credit facility or enter into one or more tranches of term loans in minimum increments of \$25 million if there is no event of default and the Company is in compliance with certain financial covenants.

Loans made under the available credit facility pursuant to the Credit Agreement ("the Credit Facility") bear interest at the Company's option, at either Secured Overnight Financing Rate ("SOFR"), fixed for interest periods of one, two, three or six-month periods, plus 1.00% to 1.75%, plus a SOFR adjustment of 0.10% or at the bank's Base Rate, as defined in the Credit Agreement, plus ~~—~~0.00% to 0.75%, based upon the Company's Consolidated Leverage Ratio, as defined in the Credit Agreement. The Company is also required to pay commitment fees on unused portions of the Credit Facility ranging from 0.10% to 0.175%, based on the Consolidated Leverage Ratio, as defined in the Credit Agreement. The Credit Agreement includes representations, covenants and events of default that are customary for financing transactions of this nature.

Under the Credit Agreement, revolving loans may be borrowed, repaid and reborrowed until the Maturity Date, at which time all amounts borrowed must be repaid. The Company borrowed \$300.0 million under a term loan on June 30, 2022. The principal balance of the term loans must be repaid in quarterly installments on the last day of each calendar quarter in the amount of \$1.9 million commencing September 30, 2022, through June 30, 2024, and in the amount of \$3.8 million commencing September 30, 2024, through March 31, 2027, with the remaining outstanding principal balance payable in full on the Maturity Date. Accrued interest on the loans is payable in arrears on each interest payment date applicable thereto and at such other times as may be specified in the Credit Agreement. Subject to certain conditions, (i) the Company may terminate or reduce the Aggregate Revolving Commitments, as defined in the Credit Agreement, in whole or in part, and (ii) the Company may prepay the revolving loans or the term loans at any time, without premium or penalty. During the fiscal year ended ~~December 31, 2022~~ December 30, 2023, the Company made term loan payments of ~~\$3.8~~ \$7.5 million. The revolving loan and term loan balance under the Credit Facility was \$100.0 million and ~~\$296.3~~ \$288.8 million, respectively, as of ~~December 31, 2022~~ December 30, 2023.

On May 12, 2022, the Company entered into an interest rate swap agreement to manage interest rate risk exposure, effectively converting the interest rate on the Company's SOFR based floating-rate loans to a fixed-rate. The interest rate swap, with a notional value of \$200 million, was designated as a cash flow hedge against the variability of cash flows associated with the Company's SOFR based loans scheduled to mature on June 30, 2027.

As of ~~December 31, 2022~~ December 30, 2023, the effective interest rate on ~~unhedged portion of the~~ outstanding borrowings under the credit facility was ~~5.42%~~ 6.71%, and ~~4.13%~~ on the hedged portion.

[Table of Contents](#)

As of ~~December 31, 2022~~ December 30, 2023, the Company had ~~no~~ \$0.2 outstanding letters of credit and had available ~~\$600.0 million~~ \$599.8 million of borrowing capacity under the revolving credit facility. At ~~December 31, 2022~~ December 30, 2023, the Company was in compliance with all covenants under the credit agreement.

Senior Notes

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

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. During the fiscal year ended December 31, 2022, the Company paid off \$25.0 million of U.S. Senior Notes, Series A due 2022.

[Table of Contents](#)

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") were funded. Interest on the U.S. Senior Notes due 2025 and 2030 is payable on February 15 and August 15, commencing on August 15, 2018.

On May 18, 2022, the above note purchase agreements were amended to, among other things, update certain terms, including financial covenants to be consistent with the terms of the amended and restated Credit Agreement and the 2022 Purchase Agreement, as defined below.

On May 18, 2022, the Company entered into a Note Purchase Agreement ("2022 Purchase Agreement") pursuant to which the Company issued and funded on July 18, 2022 \$100 million in aggregate principal amount of 4.33% Senior Notes, due June 30, 2032 ("U.S. Senior Notes, due 2032") (together with the U.S. Senior Notes due 2025 and 2030, the Euro Senior Notes and the U.S. Senior Notes due 2022 and 2027, the "Senior Notes"). Interest on the U.S. Senior Notes due 2032 is payable semiannually on June 30 and December 30, commencing on ~~December 30, 2032~~ December 30, 2022.

Debt Covenants

The Company was in compliance with its debt covenants as of ~~December 31, 2022~~ December 30, 2023. As of ~~December 31, 2022~~ December 30, 2023, the Company met all the conditions required to borrow under the Credit Agreement and management expects the Company to continue to meet the applicable borrowing conditions.

Acquisitions

On June 28, 2023, the Company entered into a definitive purchase agreement to acquire a 200mm wafer fab located in Dortmund, Germany ("Dortmund Fab") from Elmos Semiconductor SE. The acquisition of the Dortmund Fab is expected to close in early fiscal year 2025. The total purchase price for the fab is approximately 93 million Euro, of which 37.2 million Euro down payment (approximately \$40.5 million) was made with cash on hand and recorded in Other long-term assets in the Consolidated Balance Sheets was paid in the third quarter after regulatory approvals and approximately 56 million Euro will be paid at closing. The transaction did not have a material impact on the Company's fiscal year 2023 financial results and is not expected to have material impact on the Company's 2024 financial results and will be reported in the semiconductor business within the Company's Electronics segment.

On February 3, 2023, the Company acquired completed the acquisition of Western Automation for approximately \$162 million in cash. Headquartered in Galway, Ireland, Western Automation is a designer and manufacturer of electrical shock protection devices used across a broad range of high-growth end markets, including e-Mobility off-board charging infrastructure, industrial safety and renewables. At the time the Company and Western Automation has entered into the definitive agreement, Western Automation

[Table of Contents](#)

had annualized sales of approximately \$25 million and will be million. The business is reported within the company's Company's Industrial segment. The company does not expect the acquisition to have a material impact to its 2023 financial results. The Company financed the transaction with cash on hand.

On July 19, 2022, the Company acquired C&K Switches for \$540 million in cash. Founded in 1928, C&K is a leading designer and manufacturer of high-performance electromechanical switches and interconnect solutions with a strong global presence across a broad range of end markets, including industrial, transportation, datacom, and aerospace. At the time the Company and C&K entered into a definitive agreement, C&K had annualized sales of over \$200 million. The business is reported as part of the electronics-passive products and sensors business within the Company's Electronics segment. The net cash payment of \$523.0 million was funded through a combination of cash on hand and debt.

On November 30, 2021, the Company acquired Carling, pursuant to the Stock Purchase Agreement, dated as of October 19, 2021. Founded in 1920, Carling has a leading position in switching and circuit protection technologies with a strong global presence in commercial vehicle electrification, communications infrastructure and marine markets. At the time of acquisition, Carling had annualized sales of approximately \$170 million. The operations of Carling are included in the commercial vehicle business within the Company's Transportation segment. The purchase price for Carling Technologies was approximately \$315 \$315.5 million subject to a working capital adjustment. The net cash payment of \$314.1 million was funded by the Company's cash on hand.

On January 28, 2021, the Company acquired Hartland, a manufacturer and leading supplier of electrical components used primarily in heating, ventilation, air conditioning ("HVAC") and other industrial and systems applications, and eMobility. At the time of acquisition, Hartland had annualized sales of approximately \$70 million. The purchase price for Hartland was \$111.0 million and the operations of Hartland are included in the Industrial segment. The net cash payment of \$108.5 million was funded by the Company's cash on hand.

Cash Flow Overview

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

The following describes the Company's cash flows for the fiscal year ended December 31, 2022 December 30, 2023 and January 1, 2022 December 31, 2022:

(in millions)	Fiscal Year	
	2023	2022
Net cash provided by operating activities	\$ 457.4	\$ 419.7
Net cash used in investing activities	(284.3)	(636.4)
Net cash (used in) provided by financing activities	(185.7)	310.2
Effect of exchange rate changes on cash, cash equivalents, and restricted cash	4.8	(11.4)
(Decrease) increase in cash, cash equivalents, and restricted cash	(7.8)	82.1
Cash, cash equivalents, and restricted cash at beginning of period	564.9	482.8
Cash, cash equivalents, and restricted cash at end of period	\$ 557.1	\$ 564.9

CashFlowfrom Operating Activities

Net cash provided by operating activities was \$457.4 million for the fiscal year 2023, an increase of \$37.7 million, compared to \$419.7 million during the fiscal year 2022. The increase in net cash provided by operating activities was primarily due to reductions in working capital partially offset by lower cash earnings.

CashFlowfrom Investing Activities

Net cash used in investing activities was \$284.3 million for the fiscal year 2023, compared to \$636.4 million during the fiscal year 2022. Net cash paid for acquisitions was \$198.8 million for the Dortmund Fab and Western Automation acquisitions during the fiscal year 2023 versus \$532.7 million primarily for the C&K and Embed acquisitions during the fiscal year 2022. Capital expenditures were \$86.2 million, representing a decrease of \$18.2 million compared to the fiscal year 2022. The Company also received proceeds of \$0.8 million primarily from the sale of a property within the Electronics segment during the fiscal year 2023 as compared to proceeds of \$0.7 million from the sale of a property within the Transportation segment during the fiscal year 2022.

Cash

(in millions)	Fiscal Year	
	2022	2021
Net cash provided by operating activities	\$ 419.7	\$ 373.3
Net cash used in investing activities	(636.4)	(499.2)
Net cash provided by (used in) financing activities	310.2	(69.0)
Effect of exchange rate changes on cash, cash equivalents, and restricted cash	(11.4)	(9.9)
Increase (decrease) in cash, cash equivalents, and restricted cash	82.1	(204.7)
Cash, cash equivalents, and restricted cash at beginning of period	482.8	687.5
Cash, cash equivalents, and restricted cash at end of period	\$ 564.9	\$ 482.8

Flow from Financing Activities

Net cash used in financing activities was \$185.7 million for the fiscal year 2023 compared to \$310.2 million net cash provided by financing activities for the fiscal year 2022. On July 18, 2022, the Company issued and funded \$100 million in aggregate principal amount of 4.33% U.S. Senior Notes, due 2032. On June 30, 2022, the Company amended and restated its Credit Agreement and borrowed \$300.0 million through a term loan. During the fiscal year 2023, the Company paid \$121.3 million (€117 million) of Euro Senior Notes, Series A due 2023 and \$7.5 million on the term loan. During the fiscal year 2022, the Company paid \$25.0 million of U.S. Senior Notes, Series A due on February 15, 2022 and \$3.8 million on the term loan. Additionally, the Company paid dividends of \$62.2 million and \$55.9 million for the fiscal year 2023 and 2022, respectively, representing an increase of \$6.3 million from the fiscal year 2022.

The following describes the Company's cash flows for the twelve months ended December 31, 2022 and January 1, 2022:

(in millions)	Fiscal Year	
	2022	2021
Net cash provided by operating activities	\$ 419.7	\$ 373.3
Net cash used in investing activities	(636.4)	(499.2)
Net cash provided by (used in) financing activities	310.2	(69.0)
Effect of exchange rate changes on cash, cash equivalents, and restricted cash	(11.4)	(9.8)
Increase (decrease) in cash, cash equivalents, and restricted cash	82.1	(204.7)
Cash, cash equivalents, and restricted cash at beginning of period	482.8	687.5
Cash, cash equivalents, and restricted cash at end of period	\$ 564.9	\$ 482.8

Cash Flow from Operating Activities

Net cash provided by operating activities was \$419.7 million for the fiscal year 2022, an increase of \$46.4 million, compared to \$373.3 million during the fiscal year 2021. The increase in net cash provided by operating activities was primarily due to higher cash earnings partially offset by increases in working capital resulting from higher sales growth and larger annual incentive bonus payments made in 2022 as compared to 2021.

Cash Flow from Investing Activities

Net cash used in investing activities was \$636.4 million for the fiscal year 2022, compared to \$499.2 million during the fiscal year 2021. Capital expenditures were \$104.3 million, representing an increase of \$13.8 million compared to the fiscal year 2021. Net cash paid for acquisitions was \$532.7 million during the fiscal year 2022 primarily for the C&K and Embed acquisitions versus net cash paid of \$422.1 million for the Carling and Hartland acquisitions during the fiscal year 2021. The Company also received proceeds of \$0.7 million primarily from the sale of a property within the Transportation segment during the fiscal year 2022 as compared to proceeds of \$15.4 million from the sale of buildings within the Electronics segment during the fiscal year 2021.

Cash Flow from Financing Activities

Net cash provided by financing activities was \$310.2 million for the fiscal year 2022 compared to \$69.0 million used in financing activities for the fiscal year 2021. On July 18, 2022, the Company issued and funded \$100 million in aggregate principal amount of 4.33% U.S. Senior Notes, due 2032. On June 30, 2022, the Company amended and restated its Credit Agreement and borrowed \$300.0 million through a term loan. During the fiscal year 2022, the Company paid \$25.0 million of U.S. Senior Notes, Series A due on February 15, 2022 and \$3.8 million on the term loan. During the fiscal year 2021, the Company made payments of \$30 million on the amended revolving credit facility. Additionally, dividends paid by the Company increased \$6.2 million from \$49.7 million for the fiscal year 2021 to \$55.9 million for the fiscal year 2022.

The following describes the Company's cash flows for the twelve months ended January 1, 2022 and December 26, 2020:

(in millions)	Fiscal Year	
	2021	2020
Net cash provided by operating activities	\$ 373.3	\$ 258.0
Net cash used in investing activities	(499.2)	(51.4)

Net cash used in financing activities	(69.0)	(67.8)
Effect of exchange rate changes on cash, cash equivalents, and restricted cash	(9.9)	17.6
(Decrease) increase in cash, cash equivalents, and restricted cash	(204.7)	156.4
Cash, cash equivalents, and restricted cash at beginning of period	687.5	531.1
Cash, cash equivalents, and restricted cash at end of period	\$ 482.8	\$ 687.5

CashFlowfrom Operating Activities

Net cash provided by operating activities was \$373.3 million for the fiscal year 2021, an increase of \$115.3 million, compared to \$258.0 million during the fiscal year 2020. The increase in net cash provided by operating activities was primarily due to higher cash earnings partially offset by increases in working capital resulting from higher sales growth.

[Table of Contents](#)

CashFlowfrom Investing Activities

Net cash used in investing activities was \$499.2 million for the fiscal year 2021, compared to \$51.4 million during the fiscal year 2020. Capital expenditures were \$90.6 million, representing a decrease of \$34.4 million compared to the fiscal year 2020. Net cash paid for the Hartland and Carling acquisitions was \$422.1 million during the fiscal year 2021. The Company also received proceeds of \$15.4 million from the sale of buildings within the Electronics segment during the fiscal year 2021 as compared to proceeds of \$4.8 million as a result of the sale of a property within the Industrial segment during the fiscal year 2020.

CashFlowfrom Financing Activities

Net cash used in financing activities was \$69.0 million for the fiscal year 2021 compared to \$67.8 million for the fiscal year 2020. The Company made payments of \$30.0 million on the amended revolving credit facility during the fiscal year 2021. On March 25, 2020, the Company borrowed \$100.0 million from its revolving credit facility to preserve financial flexibility and enhance liquidity, given the increasing levels of uncertainty related to COVID-19. On April 3, 2020, the Company amended the Credit Agreement to eliminate the \$200.0 million unsecured term loan credit facility, with the remaining outstanding balance of \$140.0 million repaid in full on April 3, 2020 through a new borrowing of \$140.0 million under the amended revolving credit facility. The Company also made principal payments of \$5.0 million on the term loan during fiscal year 2020 before amended the Credit Agreement. During the fiscal year 2020, the Company made payments of \$110.0 million on the amended revolving credit facility. During the fiscal year 2020, the Company repurchased 175,110 shares of its common stock totaling \$22.9 million. Additionally, dividends paid increased \$2.9 million from \$46.8 million for the fiscal year 2020 to \$49.7 million for the fiscal year 2021.

Contractual Obligations and Commitments

The following table summarizes outstanding contractual obligations and commitments as of **December 31, 2022** **December 30, 2023**:

		Payments Due By Period					Payments Due By Period					
		Payments Due By Period					Payments Due By Period					
(in thousands)	(in thousands)	Total	Less than 1 Year	1 to 3 Years	3 to 5 Years	Greater than 5 Years	(in thousands)	Total	Less than 1 Year	1 to 3 Years	3 to 5 Years	Greater than 5 Years
Long-term debt ^(a)	Long-term debt ^(a)	\$1,006,344	\$134,874	\$ 81,590	\$463,616	\$326,264						
Interest payments ^(b)	Interest payments ^(b)	202,327	39,411	73,283	56,482	33,151						
Operating and finance lease payments ^(c)	Operating and finance lease payments ^(c)	68,965	15,132	22,516	10,100	21,217						
Income tax obligation ^(d)	Income tax obligation ^(d)	19,754	5,000	14,754	—	—						
Purchase obligations ^(e)	Purchase obligations ^(e)	15,155	12,571	1,151	964	469						
Total	Total	\$1,312,545	\$206,988	\$193,294	\$531,162	\$381,101						

(a) Excludes offsetting issuance costs of **\$4.8 million** **\$3.8 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 31, 2022** **December 30, 2023** 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 regarding the 2017 Littelfuse Toll Charge. The Company has elected to pay the 2017 Littelfuse 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.

[Table of Contents](#)

In addition to the above contractual obligations and commitments, the Company had the following obligations at **December 31, 2022** **December 30, 2023**:

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 31, 2022** **December 30, 2023**, the Company had a net unfunded status of **\$29.1 million** **\$35.8 million**. The Company expects to make approximately **\$2.0 million** **\$2.2 million** of contributions to the plans and pay **\$2.1 million** of benefits directly in **2023, 2024**. For additional information, see Note 11, *Benefit Plans*, of the Notes to Consolidated Financial Statements.

Dividends

Cash dividends paid totaled **\$55.9 million** **\$62.2 million**, **\$55.9 million** and **\$49.7 million** for **2023, 2022** and **\$46.8 million** for **2022, 2021, and 2020**, respectively. On **February 1, 2023** **January 25, 2024**, the Board of Directors of the Company declared a quarterly cash dividend of **\$0.60** **\$0.65** per share, payable on **March 9, 2023** **March 7, 2024** to stockholders of record as of **February 23, 2023** **February 22, 2024**.

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.

[Table of Contents](#)

Share Repurchase Program

On April 29, 2020, the Company announced that the Board of Directors authorized a new program to repurchase up to 1,000,000 shares of the Company's common stock for the period May 1, 2020 to April 30, 2021 (the "2020 program"). On April 28, 2021, the Company announced that the Board of Directors authorized a new three-year program to repurchase up to \$300 million in the aggregate of shares of the Company's common stock for the period May 1, 2021 to April 30, 2024 to replace its previous 2020 program. There are \$300 million in the aggregate of shares available for purchase under the new program as of **December 31, 2022** **December 30, 2023**.

During the fiscal years of **2023, 2022, and 2021**, the Company did not repurchase any shares of its common stock. **During the fiscal year 2020, the Company repurchased 175,110 shares of its common stock totaling \$22.9 million.**

Off-Balance Sheet Arrangements

As of **December 31, 2022** **December 30, 2023**, the Company did not have any off-balance sheet arrangements, as defined under SEC rules. Specifically, the Company was not liable for guarantees of indebtedness owed by third parties, the Company was not directly liable for the debt of any unconsolidated entity and the Company did not have any retained or contingent interest in assets. The Company does not participate in transactions that generate relationships with unconsolidated entities or financial partnerships, such as entities often referred to as structured finance or special purpose entities.

Recent Accounting Pronouncements

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

[Table of Contents](#)

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 Rate Risk

On June 30, 2022, the Company amended and restated its Credit Agreement, dated as of April 3, 2020 to effect certain changes, including, among other changes: (i) adding a \$300 million unsecured term loan credit facility; (ii) making certain financial and non-financial covenants less restrictive on the Company and its subsidiaries; (iii) replacing LIBOR-based interest rate benchmarks and modifying performance-based interest rate margins; and (iv) extending the maturity date to June 30, 2027 (the "Maturity Date"). Pursuant to the Credit Agreement, the Company may, from time to time, increase the size of the revolving credit facility or enter into one or more tranches of term loans in minimum increments of \$25 million if there is no event of default and the Company is in compliance with certain financial covenants.

The revolving loan and term loan balance under the Credit Facility was \$100.0 million and \$296.3 \$288.8 million, respectively, as of December 31, 2022 December 30, 2023. On May 12, 2022, the Company entered into an interest rate swap agreement to manage interest rate risk exposure, effectively converting the interest rate on the Company's SOFR based floating-rate loans to a fixed-rate. The interest rate swap, with a notional value of \$200 million, was designated as a cash flow hedge against the variability of cash flows associated with the Company's SOFR based loans scheduled to mature on June 30, 2027. The cash flow hedge reduces the Company exposure to future interest rate fluctuation. For After consideration of the hedge above, the remaining borrowings of \$196.3 million of \$188.8 million, which represents approximately 20% of the Company's total debt, it is subject to future interest rate fluctuations which could potentially have a negative impact on the Company's cash flows. A prospective increase of 100 basis points in the interest rate applicable to the Company's outstanding borrowings under its credit facility would result in an increase of approximately \$2.0 million approximately \$1.9 million in annual interest expense. This exposure would be partially if not fully offset by higher interest income from the Company's investments.

Foreign Exchange Rate Risk

The majority of the company's Company's operations consist of manufacturing and sales activities in foreign countries. The Company has operations in China, France, Germany, India, Ireland, Mexico, Philippines, U.K., Japan, Lithuania, Netherlands, Portugal, Singapore, South Korea, Spain, U.S., and Vietnam. During 2023, sales to customers outside the U.S. were approximately 65% of total net sales. During 2022, sales to customers outside the U.S. were approximately 64% of total net sales. During 2021, 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 Company's sales, costs, balance sheet values and earnings.

At December 31, 2022 December 30, 2023, the net value of the Company's assets with exposure to foreign currency risk was approximately \$198 million, approximately \$38 million, with the largest exposure being a Euro Japanese Yen denominated inter-company loan with a U.S. Dollars functional currency subsidiary. The reduction 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 \$20 million \$3.8 million at December 31, 2022 December 30, 2023. At December 31, 2022 December 30, 2023, the net value of the Company's liabilities with exposure to foreign currency risk was \$314 million, \$6.5 million, with the largest exposure being U.S. Dollar denominated inter-company loans with a Euro Mexican Peso functional currency subsidiary. The reduction in earnings from a hypothetical instantaneous 10% adverse change in quoted foreign currency spot rates applied to foreign currency sensitive liability instruments would be \$31 million \$0.6 million at December 31, 2022 December 30, 2023. 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 Price Risk

The Company uses various metals in the manufacturing of its products, including copper, zinc, tin, gold, and silver. Prices of these and other 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. While the Company is exposed to significant changes in certain metal prices and expects higher material costs, the Company actively monitors these exposures, has taken and may take various actions in the future, including price increases and productivity improvements to mitigate any negative impacts of these exposures.

[Table of Contents](#)

ITEM 8. FINANCIAL STATEMENTS AND SUPPLEMENTARY DATA.

Index

Page

Report of Independent Registered Public Accounting Firm – Consolidated Financial Statements (PCAOB ID Number 248)	38 44
Report of Independent Registered Public Accounting Firm – Internal Control Over Financial Reporting	40 46
Consolidated Financial Statements	
Consolidated Balance Sheets	41 47
Consolidated Statements of Net Income	42 48
Consolidated Statements of Comprehensive Income	43 49
Consolidated Statements of Cash Flows	44 50
Consolidated Statements of Equity	45 51
Notes to Consolidated Financial Statements	
1. Summary of Significant Accounting Policies and Other Information	46 52
2. Acquisitions	53 59
3. Inventories	56 63
4. Property, Plant, and Equipment	57 63
5. Goodwill and Other Intangible Assets	57 64
6. Accrued Liabilities	59 65
7. Lease Commitments	59 66
8. Restructuring, Impairment and Other Charges	61 68
9. Debt	63 69
10. Fair Value of Assets and Liabilities	66 72
11. Benefit Plans	69 75
12. Stock-Based Compensation	74 80
13. Other Comprehensive Income (Loss)	76 82
14. Income Taxes	77 83
15. Earnings Per Share	80 86
16. Segment Information	80 86
17. Commitments and Contingencies	17 89
18. Related Party Transactions	84
18. Subsequent Events	84 90

[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 31, 2022** **December 30, 2023** and **January 1, 2022** **December 31, 2022**, the related consolidated statements of net income, comprehensive income, equity, and cash flows for each of the three years in the period ended **December 31, 2022** **December 30, 2023**, 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 31, 2022** **December 30, 2023** and **January 1, 2022** **December 31, 2022**, and the results of its operations and its cash flows for each of the three years in the period ended **December 31, 2022** **December 30, 2023**, 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 31, 2022** **December 30, 2023**, 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 16, 2023**, **February 16, 2024** 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 regarding the amounts and disclosures in the financial statements. Our audits also included evaluating the accounting principles used and significant estimates made by management, as well as evaluating the overall presentation of the financial statements. We believe that our audits provide a reasonable basis for our opinion.

Critical audit matter

The critical audit matter communicated below is a matter arising from the current period audit of the financial statements that was communicated or required to be communicated to the audit committee and that: (1) relates to accounts or disclosures that are material to the financial statements and (2) involved our especially challenging, subjective, or complex judgments. The communication of critical audit matters does not alter in any way our opinion on the financial statements, taken as a whole, and we are not, by communicating the critical audit matter below, providing a separate opinion on the critical audit matter or on the accounts or disclosures to which it relates.

Business Acquisition – C&K Switches Western Automation – Valuation of acquired intangible assets

As discussed in Note 2, the Company acquired C&K Switches Western Automation ("C&K" Western Automation), on July 19, 2022 February 3, 2023 for a total purchase price of approximately \$523 million \$158 million, net of cash acquired. The Company allocated the purchase price, on a preliminary basis, to the assets acquired and liabilities assumed based on their respective fair values, including identified intangible assets of \$254.7 million \$68 million. We identified the valuation of acquired C&K Western Automation intangible assets as a critical accounting audit matter.

[Table of Contents](#)

The principal considerations for our determination that the valuation of acquired C&K Western Automation intangible assets is a critical audit matter are (i) the significant judgment by management when determining assumptions used in the fair value measurement of acquired intangible assets (ii) the high degree of auditor judgment and subjectivity in performing procedures and evaluating management's significant assumptions relating to the projected forecasted information including revenue growth rate, weighted average cost of capital (WACC), royalty rate, and customer attrition rate and (iii) the audit effort involved the use of professionals with specialized skill and knowledge.

[Table of Contents](#)

Our audit procedures related to the valuation of the acquired intangible assets included the following, among others: others:

- a. we tested the design and operating effectiveness of the controls over the Company's acquisition and valuation process, including review of the valuation model, significant assumptions used, and the completeness and accuracy of the underlying data used
- b. we tested the projected financial information including forecasted revenue growth rate by assessing the reasonableness of management's forecasts compared to historical results and forecasted industry trends
- c. with the assistance of our valuation specialists, we assessed the assumptions and methodologies used in developing the WACC, royalty rates, and customer attrition rates by developing a range of independent estimates and comparing those to the rates selected by management. We also involved our valuation specialists to evaluate the assumptions and methodologies used in valuing the intangible assets.

/s/ GRANT THORNTON LLP

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

Southfield, Michigan
February 16, 2023 2024

[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 31, 2022** **December 30, 2023**, based on criteria established in the 2013 *Internal Control—Integrated Framework* issued by the Committee of Sponsoring Organizations of the Treadway Commission ("COSO" ("COSO")). In our opinion, the Company maintained, in all material respects, effective internal control over financial reporting as of **December 31, 2022** **December 30, 2023**, 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 31, 2022** **December 30, 2023**, and our report dated **February 16, 2023** **February 16, 2024** 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.

Our audit of, and opinion on, the Company's internal control over financial reporting does not include the internal control over financial reporting of C&K Switches, a wholly-owned subsidiary, whose financial statements reflect total assets and revenues constituting 3% and 3%, respectively, of the related consolidated financial statement amounts as of and for the year ended December 31, 2022. As indicated in Management's Report, C&K Switches, was acquired during 2022. Management's assertion on the effectiveness of the Company's internal control over financial reporting excluded internal control over financial reporting of C&K Switches.

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; 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; company;** are being made only in accordance with authorizations of management and directors of the **Company; company;** and (3) provide reasonable assurance regarding prevention or timely detection of unauthorized acquisition, use, or disposition of the **Company's; 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

Southfield, Michigan
February 16, **2023** **2024**

[Table of Contents](#)

**LITTELFUSE, INC.
CONSOLIDATED BALANCE SHEETS**

(in thousands, except share and per share data)	(in thousands, except share and per share data)	December 31,		(in thousands, except share and per share data)	December 30, 2023	December 31, 2022
		2022	January 1, 2022			
ASSETS	ASSETS			ASSETS		
Current assets:	Current assets:			Current assets:		
Cash and cash equivalents		\$ 562,588	\$ 478,473			

Cash and cash equivalents (Note 1)			
Short-term investments	Short-term investments	84	28
Trade receivables, less allowances of \$83,562 and \$59,232, respectively		306,578	275,192
Inventories		547,690	445,671
Trade receivables, less allowances of \$84,696 and \$83,562, respectively (Note 3)			
Prepaid income taxes and income taxes receivable	Prepaid income taxes and income taxes receivable	7,215	2,035
Prepaid expenses and other current assets	Prepaid expenses and other current assets	87,641	68,812
Total current assets	Total current assets	1,511,796	1,270,211
Net property, plant, and equipment		481,110	437,889
Intangible assets, net of amortization		593,970	407,126
Goodwill		1,186,922	929,790
Investments		24,121	39,211
Deferred income taxes		14,367	13,127
Right of use lease assets, net		57,382	29,616
Net property, plant, and equipment (Note 4)			
Net property, plant, and equipment (Note 4)			
Net property, plant, and equipment (Note 4)			
Intangible assets, net of amortization (Note 5)			
Goodwill (Note 5)			
Investments (Note 1)			
Deferred income taxes (Note 14)			

Right of use lease assets (Note 7)			
Other long-term assets	Other long-term assets	34,066	24,734
Total assets	Total assets	\$ 3,903,734	\$ 3,151,704
LIABILITIES AND EQUITY			
Current liabilities:			
Current liabilities:			
Accounts payable			
Accounts payable			
Accounts payable	Accounts payable	\$ 208,571	\$ 222,039
Accrued liabilities			
Accrued liabilities (Note 6)			
Accrued liabilities (Note 6)			
Accrued liabilities (Note 6)			
Accrued income taxes	Accrued income taxes	41,793	27,905
Current portion of long-term debt			
Current portion of long-term debt (Note 9)			
Total current liabilities	Total current liabilities	572,295	434,633
Long-term debt, less current portion			
Deferred income taxes			
Accrued post-retirement benefits			
Non-current lease liabilities			
Long-term debt, less current portion (Note 9)			
Deferred income taxes (Note 14)			
Accrued post-retirement benefits (Note 11)			
Non-current lease liabilities (Note 7)			
Other long-term liabilities	Other long-term liabilities	79,510	71,023
Total Liabilities			

Commitments and Contingencies (Note 17)		Commitments and Contingencies (Note 17)	
Shareholders' equity:	Shareholders' equity:		
Common stock, par value \$0.01 per share: 34,000,000 shares authorized; shares issued, 26,445,618 and 26,350,763, respectively		261	260
Common stock, par value \$0.01 per share: 34,000,000 shares authorized; shares issued, 26,624,071 and 26,445,618, respectively			
Common stock, par value \$0.01 per share: 34,000,000 shares authorized; shares issued, 26,624,071 and 26,445,618, respectively			
Common stock, par value \$0.01 per share: 34,000,000 shares authorized; shares issued, 26,624,071 and 26,445,618, respectively			
Additional paid-in capital	Additional paid-in capital	974,097	946,588
Treasury stock, at cost: 1,685,357 and 1,664,711 shares, respectively		(252,866)	(248,120)
Treasury stock, at cost: 1,711,290 and 1,685,357 shares, respectively			
Accumulated other comprehensive loss	Accumulated other comprehensive loss	(95,764)	(73,463)
Retained earnings	Retained earnings	1,585,466	1,268,124
Littelfuse, Inc. shareholders' equity	Littelfuse, Inc. shareholders' equity	2,211,194	1,893,389
Non-controlling interest	Non-controlling interest	184	131
Total equity	Total equity	2,211,378	1,893,520
Total liabilities and equity	Total liabilities and equity	\$ 3,903,734	\$ 3,151,704

See accompanying Notes to Consolidated Financial Statements.

[Table of Contents](#)

LITTELFUSE, INC.
CONSOLIDATED STATEMENTS OF NET INCOME

Basic				
Basic	Basic	\$ 15.09	\$ 11.54	\$ 5.33
Diluted	Diluted	\$ 14.94	\$ 11.38	\$ 5.29
Weighted average shares and equivalent shares outstanding:	Weighted average shares and equivalent shares outstanding:			
Weighted average shares and equivalent shares outstanding:				
Weighted average shares and equivalent shares outstanding:				
Basic				
Basic				
Basic	Basic	24,734	24,603	24,371
Diluted	Diluted	24,986	24,932	24,592

See accompanying Notes to Consolidated Financial Statements.

[Table of Contents](#)

LITTELFUSE, INC.
CONSOLIDATED STATEMENTS OF COMPREHENSIVE INCOME

(in thousands)	(in thousands)	Year Ended			(in thousands)	Year Ended		
		December 31, 2022	January 1, 2022	December 26, 2020		December 30, 2023	December 31, 2022	January 1, 2022
Net income	Net income	\$ 373,306	\$ 283,806	\$ 129,986				
Other comprehensive income (loss):	Other comprehensive income (loss):							
Pension and postemployment adjustments, net of tax	Pension and postemployment adjustments, net of tax	9,735	22,213	(16,095)				
Pension and postemployment adjustments, net of tax								
Pension and postemployment adjustments, net of tax								
Cash flow hedge, net of tax	Cash flow hedge, net of tax	6,596	—	—				
Foreign currency translation adjustments	Foreign currency translation adjustments, net of tax	(38,632)	(4,519)	31,761				
Comprehensive income		\$ 351,005	\$ 301,500	\$ 145,652				

See accompanying Notes to Consolidated Financial Statements.

[Table of Contents](#)

LITTELFUSE, INC.
CONSOLIDATED STATEMENTS OF CASH FLOWS

		Year Ended			(in thousands)	Year Ended		
		December 31, 2022	January 1, 2022	December 26, 2020		December 30, 2023	December 31, 2022	
OPERATING ACTIVITIES	OPERATING ACTIVITIES				OPERATING ACTIVITIES			
Net income	Net income	\$ 373,306	\$ 283,806	\$ 129,986				
Adjustments to reconcile net income to net cash provided by operating activities:	Adjustments to reconcile net income to net cash provided by operating activities:							
Depreciation	Depreciation	65,011	55,906	56,139				
Depreciation	Depreciation							
Amortization of intangibles	Amortization of intangibles	55,695	42,729	40,039				
Non-cash pension settlement charges	Non-cash pension settlement charges	—	19,855	—				
Impairment charges	Impairment charges	4,546	—	36,078				
Deferred revenue	Deferred revenue	115	(2,570)	(593)				
Deferred revenue	Deferred revenue							
Non-cash inventory charges	Non-cash inventory charges	15,593	8,397	—				
Stock-based compensation	Stock-based compensation							
Stock-based compensation	Stock-based compensation							
Stock-based compensation	Stock-based compensation	23,626	19,611	18,129				
Loss (gain) on investments and other assets	Loss (gain) on investments and other assets	14,024	(8,907)	(4,663)				
Deferred income taxes	Deferred income taxes	(22,419)	(8,020)	(3,214)				
Other	Other	32,680	20,275	(18,230)				
Other	Other							
Changes in operating assets and liabilities:	Changes in operating assets and liabilities:							
Trade receivables	Trade receivables	(19,334)	(10,234)	(25,588)				

Inventories	Inventories	(89,235)	(104,555)	(12,425)
Accounts payable	Accounts payable	(22,403)	40,481	28,820
Accrued liabilities and income taxes	Accrued liabilities and income taxes	(9,495)	30,793	6,765
Accrued liabilities and income taxes				
Accrued liabilities and income taxes				
Prepaid expenses and other assets	Prepaid expenses and other assets	(1,992)	(14,223)	6,788
Net cash provided by operating activities	Net cash provided by operating activities	419,718	373,344	258,031
INVESTING ACTIVITIES				
Acquisitions of businesses, net of cash acquired	Acquisitions of businesses, net of cash acquired	(532,670)	(423,633)	—
Acquisitions of businesses, net of cash acquired				
Acquisitions of businesses, net of cash acquired				
Purchases of property, plant, and equipment	Purchases of property, plant, and equipment	(104,341)	(90,562)	(56,191)
Proceeds from sale of property, plant, and equipment	Proceeds from sale of property, plant, and equipment	676	15,425	4,758
Purchases of property, plant, and equipment				
Purchases of property, plant, and equipment				
Net proceeds from sale of property, plant, and equipment				
Other	Other	(62)	(390)	—
Net cash used in investing activities	Net cash used in investing activities	(636,397)	(499,160)	(51,433)
FINANCING ACTIVITIES				
Proceeds of term loan	Proceeds of term loan	300,000	—	—
Proceeds of term loan				
Proceeds of term loan				
Proceeds from senior notes payable	Proceeds from senior notes payable	100,000	—	—

Payments of senior notes payable	Payments of senior notes payable	(25,000)	—	—
Proceeds of revolving credit facility		—	—	240,000
Payments of revolving credit facility				
Payments of revolving credit facility				
Payments of revolving credit facility	Payments of revolving credit facility	—	(30,000)	(110,000)
Repayments of other debts	Repayments of other debts	(1,552)	—	—
Payments of term loan and other loans		(3,750)	(2,619)	(145,000)
Net proceeds related to stock-based award activities		(862)	13,365	18,744
Payments of term loan				
Net proceeds (payments) related to stock-based award activities				
Debt issuance costs				
Debt issuance costs				
Debt issuance costs	Debt issuance costs	(2,723)	—	(1,786)
Cash dividends paid	Cash dividends paid	(55,911)	(49,730)	(46,839)
Purchases of common stock		—	—	(22,927)
Net cash provided by (used in) financing activities		310,202	(68,984)	(67,808)
Net cash (used in) provided by financing activities				
Net cash (used in) provided by financing activities				
Net cash (used in) provided by financing activities				
Effect of exchange rate changes on cash, cash equivalents, and restricted cash	Effect of exchange rate changes on cash, cash equivalents, and restricted cash	(11,420)	(9,889)	17,596
Increase (decrease) in cash, cash equivalents, and restricted cash		82,103	(204,689)	156,386

(Decrease)
increase in
cash, cash
equivalents,
and
restricted
cash

Cash, cash
equivalents,
and restricted
cash at
beginning of
period

482,836 687,525 531,139

Cash, cash
equivalents,
and restricted
cash at end of
period

\$ 564,939 \$ 482,836 \$ 687,525

Supplementary
Cash Flow
Information

Supplementary
Cash Flow
Information

Reconciliation
of cash and
cash
equivalents:

Reconciliation
of cash and
cash
equivalents:

Reconciliation of cash
and cash equivalents:
Reconciliation of cash
and cash equivalents:
Cash and cash
equivalents
Cash and cash
equivalents

Cash and
cash
equivalents

Cash and
cash
equivalents \$ 562,588 \$ 478,473 \$ 687,525

Restricted
cash
included in
prepaid
expenses
and other
current
assets

Restricted
cash
included in
prepaid
expenses
and other
current
assets \$ 802 \$ 2,718 \$ —

Restricted cash included in
other assets

\$ 1,549 \$ 1,645 \$ —

Restricted
cash
included
in other
long-term
assets

Cash paid
during the
period for
interest

Cash paid
during the
period for
interest \$ 25,439 \$ 17,420 \$ 20,095

Cash paid during the period for income taxes, net of refunds	Cash paid during the period for income taxes, net of refunds	\$ 93,622	\$ 55,561	\$ 27,619
Capital expenditures, not yet paid	Capital expenditures, not yet paid	\$ 11,725	\$ 11,872	\$ 6,126

See accompanying Notes to Consolidated Financial Statements.

[Table of Contents](#)

LITTELFUSE, INC.
CONSOLIDATED STATEMENTS OF EQUITY

Littelfuse, Inc. Shareholders' Equity										Littelfuse, Inc. Shareholders' Equity				
(in thousands, except share and per share data)	(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	(in thousands, except share and per share data)	Equity				
										Common Stock	Addl. Paid in Capital	Treasury Stock	Accum. Other Comp. Inc. (Loss)	
Balance at December 28, 2019		\$ 256	\$ 867,996	\$ (216,447)	\$ (106,823)	\$ 950,901	\$ 131	\$ 1,496,014						
Net income		—	—	—	—	129,986	—	129,986						
Other comprehensive income, net of tax		—	—	—	15,666	—	—	15,666						
Stock-based compensation		—	18,129	—	—	—	—	18,129						
Withheld 20,250 shares on restricted share units for withholding taxes		—	—	(2,992)	—	—	—	(2,992)						
Stock options exercised		3	21,733	—	—	—	—	21,736						
Repurchases of common stock		—	—	(22,927)	—	—	—	(22,927)						
Cash dividends paid (\$1.92 per share)		—	—	—	—	(46,839)	—	(46,839)						
Balance at December 26, 2020	Balance at December 26, 2020	\$ 259	\$ 907,858	\$ (242,366)	\$ (91,157)	\$ 1,034,048	\$ 131	\$ 1,608,773						
Net income	Net income	—	—	—	—	283,806	—	283,806						
Other comprehensive income, net of tax	Other comprehensive income, net of tax	—	—	—	17,694	—	—	17,694						
Other comprehensive income, net of tax														
Other comprehensive income, net of tax														
Stock-based compensation														
Stock-based compensation	Stock-based compensation	—	19,611	—	—	—	—	19,611						

Withheld 20,428 shares on restricted share units for withholding taxes	Withheld 20,428 shares on restricted share units for withholding taxes	—	—	(5,754)	—	—	—	(5,754)
Withheld 20,428 shares on restricted share units for withholding taxes								
Withheld 20,428 shares on restricted share units for withholding taxes								
Stock options exercised	Stock options exercised	1	19,119	—	—	—	—	19,120
Cash dividends paid (\$2.02 per share)								
Cash dividends paid (\$2.02 per share)								
Cash dividends paid (\$2.02 per share)	Cash dividends paid (\$2.02 per share)	—	—	—	—	(49,730)	—	(49,730)
Balance at January 1, 2022	Balance at January 1, 2022	\$ 260	\$ 946,588	\$ (248,120)	\$ (73,463)	\$ 1,268,124	\$ 131	\$ 1,893,520
Net income	Net income	—	—	—	—	373,306	—	373,306
Other comprehensive (loss), net of tax	Other comprehensive (loss), net of tax	—	—	—	(22,301)	—	—	(22,301)
Other comprehensive (loss), net of tax								
Other comprehensive (loss), net of tax								
Stock-based compensation								
Stock-based compensation								
Stock-based compensation	Stock-based compensation	—	23,626	—	—	—	—	23,626
Non- controlling interest	Non- controlling interest	—	—	—	—	(53)	53	—
Withheld 20,646 shares on restricted share units for withholding taxes	Withheld 20,646 shares on restricted share units for withholding taxes	—	—	(4,746)	—	—	—	(4,746)
Stock options exercised	Stock options exercised	1	3,883	—	—	—	—	3,884
Cash dividends paid (\$2.26 per share)	Cash dividends paid (\$2.26 per share)	—	—	—	—	(55,911)	—	(55,911)
Cash dividends paid (\$2.26 per share)								
Cash dividends paid (\$2.26 per share)								

Balance at December 31, 2022	Balance at December 31, 2022	\$ 261	\$ 974,097	\$ (252,866)	\$ (95,764)	\$ 1,585,466	\$ 184	\$ 2,211,378
Net income								
Other comprehensive income, net of tax								
Other comprehensive income, net of tax								
Other comprehensive income, net of tax								
Stock-based compensation								
Stock-based compensation								
Stock-based compensation								
Non- controlling interest								
Withheld 25,933 shares on restricted share units for withholding taxes								
Stock options exercised								
Cash dividends paid (\$2.50 per share)								
Cash dividends paid (\$2.50 per share)								
Cash dividends paid (\$2.50 per share)								
Balance at December 30, 2023								

See accompanying Notes to Consolidated Financial Statements.

NOTES TO CONSOLIDATED FINANCIAL STATEMENTS

1. Summary of Significant Accounting Policies and Other Information

Nature of Operations

Littelfuse, Inc. and subsidiaries (the "Company") is a diversified, industrial technology manufacturing company empowering a sustainable, connected, and safer world. Across more than 20 countries, and with approximately 18,000 17,000 global associates, the Company partners with customers to design and deliver innovative, reliable solutions. Serving over 100,000 end customers, the Company's products are found in a variety of industrial, transportation and electronics end markets – everywhere, every day.

Fiscal Year

References herein to "2023", "fiscal 2023" or "fiscal year 2023" refer to the fiscal year ended December 30, 2023. References herein to "2022", "fiscal 2022" or "fiscal year 2022" refer to the fiscal year ended December 31, 2022. References herein to "2021", "fiscal 2021" or "fiscal year 2021" refer to the fiscal year ended January 1, 2022. References herein to "2020", "fiscal 2020" or "fiscal year 2020" refer to the fiscal year ended December 26, 2020. The Company operates on a 52-53 week fiscal year (4-4-5 basis) ending on the Saturday closest to December 31. Therefore, the financial results of certain fiscal years and the associated 14 week quarters will not be exactly comparable to the prior 52 week fiscal years and the associated quarters having only 13 weeks. As a result of using this convention, the fiscal year 2021 contained 53 weeks while each of fiscal 2022 and fiscal 2020 2023 contained 52 weeks.

Basis of Presentation

The Consolidated Financial Statements include the accounts of Littelfuse, Inc. and its subsidiaries. All significant intercompany accounts and transactions have been eliminated. The Company's Consolidated Financial Statements were prepared in accordance with generally accepted accounting principles in the United States of America ("U.S.") 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 generally accepted accounting principles in the U.S. 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, Cash Equivalents and Restricted Cash

All highly liquid investments, with an original maturity of three months or less when purchased, are considered to be cash equivalents. The Company maintains several pools including multicurrency notional pools and physical pools internationally and a zero balance account ("ZBA") structure in the U.S. In the notional pools, actual cash balances are not physically converted and are not commingled between participating legal entities. The Company will classify any overdraft balances within accrued expenses and other current liabilities on the Consolidated Balance Sheets.

The following table provides a reconciliation of cash, cash equivalents and restricted cash at **December 31, 2022**, **December 30, 2023** and **January 1, 2022**, **December 31, 2022** reported within the Consolidated Balance Sheets that sum to the total of the same such amounts shown in the Consolidated Statement of Cash Flows.

		Fiscal Year Ended		Fiscal Year Ended	
(in millions)	(in millions)	2022	2021	(in millions)	
				2023	2022
Cash and cash equivalents	Cash and cash equivalents	\$562,588	\$478,473		
Restricted cash included in prepaid expenses and other current assets	Restricted cash included in prepaid expenses and other current assets	802	2,718		
Restricted cash included in other assets	Restricted cash included in other assets	1,549	1,645		
Total cash, cash equivalents and restricted cash	Total cash, cash equivalents and restricted cash	\$564,939	\$482,836		

NOTES TO CONSOLIDATED FINANCIAL STATEMENTS

Short-Term and Long-Term Investments

As of **December 31, 2022**, **December 30, 2023**, the Company has an investment in Polytronics Technology Corporation Ltd. ("Polytronics"). The Company's Polytronics shares held at the end of fiscal **2022**, **2023** and **2021**, **2022** represent approximately 6.7% and 6.8% of total Polytronics shares outstanding **respectively, for both years**. The Polytronics investment is carried at fair value. The fair value of the Polytronics investment was **€10 million**, **€9.7 million** (approximately **\$10.8 million**) at **December 30, 2023** and **€10.0 million** (approximately **\$10.7 million**) at **December 31, 2022** and **€23 million** (approximately **\$26.1 million**) at **January 1, 2022**.

As a result of the Company's acquisition of IXYS Corporation ("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 19% 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. The Company recognized gains of **\$1.3 million**, **\$0.5 million** from its equity method investment for both the fiscal years ended **December 31, 2022**, **December 30, 2023** and **January 1, 2022**, **December 31, 2022**. The balance of these equity method investments was **\$13.5 million**, **\$14.0 million** and **\$12.4 million**, **\$13.5 million** as of the fiscal years ended **December 31, 2022**, **December 30, 2023** and **January 1, 2022**, **December 31, 2022**, respectively. See Note **17**, **18**, *Related Party Transactions*, for further discussion.

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. The investment securities are measured at net asset value. As of **December 31, 2022** **December 30, 2023** and **January 1, 2022** **December 31, 2022**, the investment securities balance was **\$14.1 million** **\$20.1 million** and **\$15.0 million** **\$14.1 million**, respectively, related to the plan and are included in *Other long-term 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 reserves against inventory to reduce the carrying value to the expected net realizable value. These reserves are based upon a combination of factors including historical sales volume, market conditions, lower of cost or net 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 up to 35 years for buildings, three to 20 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.

NOTES TO CONSOLIDATED FINANCIAL STATEMENTS

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. The results of the annual goodwill impairment test as of **October 2, 2022** **October 1, 2023** 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 2, 2022** **October 1, 2023**, the Company noted that the excess of fair value over the carrying value, was **151%** **110%**, **66%** **80%**, **98%** **126%**, **42%** **47%**, **44%** **58%**, **57%** **23%**, and **191%** **369%** for its reporting units; Electronics-Passive Products and Sensors, Electronics-Semiconductor, Passenger Car Products, Commercial Vehicle Products, Automotive Sensors, **Relays, Industrial Controls** and **Power Fuse, Sensors, and Industrial Circuit Protection**, 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.

There were no impairment charges recorded during the fiscal years of **2023**, **2022**, and **2021**. **During the second quarter of 2020, the Company recorded a non-cash charge of \$33.8 million to recognize the impairment of goodwill in the automotive sensors reporting unit within the Transportation segment.**

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 31, 2022** **December 30, 2023**, 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 3 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 4 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 4 to 10 years. Land use rights are amortized using the straight-line method up to 50 years which is the term of the land use rights.

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.

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

Revenue Disaggregation

NOTES TO CONSOLIDATED FINANCIAL STATEMENTS

The following table disaggregates the Company's revenue by primary business units for the fiscal years ended December 31, 2022, December 30, 2023 and January 1, 2022:

(in thousands)	(in thousands)	Fiscal Year Ended December 31, 2022				(in thousands)	Fiscal Year Ended December 30, 2023			
		Electronics Segment	Transportation Segment	Industrial Segment	Total		Electronics Segment	Transportation Segment	Industrial Segment	Total
Electronics – Semiconductor	Electronics – Semiconductor	\$ 802,281	\$ —	\$ —	\$ 802,281					
Electronics – Passive Products and Sensors	Electronics – Passive Products and Sensors	690,538	—	—	690,538					
Commercial Vehicle Products	Commercial Vehicle Products	—	374,707	—	374,707					
Passenger Car Products	Passenger Car Products	—	249,470	—	249,470					
Automotive Sensors	Automotive Sensors	—	91,963	—	91,963					
Industrial Products	Industrial Products	—	—	304,938	304,938					
Total	Total	\$1,492,819	\$ 716,140	\$304,938	\$2,513,897					

(in thousands)	(in thousands)	Fiscal Year Ended January 1, 2022				(in thousands)	Fiscal Year Ended December 31, 2022			
		Electronics Segment	Transportation Segment	Industrial Segment	Total		Electronics Segment	Transportation Segment	Industrial Segment	Total
Electronics – Semiconductor	Electronics – Semiconductor	\$ 678,861	\$ —	\$ —	\$ 678,861					
Electronics – Passive Products and Sensors	Electronics – Passive Products and Sensors	621,883	—	—	621,883					
Passenger Car Products	Passenger Car Products	—	266,020	—	266,020					
Commercial Vehicle Products	Commercial Vehicle Products	—	160,300	—	160,300					

Automotive Sensors	Automotive Sensors	—	101,738	—	101,738
Industrial Products	Industrial Products	—	—	251,126	251,126
Total	Total	\$1,300,744	\$ 528,058	\$251,126	\$2,079,928

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.

NOTES TO CONSOLIDATED FINANCIAL STATEMENTS

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, distributor inventory levels 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 the Company's 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 Credit Losses

The Company currently measures the expected credit losses based on our historical credit loss experience. The Company has not experienced significant recent or historical credit losses and is not forecasting any significant credit losses which would require adjustments to our methodology. If current conditions and supportable forecasts indicate that our historical loss experience is not reasonable and no longer supportable, the Company may adjust its historical credit loss experience and to reflect these conditions and forecasts. The Company regularly analyzes its significant customer accounts and, when the Company becomes aware of a 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 analyzes 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 historical collection and loss experience. Historically, the allowance for credit losses 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.

As of **December 31, 2022** **December 30, 2023** and **January 1, 2022** **December 31, 2022**, the Company's allowance for credit losses was **\$1.6** **\$2.2** million and **\$1.9** **\$1.6** million, respectively. Additionally, the Company had **\$4.8** **\$5.4** million and **\$2.1** **\$4.8** million of trade receivables greater than 90 days past due as of **December 31, 2022** **December 30, 2023** and **January 1, 2022** **December 31, 2022**, respectively.

Advertising Costs

The Company expenses advertising costs as incurred, which amounted to **\$3.8 million** **\$4.0 million**, **\$2.1 million** **\$3.8 million**, and \$2.1 million in fiscal years **2023**, **2022** **2021** and **2020**, **2021**, 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 are classified as revenue. Costs incurred for shipping and handling of **\$13.9 million** **\$15.4 million**, **\$15.4 million** **\$13.9 million**, and **\$11.1 million** **\$15.4 million** in fiscal years **2023**, **2022**, **2021**, and **2020**, **2021**, respectively, are classified in selling, general, and administrative expenses.

NOTES TO CONSOLIDATED FINANCIAL STATEMENTS

Foreign Currency Translation / Remeasurement

The Company's foreign subsidiaries use the local currency or the U.S. dollar as their functional currency, as appropriate. Assets and liabilities are translated using exchange rates at the balance sheet date, and revenues and expenses are translated at weighted average rates. Adjustments from the translation process are recognized in Shareholders' equity as a component of Accumulated other comprehensive income (loss). The amount of foreign currency gain or loss recognized in the Consolidated Statements of Net Income was a **loss** **were losses** of **\$12.3 million**, **\$24.4 million** in fiscal year **2022**, a **loss** **of**, and **\$17.2 million** in fiscal **year** **years 2023, 2022** and **2021**, and a **gain** **of \$14.9 million** in fiscal year **2020**, respectively.

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 accrued** liabilities is an accrual related to former coal mining operations at Littelfuse GmbH (formerly known as Heinrich Industries, AG) for the amounts of **€2.5 million** (**\$2.7 million**) and **€1.6 million** (**\$1.7 million**) at **December 30, 2023** and **€1.9 million** (**\$2.1 million**) at **December 31, 2022** and **January 1, 2022**, 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) Expense, (Income), Net

Other **(income)** expense, **(income)**, net generally consists of interest income, royalties, change in fair value of available-for-sale securities, pension non-service costs and settlements and other non-operating **expense** **(income)**, **expense**.

Income Taxes

The Company accounts for income taxes using the asset and 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, 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.

The 2017 Tax Cuts and Jobs Act (the "Tax Act"), among other things, imposed a one-time tax (the "Toll Charge") on accumulated earnings of certain non-U.S. subsidiaries and included base broadening provisions commonly referred to as the global intangible low-taxed income provisions ("GILTI").

NOTES TO CONSOLIDATED FINANCIAL STATEMENTS

The Company elected to pay the 2017 Littelfuse Toll Charge over the eight-year period prescribed by the Tax Act. The long-term portion of this Toll Charge which remains payable as of December 31, 2022 December 30, 2023, totaling \$14.8 \$8.2 million, is recorded in *Other long-term liabilities*, and the anticipated 2023 2024 annual installment payment of \$5.0 \$6.6 million is included in *Accrued income taxes*, on the Consolidated Balance Sheet as of December 31, 2022 December 30, 2023.

In accordance with guidance issued by the Financial Accounting Standards Board ("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 fiscal years ended December 31, 2022 30, 2023, January 1, 2022 December 31, 2022 and December 26, 2020 January 1, 2022, 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, short-term investments, accounts receivable, short-term debt accounts payable, and accounts payable accrued liabilities 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 Issued Accounting Standards

In November 2021, December 2023, the FASB issued ASU Accounting Standards Updates ("ASU") No. 2021-10, "Government Assistance 2023-09, "Income Taxes (Topic 832) 740): Disclosures by Business Entities about Government Assistance" Improvements to Income Tax Disclosures". The standard, requires annual amendments in this update provide more transparency about income tax information through improvements to the income tax disclosure primarily related to the income tax rate reconciliation and income taxes paid information. These requirements include: (1) consistent categories and greater disaggregation of information in the rate reconciliation and (2) income taxes paid disaggregated by jurisdiction. The other amendments in this update improve the effectiveness and comparability of disclosures about transactions with a government by (3) adding disclosures of pretax income (or loss) and income tax expense (or benefit), and (4) removing disclosures that are accounted for by applying a grant no longer considered cost beneficial or contribution accounting model by analogy: 1) Information about the nature of the transactions and the related accounting policy used to account for the transactions; 2) The line items on the balance sheet and income statement that are affected by the transactions, and the amounts applicable to each financial statement line item; 3) Significant terms and conditions of the transactions, including commitments and contingencies, relevant. The guidance is effective for fiscal years beginning after December 15, 2021 December 15, 2024 with early adoption permitted. The adoption of ASU 2021-10 did not have a material impact on the Company's this guidance will modify our disclosures in our Consolidated Financial Statements.

In October 2021, November 2023, the FASB issued ASU No. 2021-08, "Business Combinations 2023-07, "Segment Reporting (Topic 805) 280): Accounting for Contract Assets and Contract Liabilities from Contracts with Customers" Improvements to Reportable Segment Disclosures". The standard amendments in this update require additional detailed and enhanced information about reportable segments' expense, including significant segment expenses and other segment items that bridge segment revenue, significant expenses to segment profit or loss. The ASU also requires disclosure of the title and position of the Chief Operating Decision Maker ("CODM") on annual basis as well as an explanation of how CODM uses the reported measures and other disclosures. The amendments in this update do not change how a public entity (acquirer) identifies its operating segments, aggregates those operating segments, or applies the quantitative thresholds to recognize and measure contract assets and contract liabilities acquired in a business combination in accordance with Topic 606, determine its reportable segments. The guidance is effective for fiscal years beginning after December 15, 2022 December 15, 2023 with early adoption permitted. The adoption of ASU 2021-08 did not have a material impact on the Company's this guidance will modify our disclosures in our Consolidated Financial Statements.

Recently Issued Accounting Standards

In December 2022, October 2023, the FASB issued ASU No. 2022-06, "Reference Rate Reform (Topic 848): Deferral of the Sunset Date of Topic 848" 2023-06, "Disclosure Improvements". The amendments in this Update defer the sunset date of Topic 848 from December 31, 2022, to December 31, 2024, after which entities will no longer be permitted to apply the relief in Topic 848. The amendments in this Update are effective for all entities upon issuance update represent changes to clarify or improve the disclosure or presentation requirements of this Update. On June 30, 2022, a variety of Topics in the Company amended and restated its Credit Agreement, replacing LIBOR-based interest benchmarks with Secured Overnight Financing Rate ("SOFR") based floating-rate loans. The Company's loans under the available credit facility are SOFR based floating-rate loans. ASC. The Company does may be affected by one or more of those amendments. The amendments in this ASU should be applied prospectively and will not expect any effect from be effective until June 30, 2027. The company is currently evaluating the adoption potential effects of this guidance these amendments on the Company's its Consolidated Financial Statements.

NOTES TO CONSOLIDATED FINANCIAL STATEMENTS

In March 2023, the FASB issued ASU No. 2023-01, "Leases (Topic 842): Common Control Arrangements". The standard requires that leasehold improvements associated with common control leases be: 1) Amortized by the lessee over the useful life of the leasehold improvements to the common control group (regardless of the lease term) as long as the lessee controls the use of the underlying asset (the leased asset) through a lease. However, if the lessor obtained the right to control the use of the underlying asset through a lease with another entity not within the same common control group, the amortization period may not exceed the amortization period of the common control group. 2) Accounted for as a transfer between entities under common control through an adjustment to equity (or net assets for not-for-profit entities) if, and when, the lessee no longer controls the use of the underlying asset. Additionally, those leasehold improvements are subject to the impairment guidance in Topic 360, Property, Plant, and Equipment. This standard is effective for fiscal years beginning after December 15, 2023 including interim periods within those fiscal years. The Company does not expect any material effect on the Company's Consolidated Financial Statements.

2. Acquisitions

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

Dortmund Fab

On June 28, 2023, the Company entered into a definitive purchase agreement to acquire a 200mm wafer fab located in Dortmund, Germany ("Dortmund Fab") from Elmos Semiconductor SE. The acquisition of the Dortmund Fab is expected to close in early fiscal year 2025. The total purchase price for the fab is approximately 93 million Euro, of which 37.2 million Euro down payment (approximately \$40.5 million) was made with cash on hand and recorded in *Other long-term assets* in the Consolidated Balance Sheets was paid in the third quarter after regulatory approvals and approximately 56 million Euro will be paid at closing. The transaction did not have a material impact on the Company's fiscal year 2023 financial results and is not expected to have material impact on the Company's 2024 financial results and will be reported in the semiconductor business within the Company's Electronics segment.

Western Automation

On February 3, 2023, the Company completed the acquisition of Western Automation Research and Development Limited ("Western Automation") for approximately \$162 million in cash. Headquartered in Galway, Ireland, Western Automation is a designer and manufacturer of electrical shock protection devices used across a broad range of high-growth end markets, including e-Mobility off-board charging infrastructure, industrial safety and renewables. At the time the Company and Western Automation entered into the definitive agreement, Western Automation had annualized sales of approximately \$25 million. The business is reported within the Company's Industrial segment.

The acquisition was funded with cash on hand. The total purchase consideration of \$158.3 million, net of cash, has been allocated to assets acquired and liabilities assumed, as of the completion of the acquisition, based on estimated fair values.

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

NOTES TO CONSOLIDATED FINANCIAL STATEMENTS

(in thousands)	Purchase Price Allocation
Total purchase consideration:	
Cash, net of cash acquired	\$ 158,260
Allocation of consideration to assets acquired and liabilities assumed:	
Trade receivables, net	3,359
Inventories	3,678
Other current assets	718
Property, plant, and equipment	1,328
Intangible assets	68,000
Goodwill	93,937
Other long-term assets	573
Current liabilities	(4,335)
Other long-term liabilities	(8,998)
	\$ 158,260

All Western Automation assets and liabilities were recorded in the Industrial segment and are primarily reflected in the Europe geographic area. The goodwill resulting from this acquisition consists largely of the Company's expected future product sales and synergies from combining Western Automation's products and technology with the Company's existing Industrial products portfolio. Goodwill resulting from the Western Automation acquisition is not expected to be deductible for tax purposes.

For the fiscal year ended December 30, 2023, the Company recorded measurement period adjustments to decrease accrued warranty liabilities of \$0.9 million. As a result of these adjustments, goodwill was decreased by \$0.9 million.

Included in the Company's Consolidated Statements of Net Income for the fiscal year ended December 30, 2023 are net sales of \$13.2 million, and a loss before income taxes of \$1.3 million, since the February 3, 2023 acquisition of Western Automation.

For the fiscal year ended December 30, 2023, the Company incurred \$1.2 million of legal and professional fees related to the Western Automation acquisition recognized as *Selling, general, and administrative expenses* and reflected as other non-segment costs.

C&K Switches

On July 19, 2022, the Company acquired C&K Switches ("C&K") for \$540 million in cash. Founded in 1928, C&K is a leading designer and manufacturer of high-performance electromechanical switches and interconnect solutions with a strong global presence across a broad range of end markets, including industrial, transportation, datacom, and aerospace. At the time the Company and C&K entered into a definitive agreement, C&K had annualized sales of over \$200 million. The business is reported as part of the electronics-passive products and sensors business within the Company's Electronics segment.

The acquisition was funded through a combination of cash on hand and debt. The total purchase consideration of \$523.0 million, net of cash acquired, has been allocated on a preliminary basis, to assets acquired and liabilities assumed, as of the completion of the acquisition, based on preliminary estimated fair values. The purchase price allocation is preliminary because the evaluations necessary to assess the fair values of the net assets acquired are still in process. The primary area not yet finalized relates to the completion of the valuation of certain acquired income tax assets and liabilities. As a result, these allocations are subject to change during the purchase price allocation period as the valuations are finalized.

The following table summarizes the preliminary purchase price allocation of the fair value of assets acquired and liabilities assumed in the C&K acquisition:

NOTES TO CONSOLIDATED FINANCIAL STATEMENTS

(in thousands)	Purchase Price Allocation
Total purchase consideration:	
Cash, net of cash acquired	\$ 523,014
Allocation of consideration to assets acquired and liabilities assumed:	
Trade receivables, net	20,967
Inventories	42,968
Other current assets	2,932
Property, plant, and equipment	32,791
Intangible assets	254,700
Goodwill	270,245 274,124
Other non-current long-term assets	14,797
Current liabilities	(47,734) (47,687)
Long-term debt	(9,626)
Other non-current long-term liabilities	(59,026) (62,952)
	<u>\$ 523,014</u>

All C&K goodwill, other assets and liabilities were recorded in the Electronics segment and are reflected in the Americas, Europe and Asia-Pacific geographic areas. The goodwill resulting from this acquisition consists largely of the Company's expected future product sales and synergies from combining C&K's products and technology with the Company's existing Electronics products portfolio. Goodwill resulting from the C&K acquisition is not expected to be deductible for tax purposes.

Included in the Company's Consolidated Statements of Net Income for For the fiscal year ended December 31, 2022 are net sales of \$81.7 million December 30, 2023, and a loss before income taxes the Company recorded measurement period adjustments to increase other non-current liabilities of \$4.2 million since the July 19, 2022 acquisition associated with uncertain tax positions, income taxes payable of C&K \$0.2 million, and reduce accrued liabilities of \$0.3 million and deferred tax liabilities of \$0.2 million. As a result of these adjustments, goodwill was increased by \$3.9 million.

As required by purchase accounting rules, the Company recorded a \$10.8 million step-up of inventory to its fair value as of the acquisition date. The step-up was amortized as a non-cash charge to cost of sales during the fiscal year ended December 31, 2022, third and fourth quarter of 2022 as the acquired inventory was sold and is reflected as other non-segment costs.

For the fiscal year ended December 31, 2022, the Company incurred \$9.1 million of legal and professional fees related to the C&K acquisition recognized as *Selling, general, and administrative expenses* and reflected as other non-segment costs.

NOTES TO CONSOLIDATED FINANCIAL STATEMENTS

Embed

On April 12, 2022, the Company acquired Embed Ltd. ("Embed"). Founded in 2005, Embed is a proven provider of embedded software and firmware developed for a broad range of applications serving transportation end markets, primarily including commercial vehicle electrification and eMobility. The business is included in the commercial vehicle business within the Company's Transportation segment. The acquisition was funded with the Company's cash on hand. The total purchase consideration was \$9.2 million, net of cash.

Carling Technologies

On November 30, 2021, the Company acquired Carling Technologies, Inc. ("Carling"), pursuant to the Stock Purchase Agreement, dated as of October 19, 2021. Founded in 1920, Carling has a leading position in switching and circuit protection technologies with a strong global presence in commercial vehicle electrification, communications infrastructure and marine markets. At the time of acquisition, Carling had annualized sales of approximately \$170 million. The business is headquartered in Plainville, Connecticut, with offices and facilities located around the world and is reported as part of the commercial vehicle business within our Transportation segment. The purchase price for Carling Technologies was approximately \$315 million subject to change for a working capital adjustment.

The acquisition was funded with cash on hand. The total purchase consideration of \$314.1 million, net of cash, has been allocated to assets acquired and liabilities assumed, as of the completion of the acquisition, based on estimated fair values.

NOTES TO CONSOLIDATED FINANCIAL STATEMENTS

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

(in thousands)	Purchase Price Allocation
Total purchase consideration:	
Cash, net of cash acquired	\$ 314,094
Allocation of consideration to assets acquired and liabilities assumed:	
Trade receivables, net	26,232
Inventories	56,479
Other current assets	3,765
Property, plant, and equipment	56,128
Intangible assets	126,390
Goodwill	98,377
Other non-current long-term assets	4,007
Current liabilities	(21,790)
Other non-current long-term liabilities	(35,494)
	\$ 314,094

All Carling goodwill, other assets and liabilities were recorded in the Transportation segment and are primarily reflected in the Americas, Europe and Asia-Pacific geographic areas. The goodwill resulting from this acquisition consists largely of the Company's expected future product sales and synergies from combining Carling's products and technology with the Company's existing commercial vehicle products portfolio. Goodwill resulting from the Carling acquisition is not expected to be deductible for tax purposes.

During the fiscal year ended December 31, 2022, the Company paid \$0.5 million related to the final working capital adjustment and made measurement period adjustments to reduce the fair value of property, plant and equipment of \$8.2 million, inventories of \$1.0 million, and an increase in net accounts receivable of \$0.7 million, intangible assets attributable to customer relationships of \$0.5 million, other current assets of \$0.3 million, other non-current liabilities of \$0.3 million. As a result of these adjustments along with a corresponding reduction of deferred tax liabilities of \$2.5 million, goodwill was increased by \$6.0 million.

As required by purchase accounting rules, the Company recorded a \$6.4 million step-up of inventory to its fair value as of the acquisition date. The step-up was amortized as a non-cash charge to cost of goods sold during the fourth quarter of 2021 and first quarter of 2022, as the acquired inventory was sold, and is reflected as other non-segment costs. The Company recognized

NOTES TO CONSOLIDATED FINANCIAL STATEMENTS

a non-cash charge of \$4.8 million and \$1.6 million to cost of goods sold during the fiscal years ended **December 31, 2022**, **December 31, 2022** and January 1, 2022, respectively.

For the fiscal year ended January 1, 2022, the Company incurred approximately \$4.5 million of legal and professional fees related to the Carling acquisition recognized as *Selling, general, and administrative expenses*. These costs were reflected as other non-segment costs.

Hartland Controls

On January 28, 2021, the Company acquired Hartland Controls ("Hartland"), a manufacturer and leading supplier of electrical components used primarily in heating, ventilation, air conditioning ("HVAC") and other industrial and systems applications, and eMobility. At the time of acquisition, Hartland had annualized sales of approximately \$70 million. The purchase price for Hartland was \$111.0 million and the operations of Hartland are included in the Industrial segment.

The total purchase consideration of \$108.5 million, net of cash, cash equivalents, and restricted cash has been allocated to assets acquired and liabilities assumed, as of the completion of the acquisition, based on estimated fair values. As of December 31, 2022, the Company had restricted cash of \$0.8 million in an escrow account for general indemnification purposes.

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

(in thousands)	Purchase Price Allocation
Total purchase consideration:	
Cash, net of cash acquired, and restricted cash	\$ 108,516
Allocation of consideration to assets acquired and liabilities assumed:	
Trade receivables, net	12,915
Inventories	35,808
Other current assets	2,224
Property, plant, and equipment	6,296
Intangible assets	39,660
Goodwill	38,502
Other non-current assets	3,782
Current liabilities	(24,861)
Other non-current liabilities	(5,810)
	\$ 108,516

All Hartland goodwill, other assets and liabilities were recorded in the Industrial segment and are primarily reflected in the Americas and Asia-Pacific geographic areas. The goodwill resulting from this acquisition consists largely of the Company's expected future product sales and synergies from combining Hartland's products and technology with the Company's existing industrial products portfolio. Goodwill resulting from the Hartland acquisition is not expected to be deductible for tax purposes.

The Company recorded a \$6.8 million step-up of inventory to its fair value as of the acquisition date based on the valuation. The step-up was fully amortized as a \$6.8 million non-cash charge to cost of goods sold during the first and second quarters of 2021, as the acquired inventory was sold, and is reflected as other non-segment costs.

For the fiscal year ended January 1, 2022, the Company incurred approximately \$0.8 million of legal and professional fees related to the Hartland acquisition recognized as *Selling, general, and administrative expenses*. These costs were reflected as other non-segment costs.

Pro Forma Results

The following table summarizes, on an unaudited pro forma basis, the combined results of operations of the Company and Western Automation as though the acquisition had occurred as of January 2, 2022, and C&K as though the acquisition had occurred as of December 27, 2020, and Hartland and Carling as though the acquisitions had occurred as of December 29, 2019. The Company has not included pro forma results of operations for Embed as its operations were not material to the Company. The pro forma amounts presented are not necessarily indicative of either the actual consolidated

NOTES TO CONSOLIDATED FINANCIAL STATEMENTS

results had the Western Automation acquisition occurred as of January 2, 2022, and had C&K acquisition occurred as of December 27, 2020 and had the Hartland and Carling acquisitions occurred as of December 29, 2019 or of future consolidated operating results.

For the Fiscal Year Ended

For the Fiscal Year Ended

(in thousands, except per share amounts)	(in thousands, except per share amounts)	(in thousands, except per share amounts)			December 30, 2023	December 31, 2022
		December 31, 2022	January 1, 2022	December 26, 2020		
Net sales	Net sales	\$2,639,132	\$2,459,009	\$1,662,896		
Income before income taxes	Income before income taxes	483,013	337,894	141,491		
Net income	Net income	399,606	274,763	115,078		
Net income per share — basic	Net income per share — basic	16.16	11.17	4.72		
Net income per share — diluted	Net income per share — diluted	16.03	11.02	4.68		

Pro forma results presented above primarily reflect the following adjustments:

(in thousands)	For the Fiscal Year Ended		
	December 31,		
	2022	January 1, 2022	December 26, 2020
Amortization (a)	\$ (4,646)	\$ (18,410)	\$ (12,669)
Depreciation	1,979	2,537	253
Transaction costs (b)	9,108	(3,727)	(5,381)
Amortization of inventory step-up (c)	15,593	(2,426)	(13,156)
Interest expense (d)	815	2,624	—
Income tax (expense) benefit of above items	(5,569)	5,065	6,706

NOTES TO CONSOLIDATED FINANCIAL STATEMENTS

(in thousands)	For the Fiscal Year Ended	
	December 30, 2023	
	December 30, 2023	December 31, 2022
Amortization (a)	\$ (479)	\$ (10,388)
Depreciation	—	1,979
Transaction costs (b)	1,203	7,905
Amortization of inventory step-up (c)	—	15,593
Interest expense (d)	—	815
Income tax (expense) benefit of above items	(91)	(4,701)

- (a) The amortization adjustment for the twelve months ended December 31, 2022, January 1, 2022, December 30, 2023 and December 26, 2020 December 31, 2022, primarily reflects incremental amortization resulting from the measurement of intangibles at their fair values.
- (b) The transaction cost adjustments reflect the reversal of certain legal and professional fees from the twelve months ended December 31, 2022 December 30, 2023 and January 1, 2022 December 31, 2022, respectively, and recognition of those fees during the twelve months ended January 1, 2022 and December 26, 2020, respectively. December 31, 2022.
- (c) The amortization of inventory step-up adjustment reflects the reversal of the amount recognized during the twelve months ended December 31, 2022 and January 1, 2022, respectively, and the recognition of the amortization during the twelve months ended January 1, 2022 and December 26, 2020, respectively. The inventory step-up is amortized over four months for all acquisitions, as the inventory was sold.
- (d) The interest expense adjustment reflects lower interest expense associated with the financing of the C&K acquisition that replaced higher pre-acquisition debt.

3. Inventories

The components of inventories at December 31, 2022 December 30, 2023 and January 1, 2022 December 31, 2022 are as follows:

(in thousands)	(in thousands)	2022	2021	(in thousands)	2023	2022
----------------	----------------	------	------	----------------	------	------

Raw materials	Raw materials	\$231,043	\$168,409
Work in process	Work in process	134,792	117,506
Finished goods	Finished goods	226,215	195,656
Inventory reserves	Inventory reserves	(44,360)	(35,900)
Total	Total	\$547,690	\$445,671

NOTES TO CONSOLIDATED FINANCIAL STATEMENTS

4. Property, Plant, and Equipment, net

The components of net property, plant, and equipment at **December 31, 2022**, **December 30, 2023** and **January 1, 2022**, **December 31, 2022** are as follows:

(in thousands)	(in thousands)	2022	2021	(in thousands)	2023	2022
Land and land improvements	Land and land improvements	\$ 22,089	\$ 23,470			
Building and building improvements	Building and building improvements	191,733	151,297			
Machinery and equipment	Machinery and equipment	812,540	779,559			
Accumulated depreciation and amortization	Accumulated depreciation and amortization	(545,252)	(516,437)			
Total	Total	\$481,110	\$437,889			

The Company recorded depreciation expense of **\$65.0 million**, **\$71.6 million**, **\$55.9 million**, **\$65.0 million**, and **\$56.1 million**, **\$55.9 million** for the fiscal years ended **December 31, 2022**, **December 30, 2023**, **January 1, 2022**, **December 31, 2022**, and **December 26, 2020**, **January 1, 2022**, respectively.

NOTES TO CONSOLIDATED FINANCIAL STATEMENTS

5. Goodwill and Other Intangible Assets

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

(in thousands)	(in thousands)	Electronics	Transportation	Industrial	Total	(in thousands)	Electronics	Transportation	Industrial	Total
Gross goodwill as of December 26, 2020		\$ 676,325	\$ 138,354	\$ 47,551	\$ 862,230					
Accumulated impairment losses as of December 26, 2020		—	(36,423)	(8,995)	(45,418)					
Net goodwill as of December 26, 2020		\$ 676,325	\$ 101,931	\$ 38,556	\$ 816,812					
Changes during 2021:										
Additions (a)		—	96,307	38,502	\$ 134,809					
Foreign currency translation adjustments		(16,080)	(6,106)	179	(22,007)					

Gross goodwill as of January 1, 2022	Gross goodwill as of January 1, 2022	660,245	228,555	86,232	975,032
Accumulated impairment losses as of January 1, 2022	Accumulated impairment losses as of January 1, 2022	—	(36,177)	(9,065)	(45,242)
Net goodwill as of January 1, 2022	Net goodwill as of January 1, 2022	\$ 660,245	\$ 192,378	\$ 77,167	\$ 929,790
Changes during 2022:	Changes during 2022:				
Additions (b)		270,245	14,886	—	285,131
Additions (a)					
Additions (a)					
Additions (a)					
Foreign currency translation adjustments					
Foreign currency translation adjustments					
Foreign currency translation adjustments	Foreign currency translation adjustments	(21,323)	(8,648)	(1,343)	(31,314)
Gross goodwill as of December 31, 2022	Gross goodwill as of December 31, 2022	909,167	234,793	84,889	1,228,849
Accumulated impairment losses as of December 31, 2022	Accumulated impairment losses as of December 31, 2022		(33,401)	(8,526)	(41,927)
Net goodwill as of December 31, 2022	Net goodwill as of December 31, 2022	\$ 909,167	\$ 201,392	\$ 76,363	\$ 1,186,922
Changes during 2023:					
Additions (b)					
Additions (b)					
Additions (b)					
Foreign currency translation adjustments					
Foreign currency translation adjustments					
Foreign currency translation adjustments					
Gross goodwill as of December 30, 2023					
Accumulated impairment losses as of December 30, 2023					

Net goodwill
as of
December
30, 2023

- (a) The additions resulted from the acquisitions of Carling and Hartland.
 (b) The additions resulted from the acquisitions of C&K, Embed and Carling.
 (c) The additions resulted from the acquisitions of Western Automation and C&K.

The Company tests its goodwill annually 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.

During the second quarter of 2020, the Company recorded a non-cash charge of \$33.8 million to recognize the impairment of goodwill in the automotive sensors reporting unit within the Transportation segment. The goodwill impairment charge was due to reductions in the estimated fair value for the automotive sensors reporting unit based on lower expectations for future revenue, profitability and cash flows as compared to the expectations of the 2019 annual goodwill impairment test. These lower future expectations were driven by projected extended declines in end market demand due to the COVID-19 pandemic. In addition, during the second quarter fiscal years of 2020, certain customers notified the Company of their decision to delay future programs along with a customer canceling their existing program. The goodwill impairment charge was determined using Level 3 inputs, including discounted cash flow analysis 2023, 2022 and comparable marketplace fair value data 2021.

The components of intangible assets at December 31, 2022 December 30, 2023 and January 1, 2022 December 31, 2022 are as follows:

(in thousands)	As of December 30, 2023		
	Gross Carrying Value	Accumulated Amortization	Net Book Value
	Land use rights	\$ 17,621	\$ 2,786
Patents, licenses and software	275,337	163,799	111,538
Distribution network	43,210	43,210	—
Customer relationships, trademarks, and tradenames	689,244	209,481	479,763
Total	\$ 1,025,412	\$ 419,276	\$ 606,136

(in thousands)	As of December 31, 2022		
	Gross Carrying Value	Accumulated Amortization	Net Book Value
	Land use rights	\$ 17,938	\$ 2,299
Patents, licenses and software	259,603	140,208	119,395
Distribution network	41,733	40,955	778
Customer relationships, trademarks, and tradenames	623,721	165,563	458,158
Total	\$ 942,995	\$ 349,025	\$ 593,970

NOTES TO CONSOLIDATED FINANCIAL STATEMENTS

(in thousands)	As of December 31, 2022		
	Gross Carrying Value	Accumulated Amortization	Net Book Value
	Land use rights	\$ 17,938	\$ 2,299
Patents, licenses and software	259,603	140,208	119,395
Distribution network	41,733	40,955	778
Customer relationships, trademarks, and tradenames	623,721	165,563	458,158
Total	\$ 942,995	\$ 349,025	\$ 593,970

The Company reclassified \$50.3 million and \$31.1 million of gross carrying value and accumulated amortization, respectively, from customer relationships, trademarks and tradenames to patents, licenses and software as of December 31, 2022. This reclassification had no consolidated financial impact on net book value of intangible assets.

As of January 1, 2022

(in thousands)	Gross Carrying Value	Accumulated Amortization	Net Book Value
Land use rights	\$ 19,542	\$ 1,906	\$ 17,636
Patents, licenses and software	164,556	101,307	63,249
Distribution network	43,361	40,591	2,770
Customer relationships, trademarks, and tradenames	487,710	164,239	323,471
Total	<u>\$ 715,169</u>	<u>\$ 308,043</u>	<u>\$ 407,126</u>

During the year ended **December 31, 2022** **December 30, 2023**, the Company recorded additions to other intangible assets of **\$254.7 million** **\$68.0 million** related to the C&K acquisition, **Western Automation**, the components of which were as follows:

(in thousands, except weighted average useful life)	2022		(in thousands, except weighted average useful life)	2023	
	Weighted Average Useful Life (Years)	Amount		Weighted Average Useful Life (Years)	Amount
Patents, developed technology	12.0	\$ 55,700			
Patents, licenses and software					
Patents, licenses and software					
Patents, licenses and software					
Customer relationships, trademarks, and tradenames	17.4	199,000			
Total		<u>\$254,700</u>			

For intangible assets with definite lives, the Company recorded amortization expense of **\$55.7 million** **\$65.8 million**, **\$42.7 million** **\$55.7 million**, and **\$40.0 million** **\$42.7 million** in **2023**, **2022**, and **2021**, and **2020**, respectively.

During the fourth quarter of 2022, the Company recorded a \$2.9 million non-cash impairment charge for certain acquired technology and patent intangible assets due to a change in use and projected cash flows within the Electronics segment.

Estimated annual amortization expense related to intangible assets with definite lives at **December 31, 2022** **December 30, 2023** is as follows:

(in thousands)	(in thousands)	Amount	(in thousands)	Amount
2023		\$ 60,274		
2024	2024	56,965		
2025	2025	56,602		
2026	2026	46,115		
2027	2027	44,209		
2028 and thereafter		329,805		
2028				
2029 and thereafter				
Total	Total	<u>\$593,970</u>		

NOTES TO CONSOLIDATED FINANCIAL STATEMENTS

6. Accrued Liabilities

The components of accrued liabilities at **December 31, 2022**, December 30, 2023 and **January 1, 2022**, December 31, 2022 are as follows:

(in thousands)	(in thousands)	2022	2021	(in thousands)	2023	2022
Employee-related liabilities	Employee-related liabilities	\$ 99,089	\$ 92,018			
Current lease liability	Current lease liability	12,841	9,018			
Other non-income taxes	Other non-income taxes	10,594	4,280			
Interest						
Other customer reserves						
Professional services	Professional services	7,160	4,299			
Other customer reserves		5,064	702			
Interest		4,449	4,402			
Deferred revenue	Deferred revenue	2,593	1,105			
Restructuring liability	Restructuring liability	2,434	2,944			
Current benefit liability	Current benefit liability	1,318	1,248			
Other	Other	41,515	39,673			
Other						
Other						
Total	Total	\$187,057	\$159,689			

Employee-related liabilities consist primarily of payroll, sales commission, bonus, employee benefit accruals and workers' compensation. Bonus accruals include amounts earned pursuant to the Company's primary employee incentive compensation plans. Other accrued liabilities include miscellaneous operating accruals and other client-related liabilities.

NOTES TO CONSOLIDATED FINANCIAL STATEMENTS

7. Lease Commitments

Under ASC 842, a contract contains a lease if there is an identified asset and the Company has the right to control the asset. The Company determines whether a contract contains a lease at contract inception. The Company leases office and production space under various non-cancellable operating leases that expire no later than 2035. **Certain** **Certain** real estate leases include one or more options to renew. The exercise of lease renewal options is at the Company's sole discretion. Options to extend the lease are included in the lease term when it is reasonably certain the Company will exercise the option. The Company also has production equipment, office equipment and vehicles under operating leases and finance leases that were acquired through the C&K **acquisition**. **The acquisition**. The depreciable life of assets and leasehold improvements are limited by the expected lease term, unless there is a transfer of title or purchase option that is reasonably certain of exercise. Certain leases include rental payments adjusted periodically for inflation. The lease agreements do not contain any material residual value guarantee or material restrictive covenants. The Company has elected to use the available practical expedient to account for the lease and non-lease components of its leases as a single component. As the Company elected not to separate lease and non-lease components and instead to account for them as a single lease component, the variable lease cost primarily represents variable payments such as common area maintenance and utilities.

The Company does not have a published credit rating because it has no publicly traded debt; therefore, the Company is generating its incremental borrowing rate ("IBR"), using a synthetic credit rating model that compares its credit quality to other rated companies based on certain financial metrics and ratios. The reference rate will be based on the yield curve of companies with similar credit quality based on the metrics and adjusted for currency in regions where we have significant operations.

All leases with an initial term of 12 months or less that do not include an option to extend or purchase the underlying asset that the Company is reasonably certain to exercise ("short-term leases") are not recorded on the Consolidated Balance Sheets. Short-term lease expenses are recognized on a straight-line basis over the lease term.

The following table presents the classification of right of use assets and lease liabilities as of **December 31, 2022**, December 30, 2023 and **January 1, 2022**, December 31, 2022:

(in thousands)	Consolidated Balance Sheet Classification	Fiscal Year Ended	
		December 30, 2023	December 31, 2022
Operating Leases			
Right of use assets - operating lease	Right of use lease assets	\$ 60,991	\$ 54,901
Current operating lease liabilities	Accrued liabilities	11,676	11,694
Non-current operating lease liabilities	Non-current lease liabilities	49,180	44,963
Total operating lease liabilities		\$ 60,856	\$ 56,657
Finance Leases			
Right of use assets - finance lease	Right of use lease assets	\$ 1,379	\$ 2,481
Current finance lease liabilities	Accrued liabilities	434	1,147
Non-current finance lease liabilities	Non-current lease liabilities	292	698
Total finance lease liabilities		\$ 726	\$ 1,845

NOTES TO CONSOLIDATED FINANCIAL STATEMENTS

(in thousands)	Consolidated Balance Sheet Classification	Fiscal Year Ended	
		December 31, 2022	January 1, 2022
Operating Leases			
Right of use assets - operating lease	Right of use lease assets, net	\$ 54,901	\$ 29,616
Current operating lease liabilities	Accrued liabilities	11,694	9,018
Non-current operating lease liabilities	Non-current lease liabilities	44,963	22,305
Total operating lease liabilities		\$ 56,657	\$ 31,323
Finance Leases			
Right of use assets - finance lease	Right of use lease assets, net	\$ 2,481	\$ —
Current finance lease liabilities	Accrued liabilities	1,147	—
Non-current finance lease liabilities	Non-current lease liabilities	698	—
Total finance lease liabilities		\$ 1,845	\$ —

The following table represents the lease costs for 2023, 2022, 2021, and 2020: 2021:

(in thousands)	(in thousands)	Consolidated Statements of Net Income Classification	Fiscal Year Ended			(in thousands)	Consolidated Statements of Net Income Classification	Fiscal Year Ended		
			December 31, 2022	January 1, 2022	December 26, 2020			December 30, 2023	December 31, 2022	January 1, 2022
Operating lease expenses	Operating lease expenses	Cost of sales, SG&A expenses	\$ 14,071	\$ 9,929	\$ 8,591					
Finance lease:	Finance lease:									
	Finance lease expenses									

Finance lease expenses					
Finance lease expenses	Finance lease expenses	Cost of sales	112	—	—
Interest on lease liabilities	Interest on lease liabilities	Other expenses	13	—	—
Short-term lease expenses	Short-term lease expenses	Cost of sales, SG&A expenses	1,130	345	512
Variable lease expenses	Variable lease expenses	Cost of sales, SG&A expenses	1,091	1,165	1,307
Total lease costs	Total lease costs	Cost of sales, SG&A expenses	\$ 16,417	\$ 11,439	\$ 10,410

The Company leases certain office and warehouse space as well as certain machinery and equipment under non-cancellable operating leases. The Company acquired through the C&K acquisition certain machinery and equipment under finance leases.

Rent expense under these leases was \$16.4 million, \$18.3 million, \$11.4 million, \$16.4 million, and \$10.4 million, \$11.4 million in 2023, 2022, 2021, and 2020, 2021, respectively.

Maturity of Lease Liabilities as of December 31, 2022 (in thousands)			
		Operating leases	Finance Leases
2023		\$ 13,966	\$ 1,166

Maturity of Lease Liabilities as of December 30, 2023 (in thousands)		Maturity of Lease Liabilities as of December 30, 2023 (in thousands)		Operating leases	Finance Leases
2024	2024	13,709	425		
2025	2025	8,099	283		
2026	2026	5,652	1		
2027	2027	4,447	—		
2028 and thereafter	2028 and thereafter	21,217	—		
Total lease payments	Total lease payments	\$ 67,090	\$ 1,875		
Less: Imputed interest	Less: Imputed interest	(10,433)	(30)		
Present value of lease liabilities	Present value of lease liabilities	\$ 56,657	\$ 1,845		

	Fiscal Year Ended	
	December 30, 2023	December 31, 2022
Weighted-average remaining lease term (years)		

Operating leases	8.38	6.84
Finance leases	1.69	1.90
Weighted-average discount rate		
Operating leases	5.39 %	4.84 %
Finance leases	1.90 %	1.43 %

NOTES TO CONSOLIDATED FINANCIAL STATEMENTS

	Fiscal Year Ended	
	December 31, 2022	January 1, 2022
Weighted-average remaining lease term (years)		
Operating leases	6.84	4.79
Finance leases	1.90	—
Weighted-average discount rate		
Operating leases	4.84 %	4.27 %
Finance leases	1.43 %	—

		Fiscal Year Ended			Fiscal Year Ended			
		Fiscal Year Ended			Fiscal Year Ended			
(in thousands)	(in thousands)	December 31, 2022	January 1, 2022	December 26, 2020	(in thousands)	December 30, 2023	December 31, 2022	January 1, 2022
Cash paid for amounts included in the measurement of lease liabilities	Cash paid for amounts included in the measurement of lease liabilities							
Operating cash flow - payments on operating leases	Operating cash flow - payments on operating leases							
Operating cash flow - payments on operating leases	Operating cash flow - payments on operating leases							
Operating cash flow - interest payments on finance leases	Operating cash flow - interest payments on finance leases							
Financing cash flow - payments on finance lease obligations	Financing cash flow - payments on finance lease obligations							
		\$ (12,298)	\$(10,150)	\$ (8,929)				
		(13)	—	—				
		(719)	—	—				

Leased assets obtained in exchange of new lease obligations, including leases acquired:

Leased assets obtained in exchange of new lease obligations, including leases acquired:					
Leased assets obtained in exchange of new lease obligations, including leases acquired:					
Operating leases					
Operating leases					
Operating leases	Operating leases	\$ 37,760	\$ 20,217	\$ 2,862	
Finance leases	Finance leases	2,502	—	—	

There were no sale leaseback transactions for the fiscal years ended December 31, 2022, December 30, 2023 and December 26, 2020 December 31, 2022. The net gain recorded from a sale leaseback transaction was \$4.1 million for the fiscal year ended January 1, 2022.

8. Restructuring, Impairment and Other Charges

The Company recorded restructuring, impairment and other charges for fiscal years 2023, 2022, 2021, and 2020 2021 as follows:

(in thousands)	Fiscal Year Ended December 30, 2023			
	Electronics	Transportation	Industrial	Total
Employee terminations	\$ 4,162	\$ 3,649	\$ 894	\$ 8,705
Other restructuring charges	342	976	1,625	2,943
Total restructuring charges	4,504	4,625	2,519	11,648
Impairment	111	3,870	872	4,853
Total	\$ 4,615	\$ 8,495	\$ 3,391	\$ 16,501

(in thousands)	Fiscal Year Ended December 31, 2022			
	Electronics	Transportation	Industrial	Total
Employee terminations	\$ 2,792	\$ 2,694	\$ 283	\$ 5,769
Other restructuring charges	276	1,076	—	1,352
Total restructuring charges	3,068	3,770	283	7,121
Impairment	2,856	—	—	2,856
Total	\$ 5,924	\$ 3,770	\$ 283	\$ 9,977

(in thousands)	Fiscal Year Ended January 1, 2022			
	Electronics	Transportation	Industrial	Total
Employee terminations	\$ 1,124	\$ 404	\$ 347	\$ 1,875
Other restructuring charges	—	283	—	283
Total restructuring charges	1,124	687	347	2,158

Fiscal Year Ended December 26, 2020

Fiscal Year Ended January 1, 2022

Fiscal Year Ended January 1, 2022

(in thousands)	(in thousands)	Electronics	Transportation	Industrial	Total	(in thousands)	Electronics	Transportation	Industrial	Total
Employee terminations	Employee terminations	\$ 2,540	\$ 682	\$ 2,231	\$ 5,453					
Other restructuring charges	Other restructuring charges	—	175	10	185					
Total restructuring charges	Total restructuring charges	2,540	857	2,241	5,638					
Impairment		—	33,841	2,237	36,078					
Total		\$ 2,540	\$ 34,698	\$ 4,478	\$ 41,716					

2023
For the year ended December 30, 2023, the Company recorded total restructuring charges of \$11.6 million, primarily for employee termination costs. These charges primarily related to the reorganization of certain manufacturing, selling and administrative functions within the Transportation segment's commercial vehicle business, the reorganization of certain selling and administrative functions within the Electronics segment due to the C&K acquisition, and reorganization of certain manufacturing, selling and administrative functions within the Industrial segment. During 2023, the Company recognized a \$3.9 million impairment charge related to the land and building of a property in the commercial vehicle business within the Transportation segment that the Company made the decision to donate, a \$0.9 million impairment charge substantially related to certain patents in a business within the Industrial segment, and a \$0.1 million impairment related to certain machinery and equipment in the semiconductor business within the Electronics segment.

2022
NOTES TO CONSOLIDATED FINANCIAL STATEMENTS
2022
For the year ended December 31, 2022, the Company recorded total restructuring charges of \$7.1 million, primarily for employee termination costs. These charges primarily related to the reorganization of certain manufacturing, selling and administrative functions within the Transportation segment's passenger car and automotive sensor businesses and the reorganization of selling and administrative functions within the Electronics segment due to the C&K acquisition. During the fourth quarter of 2022, the Company recorded a \$2.9 million non-cash impairment charge for certain acquired technology and patent intangible assets due to a change in use and projected cash flows within the Electronics segment. See Note 5, *Goodwill and Other Intangible Assets* for further discussion regarding the intangible asset impairment charge.

2021
For the year ended January 1, 2022, the Company recorded total restructuring charges of \$2.2 million, primarily for employee termination costs. These charges primarily related to the reorganization of certain manufacturing, selling and administrative functions within the Electronics and Transportation segments.

2020
For the year ended December 26, 2020, the Company recorded total restructuring charges of \$5.6 million, primarily for employee termination costs. These charges primarily related to the reorganization of certain manufacturing, selling and administrative functions across all segments and the previously announced consolidation of a manufacturing facility within the Industrial segment. The Company also recognized \$36.1 million of impairment charges, which included a \$33.8 million goodwill impairment charge associated with the automotive sensors reporting unit within the Transportation segment in the second quarter of 2020 and a \$2.2 million impairment charge related to the land and building associated with the Company's previously announced consolidation of a manufacturing facility within the Industrial segment in the first quarter of 2020. See Note 5, *Goodwill and Other Intangible Assets* for further discussion regarding the goodwill impairment charge.

The restructuring reserves as of December 30, 2023 and December 31, 2022 are \$2.1 million and January 1, 2022 are \$2.4 million and \$2.9 million, respectively. The restructuring reserves are included within accrued liabilities. Payments associated with employee terminations reflected in the above table were substantially completed by December 31, 2022. The Company anticipates that the remaining payments associated with employee terminations will be substantially completed in fiscal 2023, 2024.

NOTES TO CONSOLIDATED FINANCIAL STATEMENTS

9. Debt

The carrying amounts of debt at December 31, 2022, December 30, 2023 and January 1, 2022, December 31, 2022 are as follows:

(in thousands)	(in thousands)	2022	2021	(in thousands)	2023	2022
Revolving Credit Facility	Revolving Credit Facility	\$ 100,000	\$ 100,000			

Term Loan	Term Loan	296,250	—
Euro Senior Notes, Series A due 2023	Euro Senior Notes, Series A due 2023	124,716	132,444
Euro Senior Notes, Series A due 2023			
Euro Senior Notes, Series A due 2023			
Euro Senior Notes, Series B due 2028	Euro Senior Notes, Series B due 2028	101,265	107,540
U.S. Senior Notes, Series A due 2022		—	25,000
U.S. Senior Notes, Series B due 2027			
U.S. Senior Notes, Series B due 2027			
U.S. Senior Notes, Series B due 2027	U.S. Senior Notes, Series B due 2027	100,000	100,000
U.S. Senior Notes, Series A due 2025	U.S. Senior Notes, Series A due 2025	50,000	50,000
U.S. Senior Notes, Series B due 2030	U.S. Senior Notes, Series B due 2030	125,000	125,000
U.S. Senior Notes, due 2032	U.S. Senior Notes, due 2032	100,000	—
Other	Other	9,113	—
Unamortized debt issuance costs	Unamortized debt issuance costs	(4,847)	(3,087)
Total debt	Total debt	1,001,497	636,897
Less: Current maturities	Less: Current maturities	(134,874)	(25,000)
Total long-term debt	Total long-term debt	\$ 866,623	\$611,897

Interest paid on all Company debt was \$25.4 million \$37.2 million, \$17.4 \$25.4 million, and \$20.1 \$17.4 million in fiscal year 2023, 2022, 2021, and 2020, 2021, respectively.

Revolving Credit Facility and Term Loan

On June 30, 2022, the Company amended and restated its Credit Agreement, dated as of April 3, 2020 (as so amended and restated, the "Credit Agreement") to effect certain changes, including, among other changes: (i) adding a \$300 million unsecured term loan credit facility; (ii) making certain financial and non-financial covenants less restrictive on the Company and its subsidiaries; (iii) replacing LIBOR-based interest rate benchmarks and modifying performance-based interest rate margins; and (iv) extending the maturity date to June 30, 2027 (the "Maturity Date"). Pursuant to the Credit Agreement, the Company may, from time to time, increase the size of the revolving credit facility or enter into one or more tranches of term loans in minimum increments of \$25 million if there is no event of default and the Company is in compliance with certain financial covenants.

Loans made under the available credit facility pursuant to the Credit Agreement ("the Credit Facility") bear interest at the Company's option, at either SOFR, fixed for interest periods of one, two, three or six-month periods, plus 1.00% to 1.75%, plus a SOFR adjustment of 0.10% or at the bank's Base Rate, as defined in the Credit Agreement, plus ~~—%~~ 0.00% to 0.75%, based upon the Company's Consolidated Leverage Ratio, as defined in the Credit Agreement. The Company is also required to pay commitment fees on unused portions of

the Credit Facility ranging from 0.10% to 0.175%, based on the Consolidated Leverage Ratio, as defined in the Credit Agreement. The Credit Agreement includes representations, covenants and events of default that are customary for financing transactions of this nature.

NOTES TO CONSOLIDATED FINANCIAL STATEMENTS

Under the Credit Agreement, revolving loans may be borrowed, repaid and reborrowed until the Maturity Date, at which time all amounts borrowed must be repaid. The Company borrowed \$300.0 million under a term loan on June 30, 2022. The principal balance of the term loans must be repaid in quarterly installments on the last day of each calendar quarter in the amount of \$1.9 million commencing September 30, 2022, through June 30, 2024, and in the amount of \$3.8 million commencing September 30, 2024, through March 31, 2027, with the remaining outstanding principal balance payable in full on the Maturity Date. Accrued interest on the loans is payable in arrears on each interest payment date applicable thereto and at such other times as may be specified in the Credit Agreement. Subject to certain conditions, (i) the Company may terminate or reduce the Aggregate Revolving Commitments, as defined in the Credit Agreement, in whole or in part, and (ii) the Company may prepay the revolving loans or the term loans at any time, without premium or penalty. During the fiscal year ended **December 31, 2022** **December 30, 2023**, the Company made term loan payments of **\$3.8** **\$7.5** million. The revolving loan and term loan balance under the Credit Facility was \$100.0 million and **\$296.3** **\$288.8** million, respectively, as of **December 31, 2022** **December 30, 2023**.

On May 12, 2022, the Company entered into an interest rate swap agreement to manage interest rate risk exposure, effectively converting the interest rate on the Company's SOFR based floating-rate loans to a fixed-rate. The interest rate swap, with a notional value of \$200 million, was designated as a cash flow hedge against the variability of cash flows associated with the Company's SOFR based loans scheduled to mature on June 30, 2027.

NOTES TO CONSOLIDATED FINANCIAL STATEMENTS

As of **December 31, 2022** **December 30, 2023**, the effective interest rate on **unhedged portion of the** outstanding borrowings under the credit facility was **5.42%** **6.71%**, and **4.13%** on the hedged portion.

As of **December 31, 2022** **December 30, 2023**, the Company had **no** **\$0.2 million** outstanding in letters of credit and had available **\$600.0 million** **\$599.8 million** of borrowing capacity under the revolving credit facility. At **December 31, 2022** **December 30, 2023**, the Company was in compliance with all covenants under the credit agreement.

Senior Notes

On December 8, 2016, the Company entered into a Note Purchase Agreement, pursuant to which the Company issued and sold €212 million aggregate principal amount of senior notes in two series. The funding date for the Euro denominated senior notes occurred on December 8, 2016 for €117 million in aggregate amount of 1.14% Senior Notes, Series A, due December 8, 2023 ("Euro Senior Notes, Series A due 2023"), and €95 million in aggregate amount of 1.83% Senior Notes, Series B due December 8, 2028 ("Euro Senior Notes, Series B due 2028") (together, the "Euro Senior Notes"). Interest on the Euro Senior Notes is payable semiannually on June 8 and December 8, commencing June 8, 2017. **During the fiscal year ended December 30, 2023, the Company paid off €117 million of Euro Senior Notes, Series A due 2023.**

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. During the fiscal year ended December 31, 2022, the Company paid off \$25.0 million of U.S. Senior Notes, Series A due 2022.

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") were funded. Interest on the U.S. Senior Notes due 2025 and 2030 is payable on February 15 and August 15, commencing on August 15, 2018.

On May 18, 2022, the above note purchase agreements were amended to, among other things, update certain terms, including financial covenants to be consistent with the terms of the restated Credit Agreement and the 2022 Purchase Agreement, as defined below.

On May 18, 2022, the Company entered into a Note Purchase Agreement ("2022 Purchase Agreement") pursuant to which the Company issued and funded on July 18, 2022 \$100 million in aggregate principal amount of 4.33% Senior Notes, due June 30, 2032 ("U.S. Senior Notes, due 2032") (together with the U.S. Senior Notes due 2025 and 2030, the Euro Senior Notes and the U.S. Senior Notes due 2022 and 2027, the "Senior Notes"). Interest on the U.S. Senior Notes due 2032 is payable semiannually on June 30 and December 30, commencing on **December 30, 2032** **December 30, 2022**.

NOTES TO CONSOLIDATED FINANCIAL STATEMENTS

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

The Senior Notes are subject to certain customary covenants, including limitations on the Company's ability, with certain exceptions, to engage in mergers, consolidations, asset sales and transactions with affiliates, to engage in any business that would substantially change the general business of the Company, and to incur liens. In addition, the Company is required to satisfy certain financial covenants and tests relating to, among other matters, interest coverage and leverage. At **December 31, 2022** **December 30, 2023**, the Company was in compliance with all covenants under the Senior Notes.

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

NOTES TO CONSOLIDATED FINANCIAL STATEMENTS

Debt Issuance Costs

During fiscal year 2022, the Company paid debt issuance costs of \$2.7 million in connection with the amended and restated Credit Agreement, dated June 30, 2022 which, along with the remaining balance of debt issuance costs of the previous credit facility, **noted in below**, are being amortized over the life of the amended and restated Credit Agreement.

During fiscal year 2020, the Company paid debt issuance costs of \$1.8 million in relation to the amended the Credit Agreement on April 3, 2020 which, along with the remaining balance of debt issuance costs of the previous credit facility, are being amortized over the life of the amended Credit Agreement.

Debt Maturities

Scheduled maturities of the Company's long-term debt for each of the five years succeeding **December 31, 2022** **December 30, 2023** and thereafter are summarized as follows:

(in thousands)	(in thousands)	Scheduled Maturities (in thousands)	Scheduled Maturities
2023		\$ 134,874	
2024	2024	13,916	
2025	2025	67,674	
2026	2026	16,116	
2027	2027	447,500	
2028 and thereafter		326,264	
2028			
2029 and thereafter			
		<u>\$1,006,344</u>	

NOTES TO CONSOLIDATED FINANCIAL STATEMENTS

10. Fair Value of Assets and Liabilities

For assets and liabilities measured at fair value on a recurring and nonrecurring basis, a three-level hierarchy of measurements based upon observable and unobservable inputs is used to arrive at fair value. Observable inputs are developed based on market data obtained from independent sources, while unobservable inputs reflect the Company's assumptions about valuation based on the best information available in the circumstances. Depending on the inputs, the Company classifies each fair value measurement as follows:

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

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

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

There were no transfers in or out of Level 1, Level 2 and Level 3 during the year ended **December 31, 2022** **December 30, 2023**.

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

Cash Equivalents

Cash equivalents primarily consist of money market funds, **certificates of deposit, and short-term time deposits**, which are held with **an institution institutions** with sound credit **rating ratings** and are highly liquid. The Company classified cash equivalents as Level 1 and are valued at cost, which approximates fair value.

Investments in Equity Securities

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

Other Investments

The Company had certain convertible debt and convertible preferred stock investments that were accounted for under the cost method reflected in *Investments and Other assets* in the Consolidated Balance Sheets. During the fiscal year ended January 1, 2022, the Company impaired the remaining book value of these investments and recorded an impairment charge of \$0.5 million in *Other expense (income), net* in the Consolidated Statements of Net Income. As of December 31, 2022 and January 1, 2022, the balances of these investments were zero.

Derivatives Designated as Hedging Instruments

On May 12, 2022, the Company entered into an interest rate swap agreement to manage interest rate risk exposure, effectively converting the interest rate on the Company's SOFR based floating-rate loans to a fixed-rate. The interest rate swap, with a notional value of \$200 million, was designated as a cash flow hedge against the variability of cash flows associated with the Company's SOFR based loans scheduled to mature on June 30, 2027. The fair value of the interest rate swap was valued using an independent third-party valuation model. Pursuant to this model, changes in fair value of derivatives that are designated as cash flow hedges are deferred in accumulated other comprehensive (loss) income until the underlying transactions are recognized in earnings. The primary inputs into the valuation of the interest rate swap are interest yield curves, interest rate volatility, credit risk, credit spreads and other market information. The interest rate swap is classified within Level 2 of the fair value hierarchy, since all significant inputs are corroborated by observable market data.

The use of derivatives creates exposure to credit risk relating to potential losses that could be recognized in the event that the counterparties to these instruments fail to perform their obligations under the contracts. The Company seeks to minimize this risk by limiting our counterparties to major financial institutions with acceptable credit ratings and monitoring the total value of positions with individual counterparties. In the event of a default by one of our counterparties, the Company may not receive payments provided for under the terms of our derivatives.

NOTES TO CONSOLIDATED FINANCIAL STATEMENTS

Derivatives Not Designated as Hedging Instruments

On July 14, 2022, the Company entered into a foreign currency exchange forward contract to mitigate the currency fluctuation risk between the Euro and U.S. dollar on its Euro denominated Senior Notes, Series A due 2023. The notional value of the forward contract at July 14, 2022 was €117.0 million and expired on December 7, 2023 with the final settlement value of \$6.3 million and expires on December 7, 2023, which the Company used to convert USD to Euro to pay down the €117 million of Euro Senior Notes, Series A due 2023. The foreign currency contract was not designated as a hedge instrument and is/was marked to market on a monthly basis. As a result, changes in fair value during 2023 and 2022 are reported in *Foreign exchange loss (gain)* in the Consolidated Statements of Net Income. The fair value of the foreign currency forward contract was valued by a third party using market exchange rates and classified as a Level 2 input under the fair value hierarchy.

NOTES TO CONSOLIDATED FINANCIAL STATEMENTS

As of December 30, 2023 and December 31, 2022, the fair values of our derivative financial instrument and their classifications on the Consolidated Balance Sheets were as follows:

(in thousands)	Consolidated Balance Sheet Classification	Fiscal Year Ended December 31,	
		2022	
Derivatives Designated as Hedging Instruments			
Interest rate swap agreement:			
Designated as cash flow hedge	Prepaid expenses and other current assets	\$	3,939
	Other long-term assets	\$	4,740
Derivatives Not Designated as Hedging Instruments			
Foreign exchange forward contract	Prepaid expenses and other current assets	\$	6,186
		Fiscal Year Ended	
(in thousands)	Consolidated Balance Sheet Classification	December 30, 2023	December 31, 2022
Derivatives designated as hedging instruments			
Interest rate swap agreement:			
Designated as cash flow hedge	Prepaid expenses and other current assets	\$ 3,712	\$ 3,939
	Other long-term assets	\$ 2,140	\$ 4,740
Derivatives not designated as hedging instruments			
Foreign exchange forward contract	Prepaid expenses and other current assets	\$ —	\$ 6,186

The pre-tax gains recognized on derivative financial instruments in the Consolidated Statements of Operations for the fiscal year ended **December 30, 2023 and** December 31, 2022 were as follows:

(in thousands)	Classification of Gain Recognized in the Consolidated	
	Statements of Operations	Fiscal Year Ended December 31, 2022
Derivatives designated as cash flow hedges		
Interest rate swap agreement	Interest expenses, net	\$ (100)
Derivatives Not Designated as Hedging Instruments		
Foreign exchange forward contract	Foreign exchange loss (gain)	\$ (6,128)

(in thousands)	Classification of Gain Recognized in the Consolidated Statements of Operations	Fiscal Year Ended	
		December 30, 2023	December 31, 2022
Derivatives designated as cash flow hedges			
Interest rate swap agreement	Interest expense, net	\$ (4,551)	(100)
Derivatives not designated as hedging instruments			
Foreign exchange forward contract	Foreign exchange gain	\$ (52)	(6,128)

The pre-tax **gain loss (gain)** recognized on derivative financial instruments in the Consolidated Statements of Comprehensive Income for the fiscal year ended **December 30, 2023 and** December 31, 2022 was as follows:

(in thousands)	Classification of Gain Recognized in the Consolidated Statements of Operations	Fiscal Year Ended December 31,	
		December 30, 2023	2022
Derivatives designated as cash flow hedges			
Interest rate swap agreement		\$	(8,679)
Derivatives not designated as hedging instruments			
Foreign exchange forward contract		\$	(6,128)

A pre-tax gain of **\$3.9**~~\$3.7~~ million from accumulated other comprehensive income (loss) to earnings is expected to be recognized during the next twelve months.

Mutual Funds

The Company has a non-qualified Supplemental Retirement and Savings Plan that provides additional retirement benefits for certain management employees and named executive officers by allowing participants to defer a portion of their annual compensation. The Company maintains investment accounts for participants through which participants make investment elections. The marketable securities are classified as Level 1 under the fair value hierarchy as they are maintained in mutual funds with readily determinable fair value and recorded in *Other long-term assets* on the Consolidated Balance sheet.

There were no changes during the fiscal year ended **December 31, 2022** **December 30, 2023** to the Company's valuation techniques used to measure asset and liability fair values on a recurring basis. As of **December 31, 2022** **December 30, 2023** and **January 1, 2022** **December 31, 2022**, the Company did not hold any non-financial assets or liabilities that are required to be measured at fair value on a recurring basis.

NOTES TO CONSOLIDATED FINANCIAL STATEMENTS

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

See Note 11, *Benefit Plans*, for description of valuation methodologies and investment balances for defined benefit plan assets and investments related to the Company's Non-Qualified Supplemental Retirement and Savings Plan.

NOTES TO CONSOLIDATED FINANCIAL STATEMENTS

The following table presents assets measured at fair value by classification within the fair value hierarchy as of December 30, 2023:

Fair Value Measurements Using	

(in thousands)	Quoted Prices in Active Markets for Identical Assets (Level 1)		Significant Other Observable Inputs (Level 2)		Significant Unobservable Inputs (Level 3)		Total
Cash equivalents	\$	415,788	\$	—	\$	—	\$ 415,788
Investments in equity securities		10,832		—		—	10,832
Mutual funds		20,148		—		—	20,148
Total:	\$	446,768	\$	—	\$	—	\$ 446,768

The following table presents assets measured at fair value by classification within the fair value hierarchy as of December 31, 2022:

(in thousands)	Fair Value Measurements Using				Total		
	Quoted Prices in Active Markets for Identical Assets (Level 1)		Significant Other Observable Inputs (Level 2)			Significant Unobservable Inputs (Level 3)	
Cash equivalents	\$	304,101	\$	—	\$	—	\$ 304,101
Investments in equity securities		10,653		—		—	10,653
Mutual funds		14,094		—		—	14,094
Total:	\$	328,848	\$	—	\$	—	\$ 328,848

The following table presents assets measured at fair value by classification within the fair value hierarchy as of January 1, 2022:

(in thousands)	Fair Value Measurements Using				Total		
	Quoted Prices in Active Markets for Identical Assets (Level 1)		Significant Other Observable Inputs (Level 2)			Significant Unobservable Inputs (Level 3)	
Cash equivalents	\$	12,475	\$	—	\$	—	\$ 12,475
Investments in equity securities		26,070		—		—	26,070
Mutual funds		15,021		—		—	15,021
Total:	\$	53,566	\$	—	\$	—	\$ 53,566

In addition to the methods and assumptions used for the financial instruments recorded at fair value as discussed above, the following methods and assumptions are used to estimate the fair value of other financial instruments that are not marked to market on a recurring basis. The Company's other financial instruments include cash and cash equivalents, short-term investments, trade receivables and its long-term debt. Due to their short-term maturity, the carrying amounts of cash and cash equivalents, short-term investments and trade receivables approximate their fair values. The Company's revolving and term loan debt facilities' fair values approximate book value at **December 31, 2022** **December 30, 2023** and **January 1, 2022** **December 31, 2022**, as the rates on these borrowings are variable in nature.

The carrying value and estimated fair values of the Company's Euro Senior Notes, Series A and Series B and USD Senior Notes, Series A and Series B, as of **December 31, 2022** **December 30, 2023** and **January 1, 2022** **December 31, 2022** were as follows:

(in thousands)	(in thousands)	December 31, 2022		January 1, 2022		December 30, 2023		December 31, 2022	
		Carrying Value	Estimated Fair Value	Carrying Value	Estimated Fair Value	Carrying Value	Estimated Fair Value	Carrying Value	Estimated Fair Value
Euro Senior Notes, Series A due 2023	Euro Senior Notes, Series A due 2023	\$124,716	\$ 122,270	\$132,444	\$ 134,119				
Euro Senior Notes, Series B due 2028	Euro Senior Notes, Series B due 2028	101,265	87,119	107,540	110,837				
USD Senior Notes, Series A due 2022		—	—	25,000	25,055				
USD Senior Notes, Series B due 2027									
USD Senior Notes, Series B due 2027									

USD Senior Notes, Series B due 2027	USD Senior Notes, Series B due 2027	100,000	93,764	100,000	104,828
USD Senior Notes, Series A due 2025	USD Senior Notes, Series A due 2025	50,000	48,145	50,000	51,720
USD Senior Notes, Series B due 2030	USD Senior Notes, Series B due 2030	125,000	112,028	125,000	131,837
USD Senior Notes, due 2032	USD Senior Notes, due 2032	100,000	90,131	—	—

Impairments

During 2023, the Company recognized a \$3.9 million impairment charge related to the land and building of a property in the commercial vehicle business within the Transportation segment that the Company made the decision to donate, a \$0.9 million impairment charge substantially related to certain patents in a business within the Industrial segment, and a \$0.1 million

NOTES TO CONSOLIDATED FINANCIAL STATEMENTS

Impairments impairment related to certain machinery and equipment in the semiconductor business within the Electronics segment. See Note 8, *Restructuring, Impairment and Other Charges*, for further discussion.

During the fourth quarter of 2022, the Company recorded a **\$2.9 million** ~~\$2.9 million~~ intangible asset impairment charge in *Restructuring, impairment, and other charges* in the Consolidated Statements of Net Income, for certain acquired technology and patent intangible assets due to a change in use and projected cash flows within the Electronics segment. See Note 5, *Goodwill and Other Intangible Assets*, for further discussion. Additionally, the Company recorded a non-cash impairment charge of **\$1.7 million** ~~\$1.7 million~~ for certain machinery and equipment within Electronics segment due to a decision to cease further production of a product line during the fourth quarter of 2022. The fair value of the patent, technology and machinery and equipment were measured on a nonrecurring basis using Level 3 inputs under the fair value hierarchy. The Company's accounting and finance management determines the valuation policies and procedures for Level 3 fair value measurements and is responsible for the development and determination of unobservable inputs.

11. Benefit Plans

The Company has Company-sponsored and mandatory defined benefit pension plans covering employees in the United Kingdom ("U.K."), Germany, the Philippines, China, Japan, Mexico, Italy and France. The amount of the retirement benefits provided under the plans is generally based on years of service and final average pay.

On April 7, 2020, the Company entered into a definitive agreement to purchase a group annuity contract, under which an insurance company is required to directly pay and administer pension payments to certain of the Company's U.K. pension plan participants, or their designated beneficiaries. The Company completed the buy-out of this U.K. pension plan during the fourth quarter of 2021 and as a result recorded a non-cash pension settlement charge of \$19.9 million (£14.9 million), inclusive of the accelerated recognition of prior service cost of \$0.5 million (£0.4 million).

Benefit plan related information is as follows for the years ~~2022~~ 2023 and ~~2021~~ 2022:

(in thousands)	(in thousands)	2022	2021	(in thousands)	2023	2022
Change in benefit obligation:	Change in benefit obligation:			Change in benefit obligation:		
Benefit obligation at beginning of year	Benefit obligation at beginning of year	\$ 86,570	\$148,992			
Service cost	Service cost	3,072	2,785			
Interest cost	Interest cost	2,529	1,761			
Net actuarial gain		(19,327)	(11,016)			

Net actuarial loss (gain)			
Benefits paid from the plan assets	Benefits paid from the plan assets	(1,474)	(3,121)
Benefits paid directly by the Company	Benefits paid directly by the Company	(1,853)	(2,692)
Settlements	Settlements	(1,565)	(48,927)
Acquisitions	Acquisitions	3,812	1,797
Effect of exchange rate movements	Effect of exchange rate movements	(5,839)	(3,218)
Plan amendment and other	Plan amendment and other	(1,399)	209
Benefit obligation at end of year	Benefit obligation at end of year	\$ 64,526	\$ 86,570
Change in plan assets at fair value:	Change in plan assets at fair value:		
Change in plan assets at fair value:			
Change in plan assets at fair value:			
Fair value of plan assets at beginning of year	Fair value of plan assets at beginning of year	\$ 48,325	\$100,478
Actual loss on plan assets		(9,217)	(2,824)
Fair value of plan assets at beginning of year			
Fair value of plan assets at beginning of year			
Actual gain (loss) on plan assets			
Employer contributions	Employer contributions	2,288	2,150
Benefits paid from the plan assets	Benefits paid from the plan assets	(1,474)	(3,121)
Settlements	Settlements	—	(47,111)
Acquisitions			
Effect of exchange rate movements	Effect of exchange rate movements	(4,489)	(1,247)
Fair value of plan assets at end of year	Fair value of plan assets at end of year	35,433	48,325

Net amount unfunded status	Net amount unfunded status	\$ (29,093)	\$ (38,245)
----------------------------	----------------------------	-------------	-------------

NOTES TO CONSOLIDATED FINANCIAL STATEMENTS

Amounts recognized in the Consolidated Balance Sheets as of **December 31, 2022**, December 30, 2023 and **January 1, 2022**, December 31, 2022 consist of the following:

(in thousands)	(in thousands)	2022	2021	(in thousands)	2023	2022
Amounts recognized in the Consolidated Balance Sheets consist of:	Amounts recognized in the Consolidated Balance Sheets consist of:			Amounts recognized in the Consolidated Balance Sheets consist of:		
Noncurrent assets	Noncurrent assets	\$ 262	\$ 40			
Current benefit liability	Current benefit liability	(1,318)	(1,248)			
Noncurrent benefit liability	Noncurrent benefit liability	(28,037)	(37,037)			
Net liability recognized	Net liability recognized	\$ (29,093)	\$ (38,245)			

The amounts included in accumulated other comprehensive loss in the Consolidated Balance Sheets, excluding tax effects, that have not yet been recognized as components of net periodic benefit costs as of **December 31, 2022**, December 30, 2023 and **January 1, 2022**, December 31, 2022 were as follows:

(in thousands)	(in thousands)	2022	2021	(in thousands)	2023	2022
Net actuarial (gain) loss	Net actuarial (gain) loss	\$ (631)	\$ 9,221			
Prior service cost	Prior service cost	1,496	3,340			
Total	Total	\$ 865	\$ 12,561			

The pre-tax amounts recognized in other comprehensive (loss) income in 2023 and 2022 were as follows:

(in thousands)	2023	2022
Amortization of:		
Prior service cost	\$ 94	\$ 150
Net actuarial (gain) loss	(49)	228
Amount arising during the period:		
Prior service cost	—	1,399
Net actuarial (loss) gain	(4,202)	9,899
Net curtailment and settlement gain	(266)	(820)
Foreign currency adjustments	(334)	840
Total	\$ (4,757)	\$ 11,696

The net actuarial (loss) gain during 2023 as compared to 2022 were impacted by higher discount rates in 2023 as compared to 2022.

The components of net periodic benefit costs for the fiscal years 2023, 2022, and 2021 were as follows:

(in thousands)	2022	2021
Amortization of:		
Prior service cost	\$ 150	\$ 179
Net actuarial loss	228	1,136
Amount arising during the period:		
Prior service cost (credit)	1,399	(209)
Net actuarial gain	9,899	6,734
Net settlement (gain) loss	(820)	19,855
Foreign currency adjustments	840	966
Total	\$ 11,696	\$ 28,661

(in thousands)	2023	2022	2021
Components of net periodic benefit cost:			
Service cost	\$ 2,774	\$ 3,072	\$ 2,785
Interest cost	3,795	2,529	1,761
Expected return on plan assets	(1,879)	(1,507)	(1,458)
Amortization of prior service and net actuarial loss	45	378	1,315
Net periodic benefit cost	4,735	4,472	4,403
Net settlement (gain) loss	(266)	(820)	19,855
Total expense for the year	\$ 4,469	\$ 3,652	\$ 24,258

In The Company completed the buy-out of this U.K. pension plan during the fourth quarter of 2021 and as a result in the fourth quarter of 2021, the Company recorded a non-cash pension settlement charge of \$19.9 million (£14.9 million), inclusive of the accelerated recognition of prior service cost of \$0.5 million (£0.4 million). In addition, the net actuarial gain and change in benefit obligation during 2022 as compared to 2021 were also impacted by higher discount rates in 2022 as compared to 2021.

The components of net periodic benefit costs for the fiscal years 2022, 2021, and 2020 are as follows:

(in thousands)	2022	2021	2020
Components of net periodic benefit cost:			
Service cost	\$ 3,072	\$ 2,785	\$ 2,462
Interest cost	2,529	1,761	2,173
Expected return on plan assets	(1,507)	(1,458)	(1,972)
Amortization of prior service and net actuarial loss	378	1,315	963
Net periodic benefit cost	4,472	4,403	3,626
Net settlement (gain) loss	(820)	19,855	236
Total expense for the year	\$ 3,652	\$ 24,258	\$ 3,862

NOTES TO CONSOLIDATED FINANCIAL STATEMENTS

Weighted average assumptions used to determine net periodic benefit cost for the fiscal years 2023, 2022, 2021, and 2020 2021 are as follows:

		2022	2021	2020	2023	2022	2021
Discount rate	Discount rate	3.1 %	1.2 %	2.3 %	Discount rate	5.8 %	3.1 %
					Expected return on plan assets		
Expected return on plan assets	Expected return on plan assets	3.3 %	1.4 %	3.7 %	assets	5.2 %	3.3 %
					Compensation increase rate	4.7 %	4.8 %
Compensation increase rate	Compensation increase rate	4.8 %	4.9 %	4.7 %	increase rate	4.7 %	4.9 %

The accumulated benefit obligation for the plans was \$53.9 million, \$60.6 million and \$75.7 million, \$53.9 million as of December 31, 2022, December 30, 2023 and January 1, 2022, December 31, 2022, respectively.

The following table provides a summary of under-funded or unfunded pension benefit plans with projected benefit obligations in excess of plan assets as of December 31, 2022, December 30, 2023 and January 1, 2022, December 31, 2022:

(in thousands)	(in thousands)	2022	2021	(in thousands)	2023	2022
Projected benefit obligation	Projected benefit obligation	\$42,676	\$86,228			
Fair value of plan assets	Fair value of plan assets	13,650	47,942			

The following table provides a summary of under-funded or unfunded pension benefit plans with accumulated benefit obligations in excess of plan assets as of December 31, 2022, December 30, 2023 and January 1, 2022, December 31, 2022:

(in thousands)	(in thousands)	2022	2021	(in thousands)	2023	2022
Accumulated benefit obligation	Accumulated benefit obligation	\$26,540	\$68,643			
Fair value of plan assets	Fair value of plan assets	4,948	39,060			

Weighted average assumptions used to determine benefit obligations as of December 31, 2022, December 30, 2023, January 1, 2022, December 31, 2022 and December 26, 2020, January 1, 2022 are as follows:

		2022	2021	2020		2023	2022	2021
Discount rate	Discount rate	5.8 %	3.1 %	1.2 %	Discount rate	5.6 %	5.8 %	3.1 %
Compensation increase rate	Compensation increase rate	4.7 %	4.8 %	4.9 %	Compensation increase rate	4.8 %	4.7 %	4.8 %

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

(in thousands)	(in thousands)	Expected Benefit Payments	(in thousands)	Expected Benefit Payments
2023		\$ 4,155		
2024	2024	3,334		
2025	2025	3,869		
2026	2026	4,053		
2027	2027	4,286		
2028-2032 and thereafter		30,645		
2028				
2029-2032 and thereafter				

The Company expects to make approximately \$2.0 million, \$2.2 million of contributions to the plans and pay \$1.9 million, \$2.1 million of benefits directly in 2023, 2024.

NOTES TO CONSOLIDATED FINANCIAL STATEMENTS

The Company also sponsors certain post-employment plans in foreign countries and other statutory benefit plans. For the fiscal years ended December 31, 2022, December 30, 2023, January 1, 2022, December 31, 2022, and December 26, 2020, January 1, 2022, the Company recorded \$1.5 million, \$1.9 million, \$2.1 million, \$2.0 million expense, respectively, in Cost of Sales and Other (income) expense, (income), net within the Consolidated Statements of Net Income. As of December 31, 2022, December 30, 2023 and

January 1, 2022 December 31, 2022, the Company reported benefit liabilities of \$4.0 million \$4.8 million and \$4.1 million \$4.0 million for these plans, of which \$1.5 million \$1.7 million and \$1.5 million was recorded in *Accrued liabilities* and \$2.5 million \$3.1 million and \$2.6 million \$2.5 million was recorded in *Other long-term liabilities* on the Consolidated Balance Sheets, respectively. For the fiscal years ended December 31, 2022 December 30, 2023 and January 1, 2022 December 31, 2022, the pre-tax amounts recognized in other comprehensive income (loss) as components of net periodic benefit costs for these plans were \$0.5 million \$1.3 million and \$0.3 million \$0.5 million, respectively. For the fiscal year ended December 30, 2023, the expense reclassified from accumulated other comprehensive loss to earnings was \$0.4 million, including \$0.5 million net settlement loss. For the fiscal year ended December 31, 2022, the expense reclassified from accumulated other comprehensive income (loss) loss to earnings was \$1.7 million, including \$1.3 million net settlement loss. For the fiscal year ended January 1, 2022, the expense reclassified from accumulated other comprehensive income (loss) to earnings was \$0.7 million.

Defined Benefit Plan Assets

Based upon analysis of the target asset allocation and historical returns by type of investment, the Company has assumed that the expected long-term rate of return will be 5.2% on plan assets. Assets are invested to maximize long-term return taking into consideration timing of settlement of the retirement liabilities and liquidity needs for benefits payments. Pension plan assets were invested as follows, and were not materially different from the target asset allocation:

		Asset Allocation			Asset Allocation	
		2022	2021		2023	2022
Cash and cash equivalents, and other	Cash and cash equivalents, and other	13 %	15 %	Cash and cash equivalents, and other	3 %	13 %
Equity securities	Equity securities	14 %	19 %	Equity securities	7 %	14 %
Fixed income securities	Fixed income securities	73 %	66 %	Fixed income securities	90 %	73 %
		<u>100 %</u>	<u>100 %</u>		<u>100 %</u>	<u>100 %</u>

The Company segregated its plan assets by the following major categories and level for determining their fair value as of December 31, 2022 December 30, 2023 and January 1, 2022 December 31, 2022. All plan assets that are valued using the net asset value per share ("NAV") practical expedient have not been included within the fair value hierarchy but are separately disclosed.

Cash and cash equivalents – Carrying value approximates fair value. As such, these assets were classified as Level 1. The Company also invests in certain short-term investments which are valued using the amortized cost method. Lastly, the Company has certain pooled pension funds that have short-term investments with third party mutual funds that are valued at unit value per share at measurement date. As such, these assets were classified as Level 2.

Equity – The values of individual equity securities were based on quoted prices in active markets. As such, these assets are classified as Level 1. The Company has certain pooled pension funds which have mutual funds with underlying investments in certain equity securities that are not quoted on active markets; therefore, they were classified as Level 2.

Fixed income – Fixed income securities are typically priced based on a last trade basis and are exchange-traded. Accordingly, the Company classified fixed income securities as Level 1. The Company has certain pooled pension funds which have mutual funds with underlying investments in fixed income securities and funds priced based on a valuation model rather than a last trade basis and are not exchange-traded. As such, they were classified as Level 2. The Company also invests in certain fixed income funds which are valued at NAV.

Insurance Contracts and other – This category includes pooled pension funds which have mutual funds with underlying investments in other assets and liabilities including alternatives priced based on a valuation model and are not exchange-traded. These were classified as Level 2. This category includes also insurance contracts that are valued by the re-insurer with the valuation inputs being not highly observable or traded on an open market. Accordingly, insurance contracts were categorized as Level 3. Lastly, this category includes other assets and liabilities including futures or swaps.

For any Level 2 and Level 3 plan assets, management reviews significant investments on a periodic basis including investigation of unusual fluctuations in price or returns and obtaining an understanding of the pricing methodology to assess the reliability of third-party pricing estimates.

NOTES TO CONSOLIDATED FINANCIAL STATEMENTS

The valuation methodologies described above may generate a fair value calculation that may not be indicative of net realizable value or future fair values. While the Company believes the valuation methodologies used are appropriate, the use of different methodologies or assumptions in calculating fair value could result in different amounts. The Company invests in assets in which valuation is determined by NAV. The Company believes that the NAV is representative of fair value at the reporting date, as there are no significant restrictions on redemption of these investments or other reasons to indicate that the investment would be redeemed at an amount different than the NAV.

The following table presents the Company's pension plan assets measured at fair value by classification within the fair value hierarchy as of **December 31, 2022** **December 30, 2023**:

(in thousands)	(in thousands)	Fair Value Measurements Using					Fair Value Measurements Using				
		Level					Level 1	Level 2	Level 3	NAV	Total
		Level 1	Level 2	3	NAV	Total					
Insurance contracts and other	Insurance contracts and other	\$ —	\$ 1,153	\$ 328	\$ —	\$ 1,481					
Insurance contracts and other											
Insurance contracts and other											
Cash and cash equivalents	Cash and cash equivalents	594	2,475	—	—	3,069					
Equities	Equities	2,425	2,435	—	—	4,860					
Fixed income											
Fixed income											
Fixed income	Fixed income	5,930	14,940	—	5,153	26,023					
Total pension plan assets	Total pension plan assets	\$8,949	\$21,003	\$328	\$5,153	\$35,433					
Total pension plan assets											
Total pension plan assets											

The following table presents the Company's pension plan assets measured at fair value by classification within the fair value hierarchy as of **January 1, 2022** **December 31, 2022**:

(in thousands)	(in thousands)	Fair Value Measurements Using					Fair Value Measurements Using				
		Level					Level 1	Level 2	Level 3	NAV	Total
		Level 1	Level 2	3	NAV	Total					
Insurance contracts and other	Insurance contracts and other	\$ —	\$ 1,917	\$ 343	\$ —	\$ 2,260					
Cash and cash equivalents	Cash and cash equivalents	384	4,632	—	—	5,016					
Equities	Equities	2,559	6,604	—	—	9,163					
Fixed income	Fixed income	5,999	20,280	—	5,607	31,886					
Total pension plan assets	Total pension plan assets	\$8,942	\$33,433	\$343	\$5,607	\$48,325					
Total pension plan assets											
Total pension plan assets											

The fair value measurement of plan assets using significant unobservable inputs (Level 3) changed during **2022** **2023** and **2021** **2022** due to the following:

(in thousands)	Level 3
Balance at December 26, 2020 January 1, 2022	\$ 53,778 343
Level 3 assets transferred in from Level 1 and 2 assets valued at NAV:	
Settlements	(47,111) 2
Actual loss on plan assets	(4,943) 3
Foreign currency adjustments	(143) (20)
Balance at January 1, 2022 December 31, 2022	\$ 343 328
Level 3 assets transferred in from Level 1 and 2 assets valued at NAV:	
Employer contribution	2
Actual return on assets	3 15
Benefits paid from the plan assets	(221)
Foreign currency adjustments	(20) 9
Balance at December 31, 2022 December 30, 2023	\$ 328 133

Defined Contribution Plan

The Company also maintains a 401(k) savings plan covering substantially all U.S. employees. The Company matches 100% of the employee's annual contributions for the first 4% of the employee's eligible compensation. The Company may provide an additional discretionary match to participants and made discretionary matches of 2% of the employee's eligible compensation for each of the fiscal year ended **December 31, 2022** **December 30, 2023**, **January 1, 2022** **December 31, 2022** and **December 26, 2020** **January 1, 2022**. Employees are immediately

NOTES TO CONSOLIDATED FINANCIAL STATEMENTS

vested in their contributions plus actual earnings thereon, as well as the Company contributions. Company matching contributions amounted to **\$5.5 million** **\$7.7 million**, **\$5.0 million** **\$5.5 million**, and **\$4.6 million** **\$5.0 million** in **2023**, **2022**, **2021**, and **2020**, **2021**, respectively.

Non-qualified Supplemental Retirement and Savings Plan

The Company has a non-qualified Supplemental Retirement and Savings Plan which provides additional retirement benefits for certain management employees and named executive officers by allowing participants to defer a portion of their annual compensation. The Company maintains accounts for participants through which participants make investment elections. The investments are subject to the claims of the Company's creditors and the Company is responsible for the payment of all benefits under the plan from its general assets. As of **December 31, 2022** **December 30, 2023**, there was **\$14.1 million** **\$20.1 million** of marketable securities related to the plan included in *Other assets* and **\$14.1 million** **\$20.1 million** of accrued compensation benefits included in *Other long-term liabilities*. The marketable securities are classified as Level 1 under the fair value hierarchy as they are maintained in mutual funds with readily determinable fair value. The Company made matching contributions to the plan of **\$0.2 million** **\$0.6 million**, **\$0.2 million**, and **\$0.5** **\$0.2 million** in **2023**, **2022**, **2021**, and **2020**, **2021**, respectively.

12. Stock-Based Compensation

Equity Plans: The Company has equity-based compensation plans authorizing the granting of stock options, restricted shares, restricted share units, and other stock rights to employees and directors. During the fiscal year **2023**, the Company designated an additional 0.7 million shares for the Company's equity-based compensation plans. As of **December 31, 2022** **December 30, 2023**, there were **0.6 million** **1.2 million** shares available for issuance of future awards under the Company's equity-based compensation plans.

Stock options generally vest over a three-year period and are exercisable over either a seven or ten-year period commencing from the date of the grant. Restricted shares and share units granted by the Company generally vest over three years. Stock options and restricted share units may have accelerated vesting upon meeting certain qualified conditions.

The following table provides a reconciliation of outstanding stock options for the fiscal year ended **December 31, 2022** **December 30, 2023**.

	December 31, 2022				Shares Under Option	Weighted Average Price	Weighted Average Remaining Contract Life (Years)	Aggregate Intrinsic Value (000's)
	Shares Under Option	Weighted Average Price	Contract Life (Years)	Intrinsic Value (000's)				
Outstanding January 1, 2022	563,226	\$ 165.98						

Outstanding					
December					
31, 2022					
Granted					
Granted	Granted	86,220	231.64		
Exercised	Exercised	(29,353)	132.31		
Exercised					
Exercised					
Forfeited	Forfeited	(2,237)	153.14		
Outstanding					
December					
31, 2022		<u>617,856</u>	176.79	4.2	\$ 30,555
Exercisable					
December					
31, 2022		<u>292,824</u>	159.93	3.2	18,566
Forfeited					
Forfeited					
Outstanding					
December					
30, 2023					
Outstanding					
December					
30, 2023					
Outstanding					
December					
30, 2023					
Exercisable					
December					
30, 2023					

The following table provides a reconciliation of non-vested restricted share and share unit awards ("RSU") for the fiscal year ended **December 31, 2022** **December 30, 2023**.

	Shares	Weighted Average Grant-Date Fair Value	Shares	Weighted Average Grant-Date Fair Value
Nonvested January 1, 2022	156,659	\$ 192.44		
Nonvested December 31, 2022				
Granted	Granted	90,970	228.78	
Vested	Vested	(71,822)	185.06	
Forfeited	Forfeited	(7,521)	227.96	
Nonvested December 31, 2022	<u>168,286</u>	<u>213.65</u>		
Nonvested December 30, 2023				

The total intrinsic value of options exercised during **2023**, **2022**, and **2021** and **2020** was **\$12.2 million**, **\$3.7 million**, **\$23.8 million**, and **\$20.6 million** **\$23.8 million**, respectively. The total fair value of the vested RSU shares was **\$15.4 million** **\$19.8 million**, **\$18.9 million** **\$15.4 million**, and **\$9.5 million** **\$18.9 million** for **2023**, **2022**, **2021**, and **2020**, respectively.

NOTES TO CONSOLIDATED FINANCIAL STATEMENTS

and **2020**, **2021**, respectively. The total amount of share-based liabilities paid was **\$1.1 million** **\$2.2 million**, **\$1.1 million** and **\$1.3 million** for **2023**, **2022**, and **\$0.5 million** for **2022**, **2021**, and **2020**, respectively.

The Company recognizes compensation cost of all share-based awards as an expense on a straight-line basis over the vesting period of the awards. At **December 31, 2022** **December 30, 2023**, the unrecognized compensation cost for options and restricted shares was **\$21.1 million** **\$22.1 million** before tax, and will be recognized over a weighted

average period of 1.8 years. Compensation cost included as a component of cost of sales, research and development and selling, general, and administrative expenses for all equity compensation plans discussed above was \$24.6 million, \$25.7 million, \$21.4 million, \$24.6 million, and \$19.1 million, \$21.4 million for 2023, 2022, 2021, and 2020, 2021, respectively. The total related income tax benefit recognized in the Consolidated Statements of Net Income was \$3.5 million, \$3.8 million, \$3.5 million and \$3.3 million for 2023, 2022, and \$3.1 million for 2022, 2021, and 2020, respectively.

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

		2022	2021	2020		2023	2022		2021
Weighted average fair value of options granted	Weighted average fair value of options granted	\$70.39	\$74.04	\$38.09	Weighted average fair value of options granted	\$77.40	\$70.39		\$74.04
Assumptions:	Assumptions:								
Risk-free interest rate	Risk-free interest rate	2.83%	0.66%	0.30%					
Risk-free interest rate						3.67%	2.83%		0.66%
Expected dividend yield	Expected dividend yield	0.92%	0.72%	1.27%	Expected dividend yield	1.00%	0.92%		0.72%
Expected stock price volatility	Expected stock price volatility	35.0%	35.0%	33.0%	Expected stock price volatility	36.0%		35.0%	
Expected life of options (years)	Expected life of options (years)	4.4	4.4	4.7	Expected life of options (years)	4.4		4.4	

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

The fair value of RSU is determined based on the Company's stock price on the grant date reduced by the present value of expected dividends through the vesting period.

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

Share Repurchase Program

On April 29, 2020, the Company announced that the Board of Directors authorized a new program to repurchase up to 1,000,000 shares of the Company's common stock for the period May 1, 2020 to April 30, 2021 (the "2020 program"). On April 28, 2021, the Company announced that the Board of Directors authorized a new three-year program to repurchase up to \$300 million in the aggregate of shares of the Company's common stock for the period May 1, 2021 to April 30, 2024 to replace its previous 2020 program. There are \$300 million in the aggregate of shares available for purchase under the new program as of December 31, 2022, December 30, 2023.

During the fiscal years 2023, 2022 and 2021, the Company did not repurchase any shares of its common stock. During the fiscal year 2020, the Company repurchased 175,110 shares of its common stock totaling \$22.9 million.

NOTES TO CONSOLIDATED FINANCIAL STATEMENTS

13. Other Comprehensive Income (Loss)

Changes in other comprehensive income (loss) by component for fiscal years 2023, 2022, 2021, and 2020, 2021 were as follows:

	Fiscal Year Ended			Fiscal End
	December 31, 2022	January 1, 2022	December 26, 2020	
	Fiscal Year Ended			December
	December 30, 2023			December 31, 2022
				January 1, 2021

(in thousands)	(in thousands)	Pre-tax	Tax	Net of tax	Net of			Pre-tax	Tax	Net of tax	(in thousands)	Pre-tax	Tax	Net of tax	Pre-tax	Tax	Net of tax	Pre-tax	Tax	
					tax	Pre-tax	Tax													
Defined benefit pension plan and other adjustments	Defined benefit pension plan and other adjustments	\$ 11,560	\$(1,825)	\$ 9,735	\$27,481	\$(5,268)	\$22,213	\$(19,513)	\$3,418	\$(16,095)										
Cash flow hedge	Cash flow hedge	8,679	(2,083)	6,596	—	—	—	—	—	—										
Foreign currency translation adjustments (1)	Foreign currency translation adjustments (1)	(39,619)	987	(38,632)	(6,967)	2,448	(4,519)	34,707	(2,946)	31,761										
Total change in other comprehensive income (loss)	Total change in other comprehensive income (loss)	\$(19,380)	\$(2,921)	\$(22,301)	\$20,514	\$(2,820)	\$17,694	\$ 15,194	\$ 472	\$ 15,666										

(1) The tax shown above within the *foreign currency translation adjustments* is the U.S. tax associated with the foreign currency translation adjustments of earnings of non-U.S. subsidiaries which have been previously taxed in the U.S. and are not permanently reinvested.

Accumulated Other Comprehensive Income (Loss) Loss ("AOCI"): The following table sets forth the changes in the components of AOCI by component for fiscal years 2023, 2022, 2021, and 2020: 2021:

(in thousands)	(in thousands)	Pension and postretirement liability and reclassification adjustments	Cash flow hedge	Foreign currency translation adjustments	Accumulated other comprehensive income (loss)	(in thousands)	Pension and postretirement liability and reclassification adjustments	Cash flow hedge	Foreign currency translation adjustments	Accumulated other comprehensive income (loss)
Balance at December 28, 2019		\$ (18,046)	\$ —	\$ (88,777)	\$ (106,823)					
2020 activity		(16,095)	—	31,761	15,666					
Balance at December 26, 2020	Balance at December 26, 2020	(34,141)	—	(57,016)	(91,157)					
2021 activity	2021 activity	22,213	—	(4,519)	17,694					
2021 activity	2021 activity									
Balance at January 1, 2022	Balance at January 1, 2022	(11,928)	—	(61,535)	(73,463)					
2022 activity	2022 activity									
2022 activity	2022 activity	9,735	6,596	(38,632)	(22,301)					
Balance at December 31, 2022	Balance at December 31, 2022	(2,193)	6,596	(100,167)	(95,764)					
2023 activity	2023 activity									
Balance at December 30, 2023	Balance at December 30, 2023									

Due to The Company completed the signing buy-out of the group annuity contract being a significant change in the U.K. pension plan during the liabilities fourth quarter of the plan were remeasured 2021 and as of April 6, 2020 resulting a result in an increase of \$13.4 million to unamortized actuarial loss within other comprehensive income (loss). In the fourth quarter of 2021, the Company recorded a non-cash pension settlement charge of \$19.9 million (£14.9 million), inclusive of the accelerated recognition of prior service cost of \$0.5 million (£0.4 million). See Note 11, *Benefits Plans* for further discussion.

Amounts reclassified from accumulated other comprehensive income (loss) loss to earnings for fiscal years 2023, 2022, 2021, and 2020 2021 were as follows:

		Fiscal Year Ended			Fiscal Year Ended			
		Fiscal Year Ended			Fiscal Year Ended			
(in thousands)	(in thousands)	December 31, 2022	January 1, 2022	December 26, 2020	(in thousands)	December 30, 2023	December 31, 2022	January 1, 2022
Pension and postemployment and other plans:	Pension and postemployment and other plans:							
Amortization of prior service, net actuarial loss, and other		\$ 785	\$ 2,006	\$ 1,694				
Amortization of prior service, net actuarial (gain) loss, and other								
Amortization of prior service, net actuarial (gain) loss, and other								
Amortization of prior service, net actuarial (gain) loss, and other								
Net settlement loss and accelerated prior service costs	Net settlement loss and accelerated prior service costs	477	19,855	236				
Total	Total	\$ 1,262	\$ 21,861	\$ 1,930				

NOTES TO CONSOLIDATED FINANCIAL STATEMENTS

The Company recognizes the amortization of prior service costs and net settlement loss in *other (income) expense, (income), net* within the Consolidated Statements of Net Income.

NOTES TO CONSOLIDATED FINANCIAL STATEMENTS

14. Income Taxes

The 2017 Tax Cuts and Jobs Act (the "Tax Act"), among other things, imposed a one-time tax (the "Toll Charge") on accumulated earnings of certain non-U.S. subsidiaries and included base broadening provisions commonly referred to as the global intangible low-taxed income provisions ("GILTI").

The Company elected to pay the 2017 Littelfuse Toll Charge over the eight-year period prescribed by the Tax Act. The long-term portion of this Toll Charge which remains payable as of December 31, 2022 December 30, 2023, totaling \$14.8 \$8.2 million, is recorded in *Other long-term liabilities*, and the anticipated 2023 2024 annual installment payment of \$5.0 \$6.6 million is included in *Accrued income taxes*, on the Consolidated Balance Sheet as of December 31, 2022 December 30, 2023.

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 fiscal years ended December 31, 2022 December 30, 2023, January 1, 2022 December 31, 2022, and December 26, 2020 January 1, 2022, 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.

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

(in thousands)	(in thousands)	2022	2021	2020	(in thousands)	2023	2022	2021
Domestic	Domestic	\$ 32,462	\$ 13,746	\$ (16,732)				
Foreign	Foreign	410,582	327,279	177,985				

Income before income taxes	Income before income taxes	\$443,044	\$341,025	\$161,253
----------------------------	----------------------------	-----------	-----------	-----------

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

(in thousands)	(in thousands)	2022	2021	2020	(in thousands)	2023	2022	2021
Current:	Current:				Current:			
Federal	Federal	\$12,423	\$ 4,832	\$ 437				
State	State	2,183	1,401	203				
Foreign	Foreign	77,551	59,006	33,841				
Subtotal	Subtotal	92,157	65,239	34,481				
Deferred:	Deferred:							
Federal and State	Federal and State	(9,182)	(9,658)	(5,354)				
Federal and State	Federal and State							
Foreign	Foreign	(13,237)	1,638	2,140				
Subtotal	Subtotal	(22,419)	(8,020)	(3,214)				
Provision for income taxes	Provision for income taxes	\$69,738	\$57,219	\$31,267				

NOTES TO CONSOLIDATED FINANCIAL STATEMENTS

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

(in thousands)	2022	2021	2020
Tax expense at statutory rate of 21%	\$ 93,039	\$ 71,615	\$ 33,863
Non-U.S. income tax rate differential	(41,731)	(31,414)	(19,730)
One-time tax deductions for stock of subsidiaries	(11,495)	—	—
Tax on unremitted earnings	10,870	7,585	3,955
Non-U.S. losses and expenses with no tax benefit	10,660	7,820	2,774
Net impact associated with U.S. tax on Non-U.S. income, including GILTI	2,546	(238)	3,731
Certain changes in unrecognized tax benefits and related accrued interest	1,839	4,263	2,160
State and local taxes, net of federal tax benefit	215	(172)	(584)
Tax impact of non-deductible goodwill impairment charge	—	—	5,642
Other, net	3,795	(2,240)	(544)
Provision for income taxes	\$ 69,738	\$ 57,219	\$ 31,267

For fiscal year ended December 31, 2022, the Company classified certain amounts in "Net impact associated with U.S. tax on Non-U.S. income, including GILTI," that in prior years were classified in "Other, net".

(in thousands)	2023	2022	2021
Tax expense at statutory rate of 21%	\$ 69,006	\$ 93,039	\$ 71,615
Non-U.S. income tax rate differential	(25,623)	(41,731)	(31,414)
Non-U.S. losses and expenses with no tax benefit	11,261	10,660	7,820
Tax on unremitted earnings	6,394	10,870	7,585
Net impact associated with U.S. tax on Non-U.S. income, including GILTI	4,739	2,546	(238)
State and local taxes, net of federal tax benefit	1,503	215	(172)
Certain changes in unrecognized tax benefits and related accrued interest	(172)	1,839	4,263
One-time tax deductions for stock of subsidiaries	—	(11,495)	—

Other, net		2,005	3,795	(2,240)
Provision for income taxes	\$	69,113	\$ 69,738	\$ 57,219

NOTES TO CONSOLIDATED FINANCIAL STATEMENTS

Deferred income taxes are provided for the tax effects of temporary differences between the financial reporting bases and the tax bases of the Company's assets and liabilities. Significant components of the Company's deferred tax assets and liabilities at **December 31, 2022**, **December 30, 2023** and **January 1, 2022**, **December 31, 2022**, are as follows:

(in thousands)	(in thousands)	2022	2021	(in thousands)	2023	2022
Deferred tax assets:	Deferred tax assets:			Deferred tax assets:		
Accrued expenses and reserves	Accrued expenses and reserves	\$49,138	\$36,168			
Net operating loss carryforwards	Net operating loss carryforwards	30,403	27,818			
Interest expense carryforwards	Interest expense carryforwards	33,507	16,089			
Capitalized expenses	Capitalized expenses	11,632	4,878			
U.S. foreign tax credit carryforwards	U.S. foreign tax credit carryforwards	3,385	980			
U.S. research and other general business tax credit carryforwards	U.S. research and other general business tax credit carryforwards	2,076	1,104			
Excess of tax basis over the book basis for intangible assets and goodwill	Excess of tax basis over the book basis for intangible assets and goodwill	404	5,636			
Other		—	183			
Deferred tax assets						
Deferred tax assets	Deferred tax assets	130,545	92,856			
Less: Valuation allowance	Less: Valuation allowance	(37,001)	(34,869)			
Total deferred tax assets	Total deferred tax assets	93,544	57,987			
Deferred tax liabilities:	Deferred tax liabilities:					
Deferred tax liabilities:						
Excess of book basis over the tax basis for intangible assets and goodwill						

Excess of book basis over the tax basis for intangible assets and goodwill			
Excess of book basis over the tax basis for intangible assets and goodwill	Excess of book basis over the tax basis for intangible assets and goodwill	143,542	98,046
Excess of book basis over the tax basis for property, plant, and equipment	Excess of book basis over the tax basis for property, plant, and equipment	18,489	12,563
Tax on unremitted earnings	Tax on unremitted earnings	16,282	15,467
Unrealized foreign currency exchange gains	Unrealized foreign currency exchange gains	1,094	73
Total deferred tax liabilities	Total deferred tax liabilities	179,407	126,149
Net deferred tax liabilities	Net deferred tax liabilities	\$85,863	\$68,162

The deferred tax asset valuation allowance is mainly related to certain U.S. and non-U.S. net operating loss and non-U.S. interest expense carryforwards which are not expected more likely than not to be realized. The remaining U.S. and non-U.S. net operating loss and interest expense carryforwards either have no expiration date or are expected to be utilized prior to expiration, expiration (which begin expiring in 2025). No deferred tax asset nor valuation allowance has been recorded for certain U.S. and non-U.S. net operating loss carryforwards for which the possibility of usage has been determined to be remote.

The Company paid income taxes of \$96.8 million \$81.1 million, \$58.2 million \$96.8 million, and \$35.2 million \$58.2 million in 2023, 2022, 2021, and 2020, 2021, respectively, and received income tax refunds of \$3.2 million \$7.2 million, \$2.6 million \$3.2 million, and \$7.6 million \$2.6 million in 2023, 2022, and 2021, and 2020, respectively.

NOTES TO CONSOLIDATED FINANCIAL STATEMENTS

Deferred income taxes are not provided on the excess of the investment value for financial reporting over the tax basis of investments in those subsidiaries for which such excess is considered to be permanently reinvested in those operations. The Company believes the determination of the amount of such deferred income taxes is impractical as it would depend upon income tax laws and circumstances at the time of the hypothetical distributions or dispositions. As of December 31, 2022 December 30, 2023, unremitted earnings of the Company's non-U.S. subsidiaries were approximately \$1.2 billion \$1.5 billion. A distribution of such earnings will generally not be subject to U.S. federal income tax. The Company recognized deferred tax liabilities of \$16.3 million (\$16.1 million for non-U.S. taxes net of related U.S. foreign tax credits, and \$0.2 million for U.S. state taxes) \$18.6 million as of December 31, 2022 December 30, 2023 and \$15.5 million (\$15.3 million for non-U.S. taxes net of related U.S. foreign tax credits, and \$0.2 million for U.S. state taxes) \$16.3 million as of January 1, 2022 December 31, 2022, related to taxes on certain non-U.S. earnings which are not considered to be permanently reinvested.

The Company has two subsidiaries in China which benefit from lower tax rates due to "tax holidays" which apply for three-year periods. The tax holiday for one of the subsidiaries expired at the end of 2022, but was later extended for an additional three years, retroactive to include all of 2023, as well as 2024 and 2025, and for the other subsidiary the tax holiday will expire expired at the end of 2023. The Company intends to seek an extension for the expired tax holiday. Together, the tax holidays contributed \$10.1 million \$5.8 million in tax benefits, or \$0.40 \$0.23 per diluted share, during 2022, 2023. Future year tax benefits will depend upon the Company's ability to obtain extensions, after the three-year periods expire. There can be no assurance that future extensions will be granted.

A reconciliation of the beginning and ending amount of unrecognized tax benefits as of December 31, 2022 December 30, 2023, January 1, 2022 December 31, 2022, and December 26, 2020 January 1, 2022 is as follows:

NOTES TO CONSOLIDATED FINANCIAL STATEMENTS

(in thousands)	Unrecognized Tax Benefits
Balance at December 26, 2020 January 1, 2022	\$ 17,437
Additions for tax positions related to pre-acquisition periods of acquired subsidiaries	3,260
Additions for tax positions taken in the current year	1,587
Additions for tax positions taken in the prior year	1,100
Other	61
Balance at January 1, 2022	23,445
Additions for tax positions related to pre-acquisition periods of acquired subsidiaries	6,726
Additions for tax positions taken in the current year	2,153
Decreases for tax positions taken in the prior year	(957)
Decreases for lapses in statute of limitations	(758)
Other	(235)
Balance at December 31, 2022	\$ 30,374
Additions for tax positions related to pre-acquisition periods of acquired subsidiaries	1,975
Additions for tax positions taken in the current year	1,200
Decreases for tax positions taken in the prior year	(792)
Decreases for lapses in statute of limitations	(1,051)
Decreases for settlements	(215)
Other	(42)
Balance at December 30, 2023	\$ 31,449

The **December 31, 2022** **December 30, 2023** total in the table above represents the net amount of tax benefits that, if recognized, would favorably affect the effective tax rate in future periods. Of this amount, approximately **\$1.3** **\$7.8** million may be recognized in **2023** **2024** based upon the possible lapse in the statute of limitations. None of the positions included in unrecognized tax benefits are related to tax positions for which the ultimate deductibility is highly certain, but for which there is uncertainty about the timing of such deductibility.

The Company recognizes accrued interest and penalties associated with uncertain tax positions as part of income tax expense. The Company recognized such interest expense of **\$1.4 million** **\$0.5 million** (net of a **\$0.2 million** **\$1.7 million** decrease due to a lapse in the statute of limitations), **\$1.6** **\$1.4** million (net of a **\$0.6** **\$0.2** million decrease due to a lapse in the statute of limitations) and **\$1.6 million** (net of a **\$0.6 million** decrease due to a lapse in the statute of limitations) in **2023**, **2022**, **2021**, and **2020**, **2021**, respectively. Accrued interest for such matters included in *Other long-term liabilities* within the Consolidated Balance Sheets was **\$11.8 million** **\$14.4 million** and **\$10.4 million** **\$11.8 million** as of **December 31, 2022** **December 30, 2023** and **January 1, 2022** **December 31, 2022**, respectively.

The U.S. federal statute of limitations remains open for the Company for the 2017 tax year (with respect to the Toll Charge) and later years. Non-U.S. and U.S. state statutes of limitations generally range from three to seven years, although certain jurisdictions do not have a statute expiration. Tax examinations occur from time to time, including examinations currently in process in **Canada**, **Germany**, **the Netherlands**, **Singapore**, **the U.S.**, and certain U.S. states. The Company does not expect to recognize a significant amount of additional tax expense as a result of concluding these examinations.

NOTES TO CONSOLIDATED FINANCIAL STATEMENTS

15. Earnings Per Share

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

(in thousands, except per share amounts)	(in thousands, except per share amounts)	2022	2021	2020	(in thousands, except per share amounts)	2023	2022	2021
Numerator:	Numerator:				Numerator:			
Net income as reported	Net income as reported	\$373,306	\$283,806	\$129,986				
Denominator:	Denominator:							
Denominator:								

Denominator:					
Weighted average shares outstanding	Weighted average shares outstanding				
Weighted average shares outstanding					
Weighted average shares outstanding					
Basic					
Basic					
Basic	Basic	24,734	24,603	24,371	
Effect of dilutive securities	Effect of dilutive securities	252	329	221	
Diluted	Diluted	24,986	24,932	24,592	
Earnings Per Share:					
Earnings Per Share:					
Basic earnings per share					
Basic earnings per share					
Basic earnings per share	Basic earnings per share	\$ 15.09	\$ 11.54	\$ 5.33	
Diluted earnings per share	Diluted earnings per share	\$ 14.94	\$ 11.38	\$ 5.29	

Potential shares of common stock attributable to stock options and restricted shares excluded from the earnings per share calculation because their effect would be anti-dilutive were 110,002, 87,425, 20,139, and 222,526 20,139 shares in 2023, 2022, 2021, and 2020, 2021, respectively.

During the fiscal year 2022 and 2021, the The Company did not repurchase any shares of its common stock. During stock during the fiscal year 2020, the Company repurchased 175,110 shares of its common stock totaling \$22.9 million. See Note 12 Stock-Based Compensation for further discussion. 2023, 2022, and 2021, respectively.

16. Segment Information

The Company and its subsidiaries design, manufacture and sell component, modules and subassemblies to empower the long-term structural themes of sustainability, connectivity and safety. The Company reports its operations by the following segments: Electronics, Transportation, and Industrial. An operating segment is defined as a component of an enterprise that engages in business activities from which it may earn revenues and incur expenses, and about which separate financial information is regularly evaluated by the Chief Operating Decision Maker ("CODM") in deciding how to allocate resources. The CODM is the Company's President and Chief Executive Officer ("CEO"). The CODM allocates resources to and assesses the performance of each operating segment using information about its revenue and operating income (loss) before interest and taxes, but does not evaluate the operating segments using discrete balance sheet information.

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

NOTES TO CONSOLIDATED FINANCIAL STATEMENTS

- Electronics Segment:** Consists of one of the broadest product offerings in the industry, including fuses and fuse accessories, positive temperature coefficient ("PTC") resettable fuses, electromechanical switches and interconnect solutions, polymer electrostatic discharge ("ESD") suppressors, varistors, reed switch based magnetic sensing, gas discharge tubes; semiconductor products such as discrete transient voltage suppressor ("TVS") diodes, TVS diode arrays, protection and switching thyristors, silicon and silicon carbide metal-oxide-semiconductor field effect transistors ("MOSFETs") and diodes; and insulated gate bipolar transistors ("IGBT") technologies. The segment covers a broad range of end markets, including industrial motor drives and power conversion, automotive electronics, electric vehicle and related charging

infrastructure, aerospace, power supplies, data centers and telecommunications, medical devices, alternative energy and energy storage, building and home automation, appliances, and mobile electronics.

NOTES TO CONSOLIDATED FINANCIAL STATEMENTS

- Transportation Segment:** Formerly known as Automotive segment. The term "Transportation" represents a more comprehensive description of the Company's broad range of products, and the applications and end markets it serves. Consists of a wide range of circuit protection, power control and sensing technologies for global original equipment manufacturers ("OEMs"), Tier-one suppliers and parts and aftermarket distributors in passenger vehicle, heavy-duty truck and bus, off-road vehicle, and recreational vehicles, material handling equipment, agricultural machinery, construction equipment and other commercial vehicle end markets. Passenger vehicle products are used in internal combustion engine, hybrid and electric vehicles including blade fuses, battery cable protectors, resettable fuses, high-current fuses, high-voltage fuses, and sensor products designed to monitor the occupant's safety and environment as well as the vehicle's powertrain. Commercial vehicle products include fuses, switches, circuit breakers, relays, and power distribution modules and units used in applications serving a number of end markets, including heavy-duty truck and bus, construction, agriculture, material handling and marine.
- Industrial Segment:** Consists of industrial circuit protection (industrial fuses), industrial controls (protection relays, contactors, transformers, residual current devices, ground fault circuit interrupters, residual current monitors, and transformers) arc fault detection devices) and temperature sensors for use in various applications such as renewable energy and energy storage systems, electric industrial safety, factory automation, electric vehicle infrastructure, HVAC systems, industrial safety, non-residential construction, MRO, mining and industrial automation. mining.

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

NOTES TO CONSOLIDATED FINANCIAL STATEMENTS

(in thousands)	(in thousands)	2022	2021	2020	(in thousands)	2023	2022	2021
Net sales	Net sales				Net sales			
Electronics	Electronics	\$1,492,819	\$1,300,744	\$ 937,762				
Transportation	Transportation	716,140	528,058	395,764				
Industrial	Industrial	304,938	251,126	112,169				
Total net sales	Total net sales	\$2,513,897	\$2,079,928	\$1,445,695				
Depreciation and amortization	Depreciation and amortization							
Depreciation and amortization	Depreciation and amortization							
Electronics	Electronics							
Electronics	Electronics	\$ 68,195	\$ 61,512	\$ 62,702				
Transportation	Transportation	43,756	29,015	28,995				
Industrial	Industrial	8,755	8,108	4,481				
Total depreciation and amortization	Total depreciation and amortization	\$ 120,706	\$ 98,635	\$ 96,178				
Total depreciation and amortization	Total depreciation and amortization							
Total depreciation and amortization	Total depreciation and amortization							
Operating income (loss)	Operating income (loss)							
Operating income (loss)	Operating income (loss)							
Electronics	Electronics							
Electronics	Electronics							

Electronics	Electronics	\$ 431,616	\$ 309,633	\$ 152,695
Transportation	Transportation	63,539	65,979	41,655
Industrial	Industrial	48,853	22,621	11,996
Other ^(a)	Other ^(a)	(43,182)	(12,591)	(43,974)
Total operating income	Total operating income	500,826	385,642	162,372
Interest expense	Interest expense	26,216	18,527	21,077
Foreign exchange loss (gain)		24,359	17,158	(14,875)
Other expense (income), net		7,207	8,932	(5,083)
Foreign exchange loss				
Other (income) expense, net				
Income before income taxes	Income before income taxes	\$ 443,044	\$ 341,025	\$ 161,253

(a) Included in "Other" Operating income (loss) for 2022 the 2023 was \$17.6 million \$11.7 million of legal and professional fees and other integration expenses related to completed and contemplated acquisitions, \$15.6 million and \$11.6 million of restructuring charges, primarily related to employee termination costs. During 2023, the Company recognized a \$3.9 million impairment charge related to the land and building in the commercial vehicle business within the Transportation segment, \$0.9 million impairment charge substantially related to certain patents in a business within the Industrial segment, and a \$0.1 million impairment related to certain machinery and equipment in the semiconductor business within the Electronics segment. See Note 8, *Restructuring, Impairment and Other Charges*, for further discussion.

NOTES TO CONSOLIDATED FINANCIAL STATEMENTS

Included in "Other" Operating income for 2022 was \$17.6 million of legal and professional fees and other integration expenses related to completed and contemplated acquisitions, \$15.6 million of purchase accounting inventory step-up charges, and \$10.0 million of restructuring, impairment and other charges, primarily related to employee termination costs and a \$2.9 million non-cash impairment charge for certain acquired technology and patent intangible assets due to a change in use and projected cash flows within the Electronics segment in the fourth quarter of 2022. See Note 8, *Restructuring, Impairment and Other Charges*, for further discussion.

Included in "Other" Operating income (loss) for 2021 was \$8.4 million of purchase accounting inventory step-up charges, \$7.0 million \$7.0 million of legal and professional fees and other integration expenses related to Carling, Hartland and other contemplated acquisitions, and \$2.2 \$10.0 million of restructuring, impairment and other charges, primarily related to employee termination costs. See Note 8, *Restructuring, Impairment and Other Charges*, for further discussion. In addition, there was a gain of \$5.0 million recorded for the sale of buildings within the Electronics segment.

Included in "Other" Operating income (loss) for 2020 is \$2.3 million of acquisition-related and integration charges related to the IXYS acquisition and other contemplated acquisitions. In addition, there were \$41.7 million of restructuring, impairment and other charges, primarily related to the goodwill impairment charge of \$33.8 million recorded in the second quarter associated with the automotive sensors reporting unit within the Transportation segment, employee termination costs of \$5.5 million, \$2.2 million of impairment charges recorded in the first quarter associated with the announced consolidation of a manufacturing facility within the Industrial segment and other restructuring charges of \$0.2 million.

The Company's net sales, long-lived assets and additions to long-lived assets by country for the fiscal years ended 2023, 2022, 2021, and 2020 2021 are as follows:

NOTES TO CONSOLIDATED FINANCIAL STATEMENTS

(in thousands)	(in thousands)	2022	2021	2020	(in thousands)	2023	2022	2021
Net sales	Net sales				Net sales			
U.S.	U.S.	\$ 912,498	\$ 639,381	\$ 392,544				
China	China	638,978	620,211	438,000				
Other countries ^(a)	Other countries ^(a)	962,421	820,336	615,151				
Total net sales	Total net sales	\$2,513,897	\$2,079,928	\$1,445,695				
Long-lived assets	Long-lived assets							

Long-lived assets				
Long-lived assets				
U.S.				
U.S.				
U.S.	U.S.	\$ 76,325	\$ 57,923	\$ 46,132
China	China	129,094	122,867	85,876
Mexico	Mexico	107,119	107,283	70,125
Germany	Germany	39,635	39,055	37,976
Philippines	Philippines	77,240	74,918	66,994
Other countries	Other countries	51,697	35,843	37,075
Total long-lived assets	Total long-lived assets	\$ 481,110	\$ 437,889	\$ 344,178
Additions to long-lived assets				
Additions to long-lived assets				
U.S.				
U.S.				
U.S.	U.S.	\$ 14,603	\$ 7,690	\$ 4,170
China	China	35,297	26,396	10,074
Mexico	Mexico	26,514	28,707	9,977
Germany	Germany	5,255	8,519	5,600
Philippines	Philippines	14,847	19,342	19,612
Other countries	Other countries	7,678	5,654	1,775
Total additions to long-lived assets	Total additions to long-lived assets	\$ 104,194	\$ 96,308	\$ 51,208

(a) Each country included in other countries are less than 10% of net sales.

For the year ended December 30, 2023, approximately 65% of the Company's net sales were to customers outside the U.S. (exports and foreign operations), including approximately 23% to China. For the year ended December 31, 2022, approximately 64% of the Company's net sales were to customers outside the U.S. (exports and foreign operations), including approximately 25% to China. For the year ended January 1, 2022, approximately 69% of the Company's net sales were to customers outside the U.S. (exports and foreign operations), including approximately 30% to China. For the year ended December 26, 2020, approximately 73% of the Company's net sales were to customers outside the U.S. (exports and foreign operations), including approximately 30% to China. Sales to Arrow Electronics, Inc., which were included in the Electronics, Transportation, and Industrial segments, were 11.5%, 11.2%, 10.7%, 11.5%, and 10.4% of consolidated net sales in 2023, 2022, 2021, and 2020 respectively. No other single customer accounted for more than 10% of net sales during the last three years.

NOTES TO CONSOLIDATED FINANCIAL STATEMENTS

17. Commitments and Contingencies

Off-Balance Sheet Arrangements

As of December 30, 2023, 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.

Product Warranty Liabilities

Our policy is to accrue for warranty claims when a loss is both probable and estimable. Liabilities for warranty claims have historically not been material and in limited instances, customer may make claims for costs they incurred or other damages related to a claim.

Environmental Remediation Liabilities

Refer to Note 1: *Summary of Significant Accounting Policies and Other Information* related to environmental liabilities. Our operations and facilities are subject to U.S. and non-U.S. laws and regulations governing the protection of the environment and our employees, including those governing air emissions, chemical usage, water discharges, the management and disposal of hazardous substances and wastes, and the cleanup of contaminated sites. We could incur significant costs, including cleanup costs, fines, civil or criminal sanctions, or third-party property damage or personal injury claims, in the event of violations or liabilities under these laws and regulations, or non-compliance with the environmental permits required at our facilities. Potentially significant expenditures could be required in order to comply with environmental laws that may be adopted or imposed in the future. We are, however, not aware of any threatened or pending material environmental investigations, lawsuits, or claims involving the Company or its operations.

Legal Proceedings

In the ordinary course of business, the Company may be involved in a number of claims and litigation matters. While it is not feasible to predict the outcome of these matters, based upon our experience and current information known to us, we do not expect the outcome of these matters, either individually or in the aggregate, to have a material adverse effect on our results of operations, financial position, and/or cash flows.

The Company accounts for litigation and claims losses in accordance with FASB ASC Topic 450, *Contingencies* where loss contingency provisions are recognized for probable and estimable losses at our best estimate of a loss or, when a best estimate cannot be made, at our estimate of the minimum loss. These estimates require the application of considerable judgment and are refined each accounting period as additional information becomes known. We are often initially unable to develop a best estimate of loss and therefore the minimum amount, which could be an immaterial amount, is recognized. As information becomes known, either the minimum loss amount is increased, or a best estimate can be made, resulting in additional loss provisions. A best estimate may be changed to a lower amount when events result in an expectation of a more favorable outcome than previously expected.

Pending Litigation and Claims

There are no material pending litigation or claims outstanding as of December 30, 2023.

NOTES TO CONSOLIDATED FINANCIAL STATEMENTS

18. Related Party Transactions

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 following is a description of the investments and related party transactions.

Powersem GmbH: The Company owns 45% of the outstanding equity of Powersem GmbH ("Powersem"), a module manufacturer based in Germany.

EB-Tech Co., Ltd.: The Company owns approximately 19% of the outstanding equity of EB-Tech Co., Ltd. ("EB Tech"), a company with expertise in radiation technology based in South Korea.

Automated Technology (Phil), Inc.: The Company owns approximately 24% of the outstanding common shares of Automated Technology (Phil), Inc. ("ATEC"), a supplier located in the Philippines that provides assembly and test services. **One member of the Company's Board of Directors serves on the Board of Directors of ATEC.**

		Fiscal Year Ended						Fiscal Year Ended						
		December 31, 2022			January 1, 2022			December 30, 2023			December 31, 2022			
		Fiscal Year Ended						Fiscal Year Ended						
		December 30, 2023			December 30, 2023			December 30, 2023			December 31, 2022			
(in millions)	(in millions)	EB			EB			(in millions)	Powersem	EB Tech	ATEC	Powersem	EB Tech	ATEC
		Powersem	Tech	ATEC	Powersem	Tech	ATEC							
Sales to related party	Sales to related party	\$ —	\$ —	\$ —	\$ 0.2	\$ —	\$ —							
Purchase of material/services from related party	Purchase of material/services from related party	0.3	0.4	11.5	3.0	0.4	12.6							
Accounts receivable balance	Accounts receivable balance	—	—	—	—	—	—							
Accounts payable balance	Accounts payable balance	\$ —	\$ —	\$ 1.8	\$ —	\$ —	\$ 1.8							

18. Subsequent Events

On February 3, 2023, the Company acquired Western Automation Research and Development Limited (“Western Automation”) for approximately \$162 million in cash. Headquartered in Galway, Ireland, Western Automation is a designer and manufacturer of electrical shock protection devices used across a broad range of high-growth end markets, including e-Mobility off-board charging infrastructure, industrial safety and renewables. Western Automation has annualized sales of approximately \$25 million and will be reported within the company’s Industrial segment. The company does not expect the acquisition to have a material impact to its 2023 financial results. The Company financed the transaction with cash on hand.

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

None.

ITEM 9A. CONTROLS AND PROCEDURES.

Evaluation of Disclosure Controls and Procedures

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

As required by SEC Rule 15d-15(b), the Company carried out an evaluation, under the supervision and with the participation of its management, including the Chief Executive Officer and Chief Financial Officer, of the effectiveness of the design and operation of its disclosure controls and procedures pursuant to SEC Rule 13a-15 as of the end of the period covered by this report. Based on the foregoing, the Company’s Chief Executive Officer and Chief Financial Officer concluded that the Company’s disclosure controls and procedures were effective as of **December 31, 2022** **December 30, 2023**.

[Table of Contents](#)

Management’s Report on Internal Control over Financial Reporting

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

[Table of Contents](#)

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

The Company’s management, including its Principal Executive Officer and Principal Financial Officer, assessed the effectiveness of the Company’s internal control over financial reporting as of **December 31, 2022** **December 30, 2023**, based upon the updated framework in Internal Control — Integrated Framework issued by the Committee of Sponsoring Organizations of the Treadway Commission (“COSO”) in 1992 and updated in May 2013. (2013). Based on this assessment, the Company’s management concluded that, as of **December 31, 2022** **December 30, 2023**, the Company’s internal control over financial reporting was effective.

On July 19, 2022, the Company completed the acquisition of C&K Switches, as discussed in Note 2 – *Acquisitions*. Management has excluded C&K’s internal controls over financial reporting from its assessment of the effectiveness of internal controls over financial reporting as of December 31, 2022. C&K’s net sales and total assets (excluding goodwill and intangible assets, which were integrated into the Company’s control environment) represent approximately 3% and 3%, respectively, of the consolidated financial statement amounts as of, and for the fiscal year ended, December 31, 2022.

Changes in Internal Control over Financial Reporting

There has been no change in the Company’s internal control over financial reporting (as defined in Rules 13a-15(f) and 15d-15(f) under the Exchange Act) that occurred during the 12 months or fiscal year ended **December 31, 2022** **December 30, 2023**, that has materially affected, or is reasonably likely to materially affect, the Company’s internal control over financial reporting.

ITEM 9B. OTHER INFORMATION.

None. Rule 10b5-1 Trading Plans

The adoption or termination of contracts, instructions or written plans for the purchase or sale of our securities by our Section 16 officers and directors for the three months ended December 30, 2023, each of which is intended to satisfy the affirmative defense conditions of Rule 10b5-1(c) under the Exchange Act ("Rule 10b5-1 Plan"), were as follows:

Name	Title	Action	Date Adopted	Expiration Date	Aggregate # of securities to be Sold
Meenal Sethna (1)	Executive Vice President and Chief Financial Officer	Adoption	11/9/2023	4/25/2025	9,145

(1) Meenal Sethna, Executive Vice President and Chief Financial Officer, entered into a pre-arranged stock trading plan pursuant to Rule 10b5-1 on November 9, 2023. Ms. Sethna's plan provides for the potential exercise of vested stock options and the associated sale of up to 9,145 shares of the Company's common stock. The stock options covered by the plan expire on April 25, 2025 if they have not been exercised. Consequently, the plan expires on April 25, 2025, or upon the earlier completion of all authorized transactions under the plan.

Other than those disclosed above, none of our directors or officers adopted or terminated a "non-Rule 10b5-1 trading arrangement" as defined in Item 408 of Regulation S-K.

ITEM 9C. DISCLOSURE REGARDING FOREIGN JURISDICTIONS THAT PREVENT INSPECTIONS .

None.

[Table of Contents](#)

PART III

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

Except as set forth below, the information required by this item will be contained in the Company's Proxy Statement related to our 2022 2024 Annual Meeting of Stockholders (the "proxy statement") and is incorporated herein by reference.

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

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

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

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

Information regarding the Executive Officers of the Company can be found in Part I of this Annual Report on Form 10-K under the caption "Information about our Executive Officers."

Code of Ethics

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

ITEM 11. EXECUTIVE COMPENSATION.

Information concerning compensation of the Company's executive officers and directors for the fiscal year ended December 31, 2022 December 30, 2023, is set forth in the sections titled "Director Compensation," "Compensation Discussion and Analysis," "Analysis" (including under subsections titled "Compensation Tables," "Risk" and "Clawback Policy"), "Compensation Committee Report," "CEO Pay Ratio," "Pay versus Performance," "Compensation Tables," "Potential Payments Upon Termination or Change in Control," "Control," "CEO Pay Ratio," and "Director Compensation" "Pay versus Performance," in the Company's proxy statement and is incorporated herein by reference, except the section titled "Compensation Committee Report" is hereby "furnished" and not "filed" with this Annual Report on Form 10-K.

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

COMPENSATION PLAN INFORMATION

We have two equity compensation plans that have been approved by our stockholders: the Littelfuse, Inc. Long-Term Incentive Plan that was approved by our stockholders at the April 2017 annual stockholder meeting, as amended by an amendment approved by our stockholders at the April 2023 annual stockholders meeting, and the Deferred Compensation Plan for Non-Employee Directors that was approved by our stockholders at the May 2005 annual stockholder meeting.

Pursuant to our acquisition of IXYS on January 17, 2018, we assumed four equity compensation plans that have not been approved by our stockholders and pursuant to which we may continue to grant equity awards: IXYS Corporation 2009 Equity Incentive Plan, IXYS Corporation 2011 Equity Incentive Plan, IXYS Corporation 2013 Equity Incentive Plan, IXYS Corporation 2016 Equity Incentive Plan (together, the "IXYS Plans"). We also assumed two expired equity compensation plans that have not been approved by our stockholders and pursuant to which we have outstanding equity awards: the Zilog, Inc. 2002 Omnibus Stock Incentive Plan and Zilog, Inc. 2004 Omnibus Stock Incentive Plan (together, the "Zilog Plans"). The IXYS Corporation 2009 Equity Incentive Plan expired in June 2019 and equity awards remain outstanding under it.

[Table of Contents](#)

Information about our equity compensation plans that were either approved or not approved by our stockholders as of **December 31, 2022** **December 30, 2023**, is as follows:

Plan Category	Plan Category	Number of securities to be issued upon exercise of outstanding options, warrants and rights	Weighted-average exercise price of outstanding options, warrants, and rights (1)	Number of securities remaining available for future issuance under equity compensation plans (excluding securities reflected in the first column)	Plan Category	Number of securities to be issued upon exercise of outstanding options, warrants and rights	Weighted-average exercise price of outstanding options, warrants, and rights (1)	Number of securities remaining available for future issuance under equity compensation plans (excluding securities reflected in the first column)
Equity compensation plans approved by security holders	Equity compensation plans approved by security holders	698,848 (2)	\$145.33	462,409 (4)	Equity compensation plans approved by security holders	688,438 (2) (2)	\$159.72	1,054,260 (4) (4)
Equity compensation plans not approved by security holders	Equity compensation plans not approved by security holders	95,691 (3)	\$76.92	171,606 (5)	Equity compensation plans not approved by security holders	82,204 (3) (3)	\$55.08	136,150 (5) (5)
Total	Total	794,539	\$137.09	634,015				

(1) The weighted average exercise price does not take into account the shares issuable upon the vesting of outstanding restricted stock units, which have no exercise price.

(2) Includes 151,458 132,662 shares reserved for issuance upon vesting of outstanding restricted stock units and 547,390 555,776 outstanding stock options granted under the Littelfuse, Inc. Long-Term Incentive Plan.

(3) Includes 27,066 39,623 shares reserved for issuance upon vesting of outstanding restricted stock units under the IXYS Plans and 68,625 42,581 outstanding stock options granted under the IXYS Plans and Zilog Plan. Below is a brief description of the material features of the compensation plans acquired pursuant to the acquisition of IXYS.

(4) Includes 417,762 1,009,613 shares that remain available for future issuance under the Littelfuse, Inc. Long-Term Incentive Plan and 44,647 shares that remain available for future issuance under the Deferred Compensation Plan for Non-Employee Directors.

(5) Includes 22,965 shares that remain available for future issuance under the IXYS Corporation 2013 Equity Incentive Plan, and 148,641 136,150 shares that remain available for future issuance under the IXYS Corporation 2016 Equity Incentive Plan.

IXYS Plans

In connection with the acquisition of IXYS, we assumed the IXYS Corporation 2009 Equity Incentive Plan, IXYS Corporation 2011 Equity Incentive Plan, IXYS Corporation 2013 Equity Incentive Plan, IXYS Corporation 2016 Equity Incentive Plan and outstanding unvested stock options originally granted by IXYS Corporation under the IXYS Plans that were held by continuing employees. At the time of the acquisition of IXYS Corporation, these awards were converted to Littelfuse stock options, with adjustments made to the exercise price of the stock options and the number of shares subject to stock options as agreed upon in the Acquisition Agreement. These unvested options vest in accordance with their original terms, generally vesting in equal annual installments over a four-year period from the original grant date. The options, once granted, generally expire ten years from the date

of grant. Under the IXYS Plans, we may grant to former employees of IXYS Corporation or its subsidiaries restricted stock awards, RSUs, stock options and stock appreciation rights with an exercise price that is no less than the fair market value on the date of grant. Equity awards granted under the IXYS Plans following the acquisition have been on similar terms and consistent with grants made pursuant to the Littelfuse, Inc Long-Term Incentive Plan. The IXYS Corporation 2009, and 2011, 2013 Equity Incentive Plans expired in June 2019, June 2021 and June 2021 2023, respectively, with no additional grants made after the expiration date. As of December 31, 2022 December 30, 2023, 171,606 136,150 shares remained available for issuance under the IXYS Plans.

Zilog Plans

In connection with the acquisition of IXYS Corporation, we assumed the Zilog, Inc. 2004 Omnibus Stock Incentive Plan and outstanding stock options originally granted by IXYS Corporation under the Zilog Plan that were held by continuing employees of Zilog. At the time of the acquisition of IXYS Corporation, these awards were converted to Littelfuse stock options, with adjustments made to the exercise price of the stock options and the number of shares subject to stock options as agreed upon in the Acquisition Agreement. These options vested in accordance with their original terms, generally in equal annual installments over a four-year period from the original grant date. The options generally expire ten years from the date of grant. The Zilog 2004 Omnibus Stock Incentive Plan expired in February 2014 and no additional grants have been made thereunder. Therefore,

[Table of Contents](#)

as of December 31, 2022 December 30, 2023, no shares remain available for issuance of new awards under the Zilog Plan and 12,086 3,457 stock options remain outstanding.

[Table of Contents](#)

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

Information concerning the security ownership of certain beneficial owners, the Company's directors and executive officers as of March 16, 2022 February 29, 2024, is set forth in the section titled "Ownership of Littelfuse, Inc. Common Stock" in the Company's proxy statement and is incorporated herein by reference.

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

Information concerning the independence of the Company's directors, certain relationships and related transactions during 2022 2023 and the Company's policies with respect to such transactions is set forth in the sections titled "Director Independence; Financial Experts", "Related Person Transactions Policy", "Related Party Transactions" in the Company's proxy statement and is incorporated herein by reference.

ITEM 14. PRINCIPAL ACCOUNTING FEES AND SERVICES.

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

[Table of Contents](#)

PART IV

ITEM 15. EXHIBITS, FINANCIAL STATEMENT SCHEDULES.

(a) Financial Statements and Schedules

	Page	
Page		Page
The following Financial Statements are filed as a part of		
1. 1. this report:		
Reports of Independent Registered Public Accounting	38 -	
i. Firms	40	

<ul style="list-style-type: none"> Consolidated Balance Sheets as of December 31, 2022 and January 1, 2022 41 Consolidated Statements of Net Income for the fiscal years ended December 31, 2022, January 1, 2022 and December 26, 2020 42 Consolidated Statements of Comprehensive Income for the fiscal years ended December 31, 2022, January 1, 2022 and December 26, 2020 43 Consolidated Statements of Cash Flows for the fiscal years ended December 31, 2022, January 1, 2022 and December 26, 2020 44 Consolidated Statements of Equity for the fiscal years ended December 31, 2022, January 1, 2022 and December 26, 2020 45 Notes to Consolidated Financial Statements 46 - 84 	<ul style="list-style-type: none"> Reports of Independent Registered Public Accounting Firms 44 - 46 Consolidated Balance Sheets as of December 30, 2023 and December 31, 2022 47 Consolidated Statements of Net Income for the fiscal years ended December 30, 2023, December 31, 2022 and January 1, 2022 48 Consolidated Statements of Comprehensive Income for the fiscal years ended December 30, 2023, December 31, 2022 and January 1, 2022 49 Consolidated Statements of Cash Flows for the fiscal years ended December 30, 2023, December 31, 2022 and January 1, 2022 50
--	--

vi.	vi.	Consolidated Statements of Equity for the fiscal years ended December 30, 2023, December 31, 2022 and January 1, 2022	51
vii.	vii.	Notes to Consolidated Financial Statements	52 - 90

The following Financial Statement Schedule is submitted herewith for the periods indicated therein.

- 2.2.
- 2.
- 2.
- 2.
- 2.
- 2.
- 2.
- 2.
- 2.
- 2.
- 2.
- 2.
- 2.
- 2.
- 2.

- i.
- i.

i.	Schedule II - Valuation and Qualifying Accounts and Reserves	96
----	--	----

Schedule II - Valuation and Qualifying Accounts and Reserves

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

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

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

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

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

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

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

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

VALUATION AND QUALIFYING ACCOUNTS AND RESERVES

Description	Description	Balance at Beginning of Year	Charged to Costs and Expenses (a)	Deductions (b)	Other (c)	Balance at End of Year	Description	Balance at Beginning of Year	Charged to Costs and Expenses (a)	Deductions (b)	Other (c)	Balance at End of Year
(in thousands)	(in thousands)						(in thousands)					
Fiscal year ended December 30, 2023							Fiscal year ended December 30, 2023					
Allowance for credit losses on accounts receivable												
Reserves for sales discounts and allowances												
Fiscal year ended December 31, 2022	Fiscal year ended December 31, 2022											
Fiscal year ended December 31, 2022												
Allowance for credit losses on accounts receivable												
Allowance for credit losses on accounts receivable												
Allowance for credit losses on accounts receivable	Allowance for credit losses on accounts receivable	\$ 1,910	\$ 166	\$ (222)	\$ (279)	\$ 1,575						
Reserves for sales discounts and allowances	Reserves for sales discounts and allowances	\$ 57,322	\$ 184,201	\$ (158,499)	\$ (1,037)	\$ 81,987						
Fiscal year ended January 1, 2022	Fiscal year ended January 1, 2022											
Fiscal year ended January 1, 2022												
Fiscal year ended January 1, 2022												

Allowance for credit losses on accounts receivable						
Allowance for credit losses on accounts receivable						
Allowance for credit losses on accounts receivable	Allowance for credit losses on accounts receivable	\$ 1,400	\$ 82	\$ (362)	\$ 790	\$ 1,910
Reserves for sales discounts and allowances	Reserves for sales discounts and allowances	\$ 43,837	\$ 152,153	\$ (137,920)	\$ (748)	\$ 57,322
Fiscal year ended December 26, 2020						
Allowance for credit losses on accounts receivable		\$ 1,310	\$ 1,170	\$ (329)	\$ (751)	\$ 1,400
Reserves for sales discounts and allowances		\$ 40,733	\$ 113,709	\$ (112,401)	\$ 1,796	\$ 43,837

- (a) Includes provision for credit losses, sales returns and sales discounts granted to customers.
- (b) Represents uncollectible accounts written off, net of recoveries and credits issued to customers.
- (c) Represents business acquisitions and foreign currency translation adjustments.

[Table of Contents](#)

SIGNATURES

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

Littelfuse, Inc.

By: /s/ David W. Heinzmann

David W. Heinzmann,
President and Chief Executive Officer

Date: February 16, 2023 February 16, 2024

Pursuant to the requirements of the Securities Exchange Act of 1934, this report has been signed below by the following persons on behalf of the registrant on February 16, 2023 February 16, 2024 and in the capacities indicated.

<i>/s/ Gordon Hunter</i>	Chairman of the Board of Directors
Gordon Hunter	
<i>/s/ David W. Heinzmann</i>	Director, President and Chief Executive Officer (Principal Executive Officer)
David W. Heinzmann	
<i>/s/ Kristina A. Cerniglia</i>	Director
Kristina A. Cerniglia	
<i>/s/ Tzau-Jin Chung</i>	Director
Tzau-Jin Chung	
<i>/s/ Gayla J. Delly</i>	Director
Gayla J. Delly	
<i>/s/ Cary T. Fu</i>	Director
Cary T. Fu	
<i>/s/ Maria C. Green</i>	Director
Maria C. Green	
<i>/s/ Anthony Grillo</i>	Director
Anthony Grillo	
<i>/s/ Greg Henderson</i>	Director
Greg Henderson	
<i>/s/ William P. Noglows</i>	Director
William P. Noglows	
<i>/s/ Maria C. Green</i>	Director
Maria C. Green	
<i>/s/ Nathan Zommer</i>	Director
Nathan Zommer	
<i>/s/ Meenal A. Sethna</i>	Executive Vice President and Chief Financial Officer (Principal Financial Officer)
Meenal A. Sethna	
<i>/s/ Jeffrey G. Gorski</i>	Corporate Controller Senior Vice President and Chief Accounting Officer (Principal Accounting Officer)
Jeffrey G. Gorski	

[Table of Contents](#)

EXHIBIT INDEX

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

Incorporated by Reference Herein				Incorporated by Reference Herein
Incorporated by Reference Herein				Incorporated by Reference Herein

Exhibit No.	Exhibit No.	Description	Form	Exhibit	Filing Date	File No.	Exhibit No.	Description	Form	Exhibit	Filing Date	File No.
2.1	2.1	Stock Purchase Agreement, dated October 19, 2021, by and between Littelfuse, Inc., the Shareholders of Carling Technologies, Inc., and Christopher T. Sorenson, as Sellers' Representative	8-K	2.1	10/20/2021	0-20388	2.1	Stock Purchase Agreement, dated October 19, 2021, by and between Littelfuse, Inc., the Shareholders of Carling Technologies, Inc., and Christopher T. Sorenson, as Sellers' Representative	8-K	2.1	10/20/2021	0-20388
2.2	2.2	First Amendment to Stock Purchase Agreement, dated November 29, 2021, by and between Littelfuse, Inc., the Shareholders of Carling Technologies, Inc., and Christopher T. Sorenson					2.2	First Amendment to Stock Purchase Agreement, dated November 29, 2021, by and between Littelfuse, Inc., the Shareholders of Carling Technologies, Inc., and Christopher T. Sorenson	10-K	2.3	2/27/2022	0-20388
2.3	2.3	Sale and Purchase Agreement, dated April 7, 2022, by and between Cayman NIH VI BEIT Holdings, L.P. and Littelfuse, Inc.	8-K	2.1	4/8/2022	0-20388	2.3	Sale and Purchase Agreement, dated April 7, 2022, by and between Cayman NIH VI BEIT Holdings, L.P. and Littelfuse, Inc.	8-K	2.1	4/8/2022	0-20388
2.4	2.4	Warranty Deed, dated April 7, 2022, by and between the warrantors party thereto and Littelfuse, Inc.	8-K	2.2	4/8/2022	0-20388	2.4	Warranty Deed, dated April 7, 2022, by and between the warrantors party thereto and Littelfuse, Inc.	8-K	2.2	4/8/2022	0-20388

2.5	2.5	Deed of Amendment No. 1 Sale and Purchase Agreement, dated July 18, 2022, by and between Cayman NIH VI BEIT Holdings, L.P. and Littelfuse, Inc.	10-Q	2.1	8/3/2022	0-20388	2.5	Deed of Amendment No. 1 Sale and Purchase Agreement, dated July 18, 2022, by and between Cayman NIH VI BEIT Holdings, L.P. and Littelfuse, Inc.	10-Q	2.1	8/3/2022	0-20388
3.1	3.1	Certificate of Incorporation dated November 25, 1991, as amended April 25, 1997.	10-K	3.1	2/27/2017	0-20388	3.1	Certificate of Incorporation dated November 25, 1991, as amended April 25, 1997.	10-K	3.1	2/27/2017	0-20388
3.2	3.2	Certificate of Designations of Series A Preferred Stock.	8-K	4.2	12/1/1995	0-20388	3.2	Certificate of Designations of Series A Preferred Stock.	8-K	4.2	12/1/1995	0-20388
3.3	3.3	Bylaws, as amended and restated January 27, 2023.	8-K	3.1	2/3/2023	0-20388	3.3	Bylaws, as amended and restated January 27, 2023.	8-K	3.1	2/3/2023	0-20388
4.1	4.1	Description of Securities of Littelfuse, Inc.	10-K	4.1	2/21/2020	0-20388	4.1	Description of Securities of Littelfuse, Inc.	10-K	4.1	2/21/2020	0-20388
10.1	10.1	Form of Stock Option Award Agreement under the Littelfuse, Inc. Outside Directors' Equity Plan.++	8-K	99.3	5/1/2008	0-20388	10.1	Littelfuse, Inc. Outside Directors' Equity Plan.++	DEF14A	A	3/22/2007	0-20388
10.2	10.2	Form of Restricted Stock Unit Award Agreement under the Littelfuse, Inc. Outside Directors' Equity Plan.++	8-K	99.4	5/1/2008	0-20388	10.2	Form of Restricted Stock Unit Award Agreement under the Littelfuse, Inc. Outside Directors' Equity Plan.++	8-K	99.4	5/1/2008	0-20388

10.3	10.3	Form of Stock Option Award Agreement under the Littelfuse, Inc. Equity Incentive Compensation Plan .++	8-K	10.2	4/28/2009	0-20388	10.3	Form of Restricted Stock Unit Award Agreement (Outside Director) under the Littelfuse, Inc. Long-Term Incentive Plan.++	S-8	4.4	5/19/2010	0-20388
10.4	10.4	Form of Restricted Stock Unit Award Agreement (Outside Director) under the Littelfuse, Inc. Long-Term Incentive Plan.++	S-8	4.4	5/19/2010	0-20388	10.4	Form of Stock Option Award Agreement under the Littelfuse, Inc. Long-Term Incentive Plan.++	S-8	4.6	5/19/2010	0-20388
10.5	10.5	Form of Stock Option Award Agreement under the Littelfuse, Inc. Long-Term Incentive Plan.++	S-8	4.6	5/19/2010	0-20388	10.5	Littelfuse, Inc. Annual Incentive Plan, effective January 1, 2014. ++	DEF14A	A	3/17/2014	0-20388
10.6	10.6	Littelfuse, Inc. Annual Incentive Plan, effective January 1, 2014. ++	DEF14A	A	3/17/2014	0-20388	10.6	Form of Stock Option Award Agreement (Executive) under the Littelfuse, Inc. Long-Term Incentive Plan. ++	10-Q	10.3	5/6/2016	0-20388
10.7	10.7	Form of Stock Option Award Agreement (Executive) under the Littelfuse, Inc. Long-Term Incentive Plan. ++	10-Q	10.3	5/6/2016	0-20388	10.7	Form of Stock Option Award Agreement (Outside Director – 2016 Grant) under the Littelfuse, Inc. Long-Term Incentive Plan. ++	10-Q	10.4	5/6/2016	0-20388
10.8	10.8	Form of Stock Option Award Agreement (Outside Director – 2016 Grant) under the Littelfuse, Inc. Long-Term Incentive Plan. ++	10-Q	10.4	5/6/2016	0-20388	10.8	Form of Restricted Stock Unit Award Agreement (Outside Director – 2016 Grant) under the Littelfuse, Inc. Long-Term Incentive Plan. ++	10-Q	10.7	5/6/2016	0-20388

10.9	10.9	Form of Restricted Stock Unit Award Agreement (Tier II Management) under the Littelfuse, Inc. Long-Term Incentive Plan. ++	10-Q	10.6	5/6/2016	0-20388	10.9	Letter Agreement entered into between Littelfuse, Inc. and David W. Heinzmann, Effective January 1, 2017. ++	8-K	10.2	11/16/2016	0-20388
10.10	10.10	Form of Restricted Stock Unit Award Agreement (Outside Director – 2016 Grant) under the Littelfuse, Inc. Long-Term Incentive Plan. ++	10-Q	10.7	5/6/2016	0-20388	10.10	Littelfuse, Inc. 3.03% Senior Note, Series A, due February 15, 2022, and 3.74% Senior Note, Series B, due February 15, 2027 Note Purchase Agreement.	8-K	10.1	12/9/2016	0-20388
10.11	10.11	Letter Agreement entered into between Littelfuse, Inc. and David W. Heinzmann, Effective January 1, 2017. ++	8-K	10.2	11/16/2016	0-20388	10.11	Littelfuse, Netherland C.V. 1.14% Senior Note, Series A, due December 8, 2023, and 1.83% Senior Note, Series B, due December 8, 2028 Note Purchase Agreement.	8-K	10.2	12/9/2016	0-20388
10.12							10.12	Subsidiary Guaranty Agreement, dated December 8, 2016.	8-K	10.4	12/9/2016	0-20388

[Table of Contents](#)

		Incorporated by Reference Herein											
		Incorporated by Reference Herein											Incorporated by Reference Herein
Exhibit No.	Exhibit No.	Description	Form	Exhibit	Filing Date	File No.	Exhibit No.	Description	Form	Exhibit	Filing Date	File No.	

10.12		Littelfuse, Inc. 3.03% Senior Note, Series A, due February 15, 2022, and 3.74% Senior Note, Series B, due February 15, 2027 Note Purchase Agreement.	8-K	10.1	12/9/2016	0-20388						
10.13	10.13	Littelfuse, Netherland C.V. 1.14% Senior Note, Series A, due December 8, 2023, and 1.83% Senior Note, Series B, due December 8, 2028 Note Purchase Agreement.	8-K	10.2	12/9/2016	0-20388	10.13	Subsidiary Guaranty Agreement, dated as of February 15, 2017.	8-K	10.2	2/15/2017	0-20388
10.14	10.14	Subsidiary Guaranty Agreement, dated December 8, 2016.	8-K	10.4	12/9/2016	0-20388	10.14	Restated Littelfuse, Inc. Supplemental Retirement and Savings Plan, effective January 1, 2017. ++	10-K	10.50	2/27/2017	0-20388
10.15	10.15	Subsidiary Guaranty Agreement, dated as of February 15, 2017.	8-K	10.2	2/15/2017	0-20388	10.15	Amended and Restated Littelfuse, Inc. Long-Term Incentive Plan. ++	8-K	10.1	5/1/2017	0-20388
10.16	10.16	Restated Littelfuse, Inc. Supplemental Retirement and Savings Plan, effective January 1, 2017. ++	10-K	10.50	2/27/2017	0-20388	10.16	Form of 2017 Stock Option Award Agreement. ++	8-K	10.3	5/1/2017	0-20388
10.17	10.17	Amended and Restated Littelfuse, Inc. Long-Term Incentive Plan. ++	8-K	10.1	5/1/2017	0-20388	10.17	Employment offer letter between Littelfuse, Inc. and Jeffrey Gorski, dated June 28, 2017. ++	8-K	10.1	8/14/2017	0-20388

10.18	10.18	Form of 2017 Stock Option Award Agreement. ++	8-K	10.3	5/1/2017	0-20388	10.18	Note Purchase Agreement, dated November 15, 2017, among Littelfuse, Inc. and note purchasers listed on the signature pages thereto.	8-K	10.1	11/15/2017	0-20388
10.19	10.19	Employment offer letter between Littelfuse, Inc. and Jeffrey Gorski, dated June 28, 2017. ++	8-K	10.1	8/14/2017	0-20388	10.19	Form of 3.78% Senior Note, Series B, due February 15, 2030.	8-K	4.2	11/15/2017	0-20388
10.20	10.20	Note Purchase Agreement, dated November 15, 2017, among Littelfuse, Inc. and note purchasers listed on the signature pages thereto.	8-K	10.1	11/15/2017	0-20388	10.20	Form of 3.48% Senior Note, Series A, due February 15, 2025.	8-K	4.1	11/15/2017	0-20388
10.21	10.21	Form of 3.78% Senior Note, Series B, due February 15, 2030.	8-K	4.2	11/15/2017	0-20388	10.21	Subsidiary Guaranty Agreement, dated as of January 16, 2018, made by LFUS LLC, Littelfuse Commercial Vehicle, LLC, Iron Merger Co., Inc., JXYS Merger Co., LLC and SymCom, Inc. in favor of the note purchasers and the other holders.	8-K	10.2	1/18/2018	0-20388
10.22	10.22	Form of 3.48% Senior Note, Series A, due February 15, 2025.	8-K	4.1	11/15/2017	0-20388	10.22	Littelfuse, Inc. Executive Severance Policy. ++	8-K	10.4	1/18/2018	0-20388

10.23	10.23	Subsidiary Guaranty Agreement, dated as of January 16, 2018, made by LFUS LLC, Littelfuse Commercial Vehicle, LLC, Iron Merger Co., Inc., IXYS Merger Co., LLC and SymCom, Inc. in favor of the note purchasers and the other holders.	8-K	10.2	1/18/2018	0-20388	10.23	IXYS Corporation 2009 Equity Incentive Plan++	S-8	4.4	1/19/2018	333-221147
10.24	10.24	Littelfuse, Inc. Executive Severance Policy. ++	8-K	10.4	1/18/2018	0-20388	10.24	IXYS Corporation 2011 Equity Incentive Plan++	S-8	4.5	1/19/2018	333-221147
10.25	10.25	Form of Indemnity Agreement between Nathan Zommer and IXYS Corporation. ++	10-K	10.3	6/12/2008	000-26124	10.25	IXYS Corporation 2013 Equity Incentive Plan++	S-8	4.6	1/19/2018	333-221147
10.26	10.26	IXYS Corporation 2009 Equity Incentive Plan++	S-8	4.4	1/19/2018	333-221147	10.26	IXYS Corporation 2016 Equity Incentive Plan++	S-8	4.7	1/19/2018	333-221147
10.27	10.27	IXYS Corporation 2011 Equity Incentive Plan++	S-8	4.5	1/19/2018	333-221147	10.27	Zilog, Inc. 2004 Omnibus Stock Incentive Plan++	S-8	4.9	1/19/2018	333-221147
10.28	10.28	IXYS Corporation 2013 Equity Incentive Plan++	S-8	4.6	1/19/2018	333-221147	10.28	Notice of Stock Option Grant and Agreement for the IXYS Corporation 2009 Equity Incentive Plan++	10-Q	10.4	8/10/2009	000-26124
10.29	10.29	IXYS Corporation 2016 Equity Incentive Plan++	S-8	4.7	1/19/2018	333-221147	10.29	Form of Nonqualified Stock Option Agreement for Stock Options pursuant to the Zilog, Inc. 2004 Omnibus Stock Incentive Plan++	10-K	10.28	6/11/2010	000-26124

10.30	10.30	Zilog, Inc. 2004 Omnibus Stock Incentive Plan++	S-8	4.9	1/19/2018	333-221147	10.30	Notice of Stock Option Grant and Agreement for IXYS Corporation 2011 Equity Incentive Plan++	10-Q	10.2	8/5/2011	000-26124
10.31	10.31	Notice of Stock Option Grant and Agreement for the IXYS Corporation 2009 Equity Incentive Plan++	10-Q	10.4	8/10/2009	000-26124	10.31	Notice of Stock Option Grant and Agreement for IXYS Corporation 2013 Equity Incentive Plan++	10-Q	10.6	8/9/2013	000-26124
10.32	10.32	Form of Nonqualified Stock Option Agreement for Stock Options pursuant to the Zilog, Inc. 2004 Omnibus Stock Incentive Plan++	10-K	10.28	6/11/2010	000-26124	10.32	Notice of Stock Option Grant and Agreement for IXYS Corporation 2016 Equity Incentive Plan++	10-Q	10.1	11/3/2016	000-26124
10.33	10.33	Notice of Stock Option Grant and Agreement for IXYS Corporation 2011 Equity Incentive Plan++	10-Q	10.2	8/5/2011	000-26124	10.33	Cross Border Assumption Agreement, dated as of October 3, 2018, made by each of New Dutch B.V. and IXYS Dutch B.V. in favor of the note purchasers and the other holders.	10-K	10.106	02/22/2019	0-20388
10.34	10.34	Notice of Stock Option Grant and Agreement for IXYS Corporation 2013 Equity Incentive Plan++	10-Q	10.6	8/9/2013	000-26124	10.34	Amended and Restated Employment Agreement entered into between Littelfuse Europe GmbH and Alexander Conrad, effective April 1, 2019. ++	10-K	10.77	02/21/2020	0-20388
10.35	10.35	Notice of Stock Option Grant and Agreement for IXYS Corporation 2016 Equity Incentive Plan++	10-Q	10.1	11/3/2016	000-26124	10.35	Form of Restricted Stock Unit Award Agreement (Tier I) under the Littelfuse, Inc. Long-Term Incentive Plan. ++	8-K	10.1	4/24/2020	0-20388

10.36	10.36	Cross Border Assumption Agreement, dated as of October 3, 2018, made by each of New Dutch B.V. and IXYS Dutch B.V. in favor of the note purchasers and the other holders.	10-K	10.106	02/22/2019	0-20388	10.36	Form of Option Award Agreement (Tier I) under the Littelfuse, Inc. Long-Term Incentive Plan. ++	8-K	10.2	4/24/2020	0-20388
10.37	10.37	Amended and Restated Employment Agreement entered into between Littelfuse Europe GmbH and Alexander Conrad, effective April 1, 2019. ++	10-K	10.77	02/21/2020	0-20388	10.37	Form of Restricted Stock Unit Award Agreement (Non-Employee Director) under the Littelfuse, Inc. Long-Term Incentive Plan. ++	8-K	10.3	4/24/2020	0-20388
10.38	10.38	Form of Restricted Stock Unit Award Agreement (Tier I) under the Littelfuse, Inc. Long-Term Incentive Plan. ++	8-K	10.1	4/24/2020	0-20388	10.38	Form of Option Award Agreement (Non-Employee Director) under the Littelfuse, Inc. Long-Term Incentive Plan. ++	8-K	10.4	4/24/2020	0-20388
10.39							10.39	Form of Restricted Stock Unit Award Agreement (Tier II) under the Littelfuse, Inc. Long-Term Incentive Plan. ++	10-Q	10.6	4/29/2020	0-20388

[Table of Contents](#)

Exhibit No.		Exhibit No.		Description		Form		Exhibit No.		Description		Form		Exhibit No.		Filing Date		File No.		Incorporated by Reference Herein	
Incorporated by Reference Herein				Incorporated by Reference Herein																Incorporated by Reference Herein	

10.39		Form of Option Award Agreement (Tier I) under the Littelfuse, Inc. Long-Term Incentive Plan. ++	8-K	10.2	4/24/2020	0-20388								
10.40	10.40	Form of Restricted Stock Unit Award Agreement (Non-Employee Director) under the Littelfuse, Inc. Long-Term Incentive Plan. ++	8-K	10.3	4/24/2020	0-20388	10.40							
										Form of Restricted Stock Unit Award Agreement (IXYS Tier II) under the IXYS Corporation Equity Incentive Plan. ++	10-Q	10.7	4/29/2020	0-20388
10.41	10.41	Form of Option Award Agreement (Non-Employee Director) under the Littelfuse, Inc. Long-Term Incentive Plan. ++	8-K	10.4	4/24/2020	0-20388	10.41							
										Form of Retention Stock Option Award Agreement under the Littelfuse, Inc. Long-Term Incentive Plan. ++	10-Q	10.8	7/29/2020	0-20388
10.42	10.42	Form of Restricted Stock Unit Award Agreement (Tier II) under the Littelfuse, Inc. Long-Term Incentive Plan. ++	10-Q	10.6	4/29/2020	0-20388	10.42							
										Form of Retention Stock Option Award Agreement under the IXYS Corporation Equity Incentive Plan. ++	10-Q	10.9	7/29/2020	0-20388
10.43	10.43	Form of Restricted Stock Unit Award Agreement (IXYS Tier II) under the IXYS Corporation Equity Incentive Plan. ++	10-Q	10.7	4/29/2020	0-20388	10.43							
										Form of Retention Restricted Stock Unit Award Agreement under the Littelfuse, Inc. Long-Term Incentive Plan. ++	10-Q	10.10	7/29/2020	0-20388

10.44	10.44	Form of Retention Stock Option Award Agreement under the Littelfuse, Inc. Long-Term Incentive Plan. ++	10-Q	10.8	7/29/2020	0-20388	10.44	Form of Retention Restricted Stock Unit Award Agreement under the IXYS Corporation Equity Incentive Plan. ++	10-Q	10.11	7/29/2020	0-20388
10.45	10.45	Form of Retention Stock Option Award Agreement under the IXYS Corporation Equity Incentive Plan. ++	10-Q	10.9	7/29/2020	0-20388	10.45	Amended and Restated Littelfuse Deferred Compensation Plan for Non-Employee Directors. ++	10-Q	10.1	10/28/2020	0-20388
10.46	10.46	Form of Retention Restricted Stock Unit Award Agreement under the Littelfuse, Inc. Long-Term Incentive Plan. ++	10-Q	10.10	7/29/2020	0-20388	10.46	First Amendment to the Littelfuse, Inc. Supplemental Retirement and Savings Plan, effective January 1, 2019. ++	10-K	10.68	2/18/2021	0-20388
10.47	10.47	Form of Retention Restricted Stock Unit Award Agreement under the IXYS Corporation Equity Incentive Plan. ++	10-Q	10.11	7/29/2020	0-20388	10.47	Second Amendment to the Littelfuse, Inc. Supplemental Retirement and Savings Plan, effective January 1, 2020. ++	10-K	10.69	2/18/2021	0-20388
10.48	10.48	Amended and Restated Littelfuse Deferred Compensation Plan for Non-Employee Directors. ++	10-Q	10.1	10/28/2020	0-20388	10.48	Third Amendment to the Littelfuse, Inc. Supplemental Retirement and Savings Plan, effective January 1, 2020. ++	10-K	10.70	2/18/2021	0-20388

10.49	10.49	First Amendment to the Littelfuse, Inc. Supplemental Retirement and Savings Plan, effective January 1, 2019. ++	10-K	10.68	2/18/2021	0-20388	10.49	Form Tier I Change of Control Agreement, effective January 1, 2021. ++	10-K	10.71	2/18/2021	0-20388
10.50	10.50	Second Amendment to the Littelfuse, Inc. Supplemental Retirement and Savings Plan, effective January 1, 2020. ++	10-K	10.69	2/18/2021	0-20388	10.50	Form Tier II Change of Control Agreement, effective January 1, 2021. ++	10-K	10.72	2/18/2021	0-20388
10.51	10.51	Third Amendment to the Littelfuse, Inc. Supplemental Retirement and Savings Plan, effective January 1, 2020. ++	10-K	10.70	2/18/2021	0-20388	10.51	Employment offer letter between Littelfuse, Inc. and Maggie Chu, dated April 28, 2021 ++	10-Q	10.1	7/28/2021	0-20388
10.52	10.52	Form Tier I Change of Control Agreement, effective January 1, 2021. ++	10-K	10.71	2/18/2021	0-20388	10.52	Form of 4.33% Senior Note due June 30, 2032.	8-K	4.1	5/19/2022	0-20388
10.53	10.53	Form Tier II Change of Control Agreement, effective January 1, 2021. ++	10-K	10.72	2/18/2021	0-20388	10.53	Note Purchase Agreement, dated May 18, 2022, among Littelfuse, Inc. and note purchasers listed on the signature pages thereto.	8-K	10.1	5/19/2022	0-20388
10.54	10.54	Employment offer letter between Littelfuse, Inc. and Maggie Chu, dated April 28, 2021 ++	10-Q	10.10	7/28/2021	0-20388	10.54	Subsidiary Guaranty Agreement, dated July 18, 2022, among Carling Technologies, Inc., Hartland Controls Holding Corp., Hartland Controls, L.L.C., IXYS Buckeye, LLC, IXYS Integrated Circuits Division, LLC, IXYS Long Beach, Inc., IXYS USA, LLC, IXYS, LLC, LFUS LLC, Littelfuse Commercial Vehicle, LLC, Littelfuse Holding, LLC, Littelfuse International Holding, LLC, Littelfuse Mexico Holding LLC, Monolith Semiconductor Inc., Pele Technology, Inc., Reaction Tech RE, LLC, Reaction Technology Epi, LLC, Reaction Technology Incorporated, SymCom, Inc. and Zilog, Inc.	8-K	10.2	5/19/2022	0-20388

10.55	10.55	Form of 4.33% Senior Note due June 30, 2032 (included in Exhibit 10.1 of the Company's Current Report on Form 8-K filed on May 19, 2022, Commission File No. 20388).	8-K	4.10	5/18/2022	0-20388	10.55	First Amendment to 2016 Note Purchase Agreement, dated May 18, 2022, among Littelfuse, Inc., certain subsidiary guarantors, and the institutions party thereto.	8-K	10.3	5/19/2022	0-20388
10.56	10.56	Note Purchase Agreement, dated May 18, 2022, among Littelfuse, Inc. and note purchasers listed on the signature pages thereto (filed as Exhibit 10.1 of the Company's Current Report on Form 8-K filed on May 19, 2022, Commission File No. 20388).	8-K	10.1	5/18/2022	0-20388	10.56	First Amendment to 2016 Cross Border Note Purchase Agreement, dated May 18, 2022, among Littelfuse Netherland C.V., Littelfuse, Inc., certain subsidiary guarantors, and the institutions party thereto.	8-K	10.4	5/19/2022	0-20388

10.57	10.57	Subsidiary Guaranty Agreement, dated July 18, 2022, among Carling Technologies, Inc., Hartland Controls Holding Corp., Hartland Controls, L.L.C., IXYS Buckeye, LLC, IXYS Integrated Circuits Division, LLC, IXYS Long Beach, Inc., IXYS USA, LLC, IXYS, LLC, LFUS LLC, Littelfuse Commercial Vehicle, LLC, Littelfuse Holding, LLC, Littelfuse International Holding, LLC, Littelfuse Mexico Holding LLC, Monolith Semiconductor Inc., Pele Technology, Inc., Reaction Tech RE, LLC, Reaction Technology Epi, LLC, Reaction Technology, Incorporated, SymCom, Inc. and Zilog, Inc. (filed as Exhibit 10.2 of the Company's Current Report on Form 8-K filed on July 19, 2022, Commission File No. 20388).	8-K	10.2	5/18/2022	0-20388	10.57	First Amendment to 2017 Note Purchase Agreement, dated May 18, 2022, among Littelfuse, Inc., certain subsidiary guarantors, and the institutions party thereto.	8-K	10.5	5/19/2022	0-20388
-------	-------	--	-----	------	-----------	---------	-------	---	-----	------	-----------	---------

[Table of Contents](#)

Incorporated by Reference Herein							Incorporated by Reference Herein						
Exhibit No.	Exhibit No.	Description	Form	Exhibit	Filing Date	File No.	Exhibit No.	Description	Form	Exhibit	Filing Date	File No.	
10.58	10.58	First Amendment to 2016 Note Purchase Agreement, dated May 18, 2022, among Littelfuse, Inc., certain subsidiary guarantors, and the institutions party thereto (filed as Exhibit 10.3 of the Company's Current Report on Form 8-K filed on May 19, 2022, Commission File No. 20388).	8-K	10.3	5/18/2022	0-20388	10.58	Amended and Restated Credit Agreement, dated as of June 30, 2022, by and among Littelfuse, Inc., certain subsidiaries of the company, as designated borrowers, certain subsidiaries of the company, as guarantors, the lenders party thereto and Bank of America, N.A., as agent, JPMorgan Chase Bank, N.A., as syndication agent, PNC Bank, National Association and BMO Harris Bank, N.A., as co-senior documentation agents, Wells Fargo Bank, National Association, as documentation agent, BofA Securities, Inc. as sole bookrunner and joint lead arranger, and JPMorgan Chase Bank, N.A., as joint lead arranger.	8-K	10.1	6/30/2022	0-20388	
10.59	10.59	First Amendment to 2016 Cross Border Note Purchase Agreement, dated May 18, 2022, among Littelfuse Netherland C.V., Littelfuse, Inc., certain subsidiary guarantors, and the institutions party thereto (filed as Exhibit 10.4 of the Company's Current Report on Form 8-K filed on May 19, 2022, Commission File No. 20388).	8-K	10.4	5/18/2022	0-20388	10.59	First Amendment to the Amended and Restated Littelfuse, Inc. Long-Term Incentive Plan. ++	8-K	10.1	4/28/2023	0-20388	

10.60	10.60	First Amendment to 2017 Note Purchase Agreement, dated May 18, 2022, among Littelfuse, Inc., certain subsidiary guarantors, and the institutions party thereto (filed as Exhibit 10.5 of the Company's Current Report on Form 8-K filed on May 19, 2022, Commission File No. 20388).	8-K	10.5	5/18/2022	0-20388	10.60	Form of Change of Control Agreement.++	8-K	10.1	1/05/2024	0-20388
-------	-------	--	-----	------	-----------	---------	-------	--	-----	------	-----------	---------

10.61	Amended and Restated Credit Agreement, dated as of June 30, 2022, by and among Littelfuse, Inc., certain subsidiaries of the company, as designated borrowers, certain subsidiaries of the company, as guarantors, the lenders party thereto and Bank of America, N.A., as agent, JPMorgan Chase Bank, N.A., as syndication agent, PNC Bank, National Association and BMO Harris Bank, N.A., as co-senior documentation agents, Wells Fargo Bank, National Association, as documentation agent, BofA Securities, Inc. as sole bookrunner and joint lead arranger, and JPMorgan Chase Bank, N.A., as joint lead arranger (filed as Exhibit 10.1 of the Company's Current Report on Form 8-K filed on June 30, 2022, Commission File No. 20388).	8-K	10.1	6/30/2022	0-20388
10.62*	Summary of Non-Employee Director Compensation.++				
10.61*					
19.1*					
19.1*					
19.1*					
21.1*					

21.1*							
21.1*	21.1*	Subsidiaries.				Subsidiaries.	
23.1*	23.1*	Consent of Independent Registered Public Accounting Firm.			23.1*	Consent of Independent Registered Public Accounting Firm.	
31.1*	31.1*	Certification of Chief Executive Officer Pursuant to Section 302 of the Sarbanes-Oxley Act of 2002.			31.1*	Certification of Chief Executive Officer Pursuant to Section 302 of the Sarbanes-Oxley Act of 2002.	
31.2*	31.2*	Certification of Chief Financial Officer Pursuant to Section 302 of the Sarbanes-Oxley Act of 2002.			31.2*	Certification of Chief Financial Officer Pursuant to Section 302 of the Sarbanes-Oxley Act of 2002.	
32.1+++	32.1+++	Certification of the Chief Executive Officer and Chief Financial Officer Pursuant to Section 906 of the Sarbanes-Oxley Act of 2002.			32.1+++	Certification of the Chief Executive Officer and Chief Financial Officer Pursuant to Section 906 of the Sarbanes-Oxley Act of 2002.	

97.1*							
101.INS*							
101.INS*							
101.INS*	101.INS*	XBRL Instance Document.				XBRL Instance Document.	
101.SCH*	101.SCH*	XBRL Taxonomy Extension Schema Document.			101.SCH*	XBRL Taxonomy Extension Schema Document.	
101.CAL*	101.CAL*	XBRL Taxonomy Extension Calculation Linkbase Document.			101.CAL*	XBRL Taxonomy Extension Calculation Linkbase Document.	
101.LAB*	101.LAB*	XBRL Taxonomy Extension Label Linkbase Document.			101.LAB*	XBRL Taxonomy Extension Label Linkbase Document.	
101.PRE*	101.PRE*	XBRL Taxonomy Extension Presentation Linkbase Document.			101.PRE*	XBRL Taxonomy Extension Presentation Linkbase Document.	
101.DEF*	101.DEF*	XBRL Taxonomy Extension Definition Linkbase Document.			101.DEF*	XBRL Taxonomy Extension Definition Linkbase Document.	

104	104	The cover page on this Annual Report on Form 10-K for the fiscal year ended December 31, 2022, formatted in Inline XBRL and contained in Exhibit 101.		
-----	-----	---	--	--

* Filed with this Report.

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

++ Management contract or compensatory plan or arrangement.

+++ Furnished with this Report.

95 101

EXHIBIT 10.62 10.61

Littelfuse, Inc.

Summary of Non-Employee Director Compensation

For the 2022 2023 fiscal year, non-employee directors received an annual retainer of \$85,000, paid in quarterly installments, plus reimbursement of reasonable expenses relating to attendance at meetings. Our directors are also reimbursed for the costs associated with attending one continuing education program every three years. No fees are paid to directors who are employee directors. Additional annual retainers are paid to our Board leadership, as shown below:

Board Leadership Role	Annual Retainer
Lead Director	\$20,000
Board Chairman	\$75,000
Audit Committee Chairperson	\$20,000
Compensation Committee Chairperson	\$15,000
Nominating and Governance Committee Chairperson	\$12,000
Technology Committee Chairperson	\$10,000

In addition to cash compensation, each non-employee director received an annual equity grant under the Amended and Restated Littelfuse, Inc. Long-Term Incentive Plan (the "Long-Term Plan" "Long-Term Plan") valued at approximately \$165,000. The equity grant is comprised of (1) one-third stock options that vest equally on the first three annual anniversaries of the grant date, have an exercise price equal to the fair market value of our common stock on the date of grant, and expire seven years from the grant date, and (2) two-thirds restricted stock units that are granted upon the non-employee director's director's election or reelection to the Board at the Company's Company's annual meeting and that vest equally on the first three annual anniversaries of the grant date.

EXHIBIT 19.1

Littelfuse, Inc.

Insider Trading Policy

PURPOSE

This Insider Trading Policy (the "Policy") provides guidelines with respect to transactions in the securities of Littelfuse, Inc. (the "Company") and the handling of confidential information about the Company and the companies with which Littelfuse does business.

SCOPE

This Policy applies to all directors, officers and associates of the Company and its subsidiaries, and to any of their Family Members and Controlled Entities covered by this policy (each of the foregoing, a "Covered Person," and collectively, "Covered Persons"). The Company may also determine that other persons should be subject to this Policy, such as contractors or consultants who have access to material non-public information.

This Policy applies to transactions in the Company's securities (collectively referred to in this Policy as "Littelfuse Securities"), including the Company's common stock, options to purchase common stock, or any other type of securities that the Company may issue.

RESPONSIBILITY

Covered Persons have ethical and legal obligations to maintain the confidentiality of information about the Company or its subsidiaries (the Company and its subsidiaries, each a "Littelfuse Company") and to not engage in transactions in Littelfuse Securities while in possession of material non-public information. Each individual is responsible for making sure that he or she complies with this Policy, and that any Family Member, household member or entity whose transactions are subject to this policy also complies with this Policy.

The Legal Department is responsible for implementation and administration of this Policy.

POLICY

The Company's Board of Directors has adopted this Policy to ensure that all officers, directors and associates of the Company and its subsidiaries comply with all applicable laws and regulations concerning securities trading, commonly known as "insider trading." Insider trading and stock tipping, as discussed below, are criminal offenses subject to severe criminal and civil consequences as well as possible discipline or dismissal under this Policy.

PROCEDURE

It is the policy of the Company that no director, officer or other associate of a Littelfuse Company who is aware of material non-public information relating to a Littelfuse Company directly or indirectly through Family Members or other persons or entities:

1. Buy, sell or engage in other transactions in Littelfuse Securities, except as otherwise specified in this Policy under the headings "Transactions Under Company Plans," and "Rule 10b5-1 Plans". This includes any transactions in Littelfuse common stock as well as transactions in any other Littelfuse Securities.
2. Buy or sell securities of other companies while aware of material non-public information about those companies that is obtained as a result of business dealings between a Littelfuse Company and such other companies.
3. Disclose material non-public information to any unauthorized persons outside Littelfuse; commonly known as "tipping." Covered Persons are prohibited from "tipping" other persons about material non-public information or otherwise making unauthorized disclosures or use of such information, regardless of whether the person profits or intends to profit by such tipping, disclosure, or use. You must take steps to

EXHIBIT 19.1

prevent the inadvertent disclosure of material non-public information to unauthorized persons outside Littelfuse. If you believe that the disclosure of material non-public information is necessary or appropriate for business reasons, you may consult with the Legal Department whether it concurs that such disclosure is necessary, and whether any such disclosure will comply with all applicable laws. In no event may you disclose any material non-public information unless the Legal Department has approved.

4. Assist anyone engaged in the above activities.

Definition of Material Non-public Information

Non-public information is sometimes referred to as confidential information and means information about Littelfuse that is not known to the public-at-large. All information is considered non-public until the third trading day after it has been widely released through a press release, news wire or a report filed with the U.S. Securities and Exchange Commission.

Information is considered *material* if a reasonable investor would consider it important in deciding whether to trade. For example, if you are motivated to buy or sell a stock because of information you possess, the information will be considered material. Material information may be positive or negative.

Examples of material information include:

- change in expected revenue or earnings from what the company has publicly communicated;
- proposed major acquisition, joint venture or disposition;
- planned offering of securities;
- declaration of a stock split or dividend;
- significant new product introduction;
- gain or loss of a major customer; or
- significant cybersecurity incident.

Transactions by Family Members and Others

This Policy applies to family members who reside with you (including a spouse, a child, a child away at college, stepchildren, grandchildren, parents, stepparents, grandparents, siblings and in-laws), anyone else who lives in your household, and any family members who do not live in your household but whose transactions in Littelfuse Securities are directed by you or are subject to your influence or control, such as parents or children who consult with you before they trade in Littelfuse Securities (collectively referred to as "Family Members").

You are responsible for the transactions of Family Members and should make them aware of the need to confer with you before they trade in Littelfuse Securities, and you should treat all such transactions for the purpose of this Policy and applicable securities laws as if the transactions were for your own account. This Policy does not, however, apply to personal securities transactions of Family Members where the purchase or sale decision is made by a third party not controlled by, influenced by or related to you or your Family Member.

Transactions by Entities that you Influence or Control

This Policy applies to any entity that you influence or control, including any corporations, partnerships or trusts (collectively referred to as "Controlled Entities"), and transaction by these Controlled Entities should be treated for the purposes of this Policy and applicable securities laws as if they were for your own account.

Transactions Under Company Plans

The Policy permits the following transactions that occur outside of an open trading window (defined below) or that may occur while you are in possession of material non-public information, except as specifically noted:

1. **Stock Option Exercises.** This Policy permits the exercise of an employee stock option acquired pursuant to the Company's plans, or to the exercise of a tax withholding right pursuant to which a person has elected to

EXHIBIT 19.1

have the Company withhold shares subject to an option to satisfy tax withholding requirements. The restrictions in this Policy do apply, however, to any sale of stock as part of a broker-assisted cashless exercise of an option, or any other market sale for the purpose of generating the cash needed to pay the exercise price of an option.

2. **Restricted Stock Award Vesting.** This Policy permits the vesting of restricted stock, restricted stock units or similar Littelfuse Securities, or the exercise of a tax withholding right pursuant to which you elect to have the Company withhold shares of stock to satisfy tax withholding requirements upon the vesting of any restricted stock, restricted stock units or similar Littelfuse Securities. The restrictions in this Policy do apply, however, to any market sale of restricted stock or other Littelfuse Securities.
3. **Dividend Reinvestment Plans.** This Policy permits the purchase of Littelfuse Securities resulting from your automatic reinvestment of dividends paid on Littelfuse Securities.
4. **Other Similar Transactions.** Any other purchase of Littelfuse Securities from the Company or sales of Littelfuse Securities to the Company may be permitted upon prior approval by the Company.

Special and Prohibited Transactions

The Company has determined that there is a heightened legal risk and/or the appearance of improper or inappropriate conduct if Covered Persons engage in certain types of transactions. It therefore is the Company's policy that Covered Persons may not engage in any of the following transactions, or should otherwise consider the Company's preferences as described below:

1. **Short-Term Trading.** Short-term trading of Littelfuse Securities may be distracting to the person and may unduly focus the person on the Company's short-term stock market performance instead of the Company's long-term business objectives. For these reasons, any director, officer or other associate of the Company who purchases Littelfuse Securities in the open market is discouraged from selling any Littelfuse Securities of the same class during the six months following the purchase (or vice versa).
2. **Short Sales.** Short sales of Littelfuse Securities (i.e., the sale of a security that the seller does not own) may evidence an expectation on the part of the seller that the securities will decline in value, and therefore have the potential to signal to the market that the seller lacks confidence in the Company's prospects. In addition, short sales may reduce a seller's incentive to seek to improve the Company's performance. For these reasons, short sales of Littelfuse Securities are prohibited. In addition, Section 16(c) of the Exchange Act prohibits directors and certain officers from engaging in short sales. (Short sales arising from certain types of hedging transactions are also governed by the paragraph below captioned "Hedging Transactions.")
3. **Publicly-Traded Options.** Given the relatively short term of publicly-traded options, transactions in options may create the appearance that a director, officer or associate is trading based on material nonpublic information and focus a director's, officer's or other associate's attention on short-term performance at the expense of the Company's long-term objectives. Accordingly, transactions in put options, call options or other derivative securities, on an exchange or in any other organized market, are prohibited by this Policy. (Option positions arising from certain types of hedging transactions are governed by the next paragraph below.)
4. **Hedging Transactions.** Hedging or monetization transactions can be accomplished through a number of possible mechanisms, including through the use of financial instruments such as prepaid variable forwards, equity swaps, collars and exchange funds. Such transactions may permit a director, officer or associate to continue to own Littelfuse Securities obtained through employee benefit plans or otherwise, but without the full risks and rewards of ownership. When that occurs, the director, officer or associate may no longer have the same objectives as the Company's other shareholders. Therefore, directors, officers and employees are prohibited from engaging in any such transactions, except in the case of exceptional circumstances approved in advance by the Board of Directors.

EXHIBIT 19.1

5. **Margin Accounts and Pledged Securities.** Securities held in a margin account as collateral for a margin loan may be sold by the broker without the customer's consent if the customer fails to meet a margin call. Similarly, securities pledged (or hypothecated) as collateral for a loan may be sold in foreclosure if the borrower defaults on the loan. Because a margin sale or foreclosure sale may occur at a time when the pledgor is aware of material nonpublic information or otherwise is not permitted to trade in Littelfuse Securities, directors, officers and other employees are prohibited from holding Littelfuse Securities in a margin account or otherwise pledging Littelfuse Securities as collateral for a loan. (Pledges of Littelfuse Securities arising from certain types of hedging transactions are governed by the paragraph above captioned "Hedging Transactions.")

Trading Window

The Company has established additional procedures in order to assist the Company in administration of this Policy, to facilitate compliance with laws prohibiting insider trading while in possession of material non-public information, and to avoid the appearance of any impropriety. These additional procedures govern even though the transactions may be permissible under law and apply to the following persons hereafter defined as the "Window Group":

- All directors of Littelfuse;
- All executive officers of Littelfuse, including: the Chief Executive Officer, Chief Financial Officer, Chief Legal Officer, all Executive Vice Presidents; all Senior Vice Presidents; the Chief Accounting Officer; and the Director of Internal Audit;
- Any other employees designated by members of the Window Group; and
- Family members of the above who live in the same household or who are financially dependent on a member of the Window Group, as well as corporations, partnerships or trusts that hold, purchase or sell Littelfuse stock and that are controlled by members of the Window Group.

Members of the Window Group may only enter into transactions in Littelfuse Securities (including option exercises where the associated stock is sold, gifts, and derivative products such as puts, calls and collars) during an open trading window that commences three business days after the public release of the Company's quarterly or annual financial results and ends 40 days later. Even within the open trading window, all members of the Window Group must pre-clear all trades with the Legal Department. The Company may close an open trading window early at any time, as deemed appropriate by senior management.

The Legal Department will inform the Window Group electronically each quarter of the opening and closing of the trading window.

Certain members of the Window Group are also subject to Section 16 of the Securities Exchange Act of 1934 ("Section 16 Officers") and Rule 144 of the Securities Act of 1933 applicable to affiliates of Littelfuse.

Event-specific Trading Restriction Periods. From time to time, an event may occur that is material to the Company and is known by only a few directors, officers and/or associates. As long as the event remains material and non-public, the persons designated by the Legal Department may not trade in Littelfuse Securities. The existence of an event-specific trading restriction period will not be announced to the Company as a whole and should not be communicated to any other person. Even if the Legal Department has not designated you as a person who should not trade due to an event-specific restriction, you should not trade while aware of material non-public information.

Exceptions. The quarterly trading restrictions and event-specific trading restrictions do not apply to those transactions described above under the heading "Transactions Under Company Plans."

In the event of exceptional personal hardship, a member of the Window Group may petition the Legal Department for permission to trade outside the open trading window, assuming the person does not possess any material non-public information.

Designated Broker

EXHIBIT 19.1

Each transaction with respect to Littelfuse Securities under any equity plan sponsored or administered by Littelfuse shall be executed by a broker designated by Littelfuse. All Littelfuse Securities held by a Section 16 Officer, other than non-employee directors, must be owned through the broker designated by Littelfuse.

Rule 10b5-1 Plans

Trades by members of the Window Group in Littelfuse's Securities that are executed pursuant to an approved Rule 10b5-1 plan are not subject to the prohibition on trading on the basis of material nonpublic information contained in this policy or to the restrictions set forth above relating to pre-clearance procedures and closed trading windows. Rule 10b5-1 provides an affirmative defense from insider trading liability under the federal securities laws for trading plans that meet certain requirements.

In general, a 10b5-1 plan must be adopted during an open trading window and must be entered into while you are not aware of material nonpublic information. Once the plan is adopted, you must not exercise any influence over the amount of securities to be traded, the price at which they are to be traded or the date of the trade. The plan must either specify (including by formula) the amount, pricing and timing of transactions in advance or delegate discretion on those matters to an independent third party. Except for plans entered into by Littelfuse, each plan must have an appropriate "cooling off" period between the date a 10b5-1 plan is adopted (or modified) and the commencement of trading as contemplated in the plan. The cooling off period shall be the greater of 30 days and the minimum period required by applicable law or regulation, as determined by the Legal Department. Littelfuse requires that all 10b5-1 plans and all modifications to 10b5-1 plans be approved in writing in advance by the Legal Department. All 10b5-1 plans (and proposed modifications) should be submitted for approval at least five business days prior to entry into the 10b5-1 plan. The above requirements apply to all 10b5-1 plans entered into by Covered Persons or by Littelfuse.

Post-Termination Transactions

This Policy continues to apply to transactions in Littelfuse Securities even after you have terminated your relationship with the Company. If you are in possession of material nonpublic information when your relationship terminates, you may not trade in Littelfuse Securities until that information has become public or is no longer material.

Exhibit 21.1

SUBSIDIARIES

Name	Jurisdiction of Organization
Accel AB	Sweden
Beit Holdings, LLC	Delaware
C&K Aerospace	France
C&K CoActive, S.A.	Costa Rica
C&K Components (H.K.), Ltd.	Hong Kong
C&K Components (Vietnam) Company Limited	Vietnam
C&K Components SAS	France
C&K Components, LLC	Delaware
C&K Connect	France
C&K Dutch B.V.	Netherlands
C&K Dutch Coöperatief U.A.	Netherlands
C&K France Holdings	France
C&K Holdings, LLC	Delaware
Carling Technologies Asia-Pacific Limited	Hong Kong
Carling Technologies GmbH	Germany
Carling Technologies India Private Limited	India
Carling Technologies Limited	United Kingdom
Carling Technologies, S.A.S.	France
Carling Technologies, Inc.	Connecticut
Carlingswitch Enterprises Limited	Hong Kong
Carlingswitch Manufacturing (Zhongshan) Co. Ltd.	China
CoActive Cayman, LLC	Cayman Islands
CoActive Technologies, LLC	Delaware
CoActive US, LLC	Delaware
Cole Hersee S de RL de CV	Mexico
Comax Electronics (Huizhou) Company Limited	China
Comax Industrial Company Limited	Hong Kong
CSP-Componentes Semicondutores de Portugal LDA	Portugal
Dongguan Littelfuse Electronics Co., Ltd.	China
E.I.S. Aerospace Wiring GmbH	Germany
E.I.S. Electronics GmbH	Germany
E.I.S. Electronics Pvt. Ltd	India
E.I.S. Holding GmbH	Germany
E.I.S. International GmbH	Germany
Embed Limited	United Kingdom
H.I. Verwaltungs GmbH	Germany
Hamlin Electronics Europe Ltd.	United Kingdom
Hamlin Electronics GmbH	Germany
Hartland Controls Holding Corp.	Delaware
Hartland Controls L.L.C.	Illinois
Interruptores de Mexico, S.A. de C.V.	Mexico
IXYS Buckeye, LLC	Delaware
IXYS Global Services GmbH	Germany
IXYS Integrated Circuits Division, LLC	Massachusetts
IXYS Intl Limited	Cayman Islands
IXYS Korea Ltd.	Korea
IXYS IP Holding (Cayman) Limited	Cayman Islands

Name	Jurisdiction of Organization
IXYS Long Beach, Inc.	California
IXYS Semiconductor GmbH	Germany
IXYS Investment Holdings GmbH	Germany
IXYS UK Westcode Ltd.	United Kingdom

Name	Jurisdiction of Organization
IXYS Semiconductor-Unterstuetzungseinrichtung GmbH	Germany
IXYS USA, LLC	Delaware
IXYS, LLC	Delaware
LF Consorcio S. de R.L. de C.V.	Mexico
LFUS LLC	Delaware
Littelfuse Asia Holding B.V.	Netherlands
Littelfuse Asia Sales B.V.	Netherlands
Littelfuse Asia Technology B.V.	Netherlands
Littelfuse Bidco S.à r.l.	France
Littelfuse B.V.	Netherlands
Littelfuse Commercial Vehicle LLC	Delaware
Littelfuse Commercial Vehicle Products, Italy S.r.l.	Italy
Littelfuse Concord Semiconductor, Inc.	Taiwan (China)
Littelfuse da Amazonia, Ltda.	Brazil
Littelfuse Electronics (Kunshan) Co., Ltd.	China
Littelfuse Electronics (Shanghai) Co., Ltd.	China
Littelfuse Electronics Taiwan Co., Ltd.	Taiwan (China)
Littelfuse Europe GmbH	Germany
Littelfuse Far East Pte. Ltd.	Singapore
Littelfuse France S.A.S.	France
Littelfuse GmbH	Germany
Littelfuse HK Limited	Hong Kong
Littelfuse Holding GmbH	Germany
Littelfuse Holding Limited	Ireland
Littelfuse Holding, LLC	Delaware
Littelfuse International (Barbados) Inc.	Barbados
Littelfuse International Holding, LLC	Delaware
Littelfuse Italian Holdings S.r.l.	Italy
Littelfuse Italy S.r.l.	Italy
Littelfuse Japan G.K.	Japan
Littelfuse KK	Japan
Littelfuse LT, UAB	Lithuania
Littelfuse Mexico Distribution S. de R.L. de C.V.	Mexico
Littelfuse Mexico Holding LLC	Delaware
Littelfuse Mexico Services, S. de R.L. de C.V.	Mexico
Littelfuse Netherlands B.V.	Netherlands
Littelfuse Operations India Private Limited	India
Littelfuse Phils, Inc.	Philippines
Littelfuse S. de R.L. de C.V.	Mexico
Littelfuse Semiconductor (Wuxi) Co., Ltd.	China
Littelfuse Singapore (Finance) Pte. Ltd.	Singapore
Littelfuse Singapore Euro Pte. Ltd.	Singapore
Littelfuse Spain S.L.U.	Spain
Littelfuse Triad, Inc.	Korea

Name	Jurisdiction of Organization
MMI Santa Ana, LLC	Delaware
Monolith Semiconductor Inc.	Delaware
Orocontrol de Zacatecas, S.A. de C.V.	Mexico
Pele Technology, Inc.	Delaware
Productos Electromecanicos BAC, S. de R.L. de C.V.	Mexico

Name	Jurisdiction of Organization
RadioPulse, Inc.	Korea
Reaction Tech RE, LLC	Delaware
Reaction Technology Epi, LLC	Delaware
Reaction Technology Incorporated	California
Shanghai Hartland Controls Co. Ltd.	China
Startco Engineering ULC	Canada
Suzhou Littelfuse OVS Co., Ltd.	China
SymCom, Inc.	South Dakota
Tres France Holdings SAS	France
Western Automation Research & Development Limited	Ireland
Western Automation Research & Development Spain S.L.	Spain
Littelfuse Far East Holding, LLC	Delaware
Zilog Electronics Philippines, Inc.	Philippines
Zilog, Inc.	Delaware
Zilog Philippines, Inc.	Philippines

3

Exhibit 23.1

CONSENT OF INDEPENDENT REGISTERED PUBLIC ACCOUNTING FIRM

We have issued our reports dated February 16, 2023 2024, with respect to the consolidated financial statements and internal control over financial reporting included in the Annual Report of Littelfuse, Inc. on Form 10-K for the year ended December 31, 2022 30, 2023. We consent to the incorporation by reference of said reports in the Registration Statements of Littelfuse, Inc. on Form S-4 (File No. 333-221147) and on Forms S-8 (File Nos. 333-272773, 333-226707, 333-221147, 333-217632, 333-03260, 033-95020, 333-209865, 333-166953, 333-134699, 333-134700, and 333-64285).

/s/ GRANT THORNTON LLP

Southfield, Michigan
February 16, 2023 2024

Exhibit 31.1

SECTION 302 CERTIFICATION

I, David W. Heinzmann, certify that:

1. I have reviewed this Annual Report on Form 10-K of Littelfuse Inc.;
2. Based on my knowledge, this report does not contain any untrue statement of a material fact or omit to state a material fact necessary to make the statements made, in light of the circumstances under which such statements were made, not misleading with respect to the period covered by this report;
3. Based on my knowledge, the financial statements, and other financial information included in this report, fairly present in all material respects the financial condition, results of operations and cash flows of the registrant as of, and for, the periods presented in this report;
4. The registrant's other certifying officer and I are responsible for establishing and maintaining disclosure controls and procedures (as defined in Exchange Act Rules 13a-15(e) and 15d-15(e)) and internal control over financial reporting (as defined in Exchange Act Rules 13a-15(f) and 15d-15(f)) for the registrant and have:

- (a) designed such disclosure controls and procedures, or caused such disclosure controls and procedures to be designed under our supervision, to ensure that material information relating to the registrant, including its consolidated subsidiaries, is made known to us by others within those entities, particularly during the period in which this report is being prepared;
 - (b) designed such internal control over financial reporting, or caused such internal control over financial reporting to be designed under our supervision, to provide reasonable assurance regarding the reliability of financial reporting and the preparation of financial statements for external purposes in accordance with generally accepted accounting principles;
 - (c) evaluated the effectiveness of the registrant's disclosure controls and procedures and presented in this report our conclusions about the effectiveness of the disclosure controls and procedures, as of the end of the period covered by this report based on such evaluation; and
 - (d) disclosed in this report any change in the registrant's internal control over financial reporting that occurred during the registrant's most recent fiscal quarter (the registrant's fourth fiscal quarter in the case of an annual report) that has materially affected, or is reasonably likely to materially affect, the registrant's internal control over financial reporting; and
5. The registrant's other certifying officer and I have disclosed, based on our most recent evaluation of internal control over financial reporting, to the registrant's auditors and the audit committee of the registrant's board of directors (or persons performing the equivalent functions):
- (a) all significant deficiencies and material weaknesses in the design or operation of internal control over financial reporting which are reasonably likely to adversely affect the registrant's ability to record, process, summarize and report financial information; and
 - (b) any fraud, whether or not material, that involves management or other employees who have a significant role in the registrant's internal control over financial reporting.

Dated: February 16, 2023 February 16, 2024

/s/ DAVID W HEINZMANN

David W. Heinzmann,

President and Chief Executive Officer

Exhibit 31.2

SECTION 302 CERTIFICATION

I, Meenal A. Sethna, certify that:

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

Dated: February 16, 2023 February 16, 2024

/s/ MEENAL A SETHNA

Meenal A. Sethna

Executive Vice President and Chief Financial Officer

Exhibit 32.1

LITTELFUSE, INC.

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

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

The Annual Report of the Company on Form 10-K for the fiscal year ended December 31, 2022 December 30, 2023 ("the Report") fully complies with the requirements of section 13(a) or 15(d) of the Securities Exchange Act of 1934, and the information contained in the Report fairly presents, in all material respects, the financial condition and results of operations of the Company.

/s/ DAVID W. HEINZMANN

David W. Heinzmann

President and Chief Executive

Officer

/s/ MEENAL A. SETHNA

Meenal A Sethna

Executive Vice President and

Chief Financial Officer

Dated: February 16, 2023 February 16, 2024

Dated: February 16, 2023 February 16, 2024

EXHIBIT 97.1

Compensation Recovery Policy (Required by NASDAQ Listing Rule 5608)

Compensation Recovery

Subject to the limited exceptions set forth herein, with respect to the compensation of executive officers and former executive officers subject to this policy as described under "Applicability" below, Littelfuse, Inc. (the "Company") will recover reasonably promptly the amount of erroneously awarded incentive-based compensation in the event that the Company is required to prepare an accounting restatement due to the material noncompliance of the Company with any financial reporting requirement under the securities laws, including any required accounting restatement to correct an error in previously issued financial statements that is material to the previously issued financial statements (commonly referred to as a "Big R" restatement), or that would result in a material misstatement if the error were corrected in the current period or left uncorrected in the current period (commonly referred to as a "little r" restatement).

For purposes of this policy, "incentive-based compensation" is any compensation that is granted, earned, or vested based wholly or in part upon the attainment of a financial reporting measure. A "financial reporting measure" is a measure that is determined and presented in accordance with the accounting principles used in preparing the Company's financial statements, and any measures that are derived wholly or in part from such measures. Stock price and total shareholder return are also financial reporting measures. A financial reporting measure need not be presented within the financial statements or included in a filing with the Commission.

Applicability

This policy applies to incentive-based compensation received (as defined below) by a person: (i) after beginning service as an executive officer; (ii) who served as an executive officer at any time during the performance period for that incentive-based compensation; (iii) while the Company's common stock remains listed on NASDAQ (or another national securities exchange or a national securities association); and (iv) during the three completed fiscal years immediately preceding the date that the Company is required to

prepare an accounting restatement as described under "Compensation Recovery" above (plus any transition period to the extent required by NASDAQ rules in the event of a change in fiscal year).

For purposes of clause (iv) above, the date the Company is required to prepare such an accounting restatement is the earlier of: (1) the date the board of directors of the Company (the "Board"), a committee of the Board, or the officer or officers of the Company authorized to take such action if Board action is not required, concludes, or reasonably should have concluded, that the Company is required to prepare such an accounting restatement; and (2) the date a court, regulator, or other legally authorized body directs the Company to prepare such an accounting restatement.

For purposes of this policy, "executive officer" means the Company's president, principal financial officer, principal accounting officer (or if there is no such accounting officer, the controller), any vice-president in charge of a principal business unit, division, or function (such as sales, administration, or finance), any other officer who performs a policy-making function, or any other person who performs similar policy-making functions for the Company. Executive officers of the Company's subsidiaries are deemed executive officers of the Company if they perform such policy making functions for the Company. Policy-making function is not intended to include policy-making functions that are not significant. Identification of an executive officer for purposes of this section would include at a minimum executive officers identified pursuant to Item 401(b) of Regulation S-K.

For purposes of this policy, incentive-based compensation is deemed "received" in the fiscal period during which the financial reporting measure specified in the incentive-based compensation award is attained, even if the payment or grant of the incentive-based compensation occurs after the end of that period.

This policy only applies to incentive-based compensation received (as defined above) on or after January 1, 2023.

Determination of Amount Subject to Recovery

EXHIBIT 97.1

The amount of incentive-based compensation subject to recovery under this policy ("erroneously awarded compensation") is the amount of incentive-based compensation received that exceeds the amount of incentive-based compensation that otherwise would have been received had it been determined based on the restated amounts, and must be computed without regard to any taxes paid.

For incentive-based compensation based on stock price or total shareholder return, where the amount of erroneously awarded compensation is not subject to mathematical recalculation directly from the information in an accounting restatement: (i) the amount must be based on a reasonable estimate of the effect of the accounting restatement on the stock price or total shareholder return upon which the incentive-based compensation was received; and (ii) the Company must maintain documentation of the determination of that reasonable estimate and provide such documentation to NASDAQ as provided by the rules thereof.

Limited Exceptions

The Company must recover erroneously awarded compensation in compliance with this policy except to the extent that one of the exceptions described in this section is applicable, and the compensation committee of the Board (the "Compensation Committee"), or in the absence of such a committee or in the event it is not comprised solely of independent directors, a majority of the independent directors serving on the Board, has made a determination that recovery would be impracticable.

The exceptions referred to in the previous paragraph are as follows:

Direct Third-Party Expense Exceeds Recoverable Amount. The direct expense paid to a third party to assist in enforcing this policy would exceed the amount to be recovered. Before concluding that it would be impracticable to recover any amount of erroneously awarded compensation based on expense of enforcement, the Company must make a reasonable attempt to recover such erroneously awarded compensation, document such reasonable attempt(s) to recover, and provide that documentation to NASDAQ as provided by the rules thereof.

Tax-Qualified Retirement Plans. Recovery would likely cause an otherwise tax-qualified retirement plan, under which benefits are broadly available to employees of the Company, to fail to meet the requirements of 26 U.S.C. 401(a)(13) or 26 U.S.C. 411(a) and regulations thereunder.

No Indemnification

The Company will not indemnify any executive officer or former executive officer against the loss of erroneously awarded compensation.

Disclosure

The Company will comply with all disclosure requirements with respect to this policy in accordance with the requirements of the applicable securities laws and NASDAQ rules.

No Duplication of Recovery

To the extent that any compensation recoverable under this policy is also recoverable other than pursuant to this policy, including pursuant applicable law such as Section 304 of the Sarbanes-Oxley Act or pursuant to any other policy or agreement of the Company, then this policy will be administered in order to avoid duplicative recovery to the extent permitted by applicable law and NASDAQ rules. If any amounts that would also be recoverable hereunder have already been reimbursed by a person to the Company pursuant to applicable law or another policy or agreement, such amounts may be credited against amounts recoverable from such person hereunder.

Administration

This policy is intended to comply with NASDAQ Listing Rule 5608 and the applicable provisions Rule 10D-1 under the Securities Exchange Act of 1934, and shall be administered and interpreted in a manner consistent

EXHIBIT 97.1

with such rules and the applicable guidance of NASDAQ and the Securities and Exchange Commission with respect thereto.

This policy will be administered by the Compensation Committee, or in the absence of such a committee or in the event it is not comprised solely of independent directors, a majority of the independent directors serving on the Board.

DISCLAIMER

THE INFORMATION CONTAINED IN THE REFINITIV CORPORATE DISCLOSURES DELTA REPORT™ IS A COMPARISON OF TWO FINANCIALS PERIODIC REPORTS. THERE MAY BE MATERIAL ERRORS, OMISSIONS, OR INACCURACIES IN THE REPORT INCLUDING THE TEXT AND THE COMPARISON DATA AND TABLES. IN NO WAY DOES REFINITIV OR THE APPLICABLE COMPANY ASSUME ANY RESPONSIBILITY FOR ANY INVESTMENT OR OTHER DECISIONS MADE BASED UPON THE INFORMATION PROVIDED IN THIS REPORT. USERS ARE ADVISED TO REVIEW THE APPLICABLE COMPANY'S ACTUAL SEC FILINGS BEFORE MAKING ANY INVESTMENT OR OTHER DECISIONS.

©2024, Refinitiv. All rights reserved. Patents Pending.