

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

For the fiscal year ended December 31, 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: 001-13337



STONERIDGE INC

(Exact name of registrant as specified in its charter)

Ohio

34-1598949

(State or other jurisdiction of incorporation or organization)

(I.R.S. Employer Identification No.)

39675 MacKenzie Drive, Suite 400, Novi, Michigan

48377

(Address of principal executive offices)

(Zip Code)

(248) 489-9300

Registrant's telephone number, including area code

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

Title of each class	Trading Symbol(s)	Name of each exchange on which registered
Common Shares, without par value	SRI	New York Stock Exchange

Securities registered pursuant to section 12(g) of the Act: **None**

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 pursuant to Rule 405 of Regulation S-T (§ 232.405 of this chapter) during the preceding 12 months (or for such shorter period that the registrant was required to submit 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 an emerging growth company.

See definition of "large accelerated filer," "accelerated filer," "smaller reporting company" and "emerging growth company" in Rule 12b-2 of the Exchange Act.

Large accelerated filer	<input type="radio"/>	Accelerated filer	<input checked="" type="radio"/>	Non-accelerated filer	<input type="radio"/>
Smaller reporting company	<input type="radio"/>	Emerging growth company	<input type="radio"/>		

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 Act).

☐ Yes ☒ No

As of June 30, 2023, the aggregate market value of the registrant's Common Shares held by non-affiliates of the registrant was approximately \$ 504.3 million. The closing price of the Common Shares on June 30, 2023 as reported on the New York Stock Exchange was \$18.85 per share. As of June 30, 2023, the number of Common Shares outstanding was 27,521,833.

The number of Common Shares outstanding as of February 26, 2024 was 27,553,610 .

DOCUMENTS INCORPORATED BY REFERENCE

Definitive Proxy Statement for the Annual Meeting of Shareholders to be held on May 14, 2024, into Part III, Items 10, 11, 12, 13 and 14.

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Forward-Looking Statements

Portions of this report on Form 10-K contain “forward-looking statements” under the Private Securities Litigation Reform Act of 1995. These statements appear in a number of places in this report and may include statements regarding the intent, belief or current expectations of the Company, with respect to, among other things, our (i) future product and facility expansion, (ii) acquisition strategy, (iii) investments and new product development, (iv) growth opportunities related to awarded business and (v) operational expectations. Forward-looking statements may be identified by the words “will,” “may,” “should,” “designed to,” “believes,” “plans,” “projects,” “intends,” “expects,” “estimates,” “anticipates,” “continue,” and similar words and expressions. The forward-looking statements are subject to risks and uncertainties that could cause actual events or results to differ materially from those expressed in or implied by the statements. Important factors that could cause actual results to differ materially from those in the forward-looking statements include, among other factors:

- the ability of our suppliers to supply us with parts and components at competitive prices on a timely basis, including the impact of potential tariffs and trade considerations on their operations and output;
- fluctuations in the cost and availability of key materials (including semiconductors, printed circuit boards, resin, aluminum, steel and copper) and components and our ability to offset cost increases through negotiated price increases with our customers or other cost reduction actions, as necessary;
- global economic trends, competition and geopolitical risks, including impacts from ongoing or potential global conflicts and any related sanctions and other measures, or an escalation of sanctions, tariffs or other trade tensions between the U.S. and other countries;
- our ability to achieve cost reductions that offset or exceed customer-mandated selling price reductions;
- the reduced purchases, loss or bankruptcy of a major customer or supplier;
- the costs and timing of business realignment, facility closures or similar actions;
- a significant change in automotive, commercial, off-highway or agricultural vehicle production;
- competitive market conditions and resulting effects on sales and pricing;
- foreign currency fluctuations and our ability to manage those impacts;
- customer acceptance of new products;
- our ability to successfully launch/produce products for awarded business;
- adverse changes in laws, government regulations or market conditions affecting our products, our suppliers, or our customers' products;
- our ability to protect our intellectual property and successfully defend against assertions made against us;
- liabilities arising from warranty claims, product recall or field actions, product liability and legal proceedings to which we are or may become a party, or the impact of product recall or field actions on our customers;
- labor disruptions at our facilities, or at any of our significant customers or suppliers;
- business disruptions due to natural disasters or other disasters outside of our control;
- the amount of our indebtedness and the restrictive covenants contained in the agreements governing our indebtedness, including our revolving Credit Facility;
- capital availability or costs, including changes in interest rates;
- the failure to achieve the successful integration of any acquired company or business;
- risks related to a failure of our information technology systems and networks, and risks associated with current and emerging technology threats and damage from computer viruses, unauthorized access, cyber-attack and other similar disruptions; and
- the items described in Part I, Item 1A (“Risk Factors”).

The forward-looking statements contained herein represent our estimates only as of the date of this filing and should not be relied upon as representing our estimates as of any subsequent date. While we may elect to update these forward-looking statements at some point in the future, we specifically disclaim any obligation to do so, whether to reflect actual results, changes in assumptions, changes in other factors affecting such forward-looking statements or otherwise.

PART I

Item 1. Business.

Overview

Founded in 1965, Stoneridge, Inc. (the “Company”) is a global designer and manufacturer of highly engineered electrical and electronic systems, components and modules for the automotive, commercial, off-highway and agricultural vehicle markets. Our products and systems are critical elements in the management of systems to improve overall vehicle performance, convenience and monitoring in areas such as safety and security, intelligence, efficiency and emissions. Our worldwide footprint is primarily comprised of 21 locations in 11 countries and enables us to supply global automotive, commercial, off-highway, agricultural and other vehicle markets.

Our custom-engineered products and systems are used to activate equipment and accessories, monitor and display vehicle performance and control, distribute electrical power and signals and provide vehicle safety, security and convenience. Our product offerings consist of actuators, sensors, switches and connectors, driver information systems, vision and safety systems, connectivity and compliance products, electronic control units, vehicle tracking devices and monitoring services, vehicle security alarms and convenience accessories, in-vehicle audio and infotainment devices and telematics solutions. We supply the majority of our products, predominantly on a sole-source basis, to many of the world’s leading automotive and commercial vehicle original equipment manufacturers (“OEMs”) and select non-vehicle OEMs, as well as certain automotive and commercial vehicle Tier 1 suppliers. Our customers are increasingly utilizing electronic technology to comply with more stringent regulations (particularly emissions and safety) and to meet end-user demand for improved vehicle performance and greater convenience. As a result of this trend, per-vehicle electronic content has been increasing. Our technology and our partnership-oriented approach to product design and development enables us to develop next-generation products and systems aligned with these trends.

Beginning with the divestiture of our wiring business in 2014, we accelerated a shift in our product portfolio towards smart products, or those products that contain embedded electronics or logic. While the wiring business was our largest single business, based on revenues and employees, and the business that the Company was founded on, its products were largely commodities that did not provide a technology platform to drive our expected future growth. In addition to the divestiture of the wiring business, we deployed capital in 2017 to make strategic investments including the acquisition of Orlaco, our partner on the development of MirrorEye®, our camera monitor system, and the acquisition of an additional 24 percent of our Stoneridge Brazil business resulting in 100 percent ownership. In 2019, the Company’s Control Devices segment sold its non-core switches and connectors business (the “Non-core Products”) and in 2020 announced the strategic exit of our PM sensor business to further align with our strategic plan. These activities have acted as a catalyst for the advancement of our smart product portfolio, increasing our smart content from just over 50% of our sales in 2014 to almost 80% of our sales in 2023. Our product portfolio shift focuses on the megatrends driving the transportation industry.

In January 2019, the Company committed to a restructuring plan that resulted in the closure of the Canton, Massachusetts facility (“Canton Facility”) as of March 31, 2020 and the consolidation of manufacturing operations at that site into other Company locations (“Canton Restructuring”). On June 17, 2021, we sold the Canton facility. See Note 2 to the consolidated financial statements for additional details regarding the sale of the Canton Facility. See Note 12 to the consolidated financial statements for additional details regarding the Canton Restructuring.

On May 19, 2020, the Company committed to the strategic exit of its Control Devices particulate matter (“PM”) sensor product line (“PM Sensor Exit”). The decision to exit the PM sensor product line was made after the consideration of the decline in the market outlook for diesel passenger vehicles, the current and expected profitability of the product line and the Company’s strategic focus on aligning resources with the greatest opportunities. See Note 12 to the consolidated financial statements for additional details regarding the PM Sensor Exit.

On March 8, 2021, the Company entered into an Asset Purchase Agreement and sold the PM sensor product line and assets. The PM sensor product line and assets were located in Lexington, Ohio and Tallinn, Estonia. See Note 2 to the consolidated financial statements for additional details regarding the sale of the PM sensor business.

On November 2, 2021, the Company entered into a Share Purchase Agreement (the “SPA”) with Minda Corporation Limited (“Minda”), as the buyer, and Minda Stoneridge Instruments Ltd. (“MSIL”). On December 30, 2021, pursuant to the SPA, the Company closed the sale of MSIL to Minda. See Note 2 to the consolidated financial statements for additional details regarding the sale of MSIL.

We have positioned each of our segments for continued long-term success. Our Control Devices segment is increasingly well positioned with a focus on continued development and commercialization of actuation and powertrain agnostic applications that will drive future growth for the segment. Our Electronics segment is expected to drive strong revenue growth through launches of previously awarded programs including launches for our MirrorEye camera monitor system in the European and North American commercial vehicle markets and our SE5000 Smart 2 tachograph product in the European commercial vehicle market for both OEM and aftermarket applications. Our Stoneridge Brazil segment continues to integrate into our global strategy as we leverage our global engineering footprint and prepare for continued expansion of our local OEM presence. Overall, we will continue to focus our resources on the areas of largest opportunity for the Company to drive long-term value creation for our shareholders.

Segments and Products

We conduct our business in three reportable business segments, which are the same as our operating segments: Control Devices, Electronics and Stoneridge Brazil.

Control Devices. Our Control Devices segment designs and manufactures products that monitor, measure or activate specific functions within a vehicle. This segment includes product lines such as actuators, sensors, switches and connectors. Actuator products enable OEMs to deploy power functions in a vehicle and can be designed to integrate switching and control functions including our park lock and front-axle disconnect products. Sensor products are employed in major vehicle systems such as the emissions, safety, powertrain, braking, climate control, steering and suspension systems and are now being applied to electric vehicle thermal management systems. Switches and connectors transmit signals that activate specific functions. Our switch and connector technology is principally used in two capacities, user-activated and hidden. User-activated switches are used by a vehicle's operator or passengers to manually activate in-vehicle accessories. Hidden switches are not typically visible to vehicle operators or passengers and are engaged to activate or deactivate selected functions as part of normal vehicle operations. We sell these products principally to the automotive market. To a lesser extent, we also sell these products to the commercial vehicle and agricultural markets.

Electronics. Our Electronics segment designs and manufactures driver information systems, vision and safety systems, connectivity and compliance products and electronic control units. Driver information systems and connectivity and compliance products collect, store and display vehicle information such as speed, pressure, maintenance data, trip information, operator performance, temperature, distance traveled, and driver messages related to vehicle performance. Vision and safety products provide enhanced vehicle visibility and safety to drivers. Electronic control units regulate, coordinate, monitor and direct the operation of the electrical system within a vehicle. These products are sold principally to the commercial vehicle market through both the OEM and aftermarket channels. In addition, vision and safety systems are sold to the off-highway and commercial vehicle markets.

Stoneridge Brazil. Our Stoneridge Brazil segment primarily serves the South American market and specializes in the design, manufacture and sale of vehicle tracking devices and monitoring services, vehicle security alarms and convenience accessories, in-vehicle audio and infotainment devices, driver information systems and telematics solutions primarily for the automotive and commercial vehicle markets. This segment includes product lines such as vehicle monitoring and tracking devices, security alarms, convenience applications such as parking sensors and rearview cameras, audio and infotainment systems, driver information systems and telematics products used for fleet management. These products improve the performance, safety and convenience features of our customers' vehicles. Stoneridge Brazil sells its products through the aftermarket distribution channel, to factory authorized dealer installers, also referred to as original equipment services and direct to OEMs. In addition, monitoring services and tracking devices are sold directly to corporate and individual customers.

Our products and systems are sold to numerous OEM and Tier 1 customers, as well as aftermarket distributors, for use on many different vehicle platforms. We supply multiple parts to many of our principal OEM and Tier 1 customers under requirements contracts for a particular vehicle model. These contracts range in duration from one year to the production life of the model, which commonly extends for three to seven years.

The following table sets forth for the periods indicated, the percentage of net sales derived from our principal end markets:

Principal End Markets	2023	2022	2021
Commercial vehicle	51 %	48 %	39 %
Automotive	31 %	34 %	41 %
Off-highway and other	12 %	12 %	12 %
Aftermarket distributors and monitoring services	6 %	6 %	8 %

For further information related to our reportable segments and financial information about geographic areas, see Note 13 to the consolidated financial statements.

Production Materials

The principal production materials used in the Company's manufacturing process are electrical components such as printed circuit boards, semiconductors, microprocessors, memory devices, resistors, capacitors, fuses, relays, monitors and cameras, molded plastic components and resins, copper, steel and precious metals. We purchase production materials pursuant to both annual contract and spot purchasing methods. Such materials are available from multiple sources, but we generally establish collaborative relationships with a qualified supplier for each of our key production materials in order to lower costs and enhance service and quality. As global demand for our production materials increases, we may have difficulties obtaining adequate production materials from our suppliers to satisfy our customers. Refer to the Risk Factors for risks related to the current supply chain disruption related to semiconductors and other production materials. Any extended period for which we cannot obtain adequate production material or which we experience an increase in the price of production material would materially affect our results of operations and financial condition.

Patents, Trademarks and Intellectual Property

We maintain and have pending various U.S. and foreign patents, trademarks, and other rights to intellectual property relating to the reportable segments of our business, which we believe are appropriate to protect the Company's interests in existing products, new inventions, manufacturing processes and product developments. We do not believe any single patent is material to our overall business success, nor would the expiration or invalidity of any patent have a material adverse effect on our business or ability to compete.

Industry Cyclicity and Seasonality

The markets for products in each of our reportable segments have been cyclical. Because these products are used principally in the production of vehicles for the automotive, commercial, off-highway and agricultural vehicle markets, revenues and therefore results of operations, are significantly dependent on the general state of the economy and other factors, like the impact of environmental regulations on our customers and end market consumers, which affect these markets. A significant decline in automotive, commercial, off-highway and agricultural vehicle production of our principal customers could adversely affect the Company. Our Control Devices and Electronics segments are moderately seasonal, impacted by mid-year and year-end shutdowns and the ramp-up of new model production at key customers. In addition, the demand for our Stoneridge Brazil segment consumer products is typically higher in the second half of the year.

Customers

We have several customers that account for a significant percentage of our sales. The loss of any significant portion of our sales to these customers, or the loss of a significant customer, would have a material adverse impact on our financial condition and results of operations. We supply numerous different products to each of our principal customers. Contracts with several of our customers provide for supplying their requirements for a particular model, rather than for manufacturing a specific quantity of products. Such contracts range from one year to the life of the model, which is generally three to seven years. These contracts are subject to potential renegotiation from time to time, which may affect product pricing and generally may be terminated by our customers at any time. Therefore, the loss of a contract for a major model or a significant decrease in demand for certain key models or group of related models sold by any of our major customers would have a material adverse impact on the Company. We may enter into contracts to supply products, the introduction of which may then be delayed or cancelled. We also compete to supply products for successor models, and are therefore subject to the risk that the customer will not select the Company to produce products on any such model, which could have a material adverse impact on our financial condition and results of operations.

Due to the competitive nature of the markets we serve, we face pricing pressures from our customers in the ordinary course of business. In response to these pricing pressures we manage our production costs by lowering certain costs and/or limiting the increase of others. If we are unable to effectively manage production costs in the future to mitigate future pricing pressures, our financial condition and results of operations would be adversely affected.

Competition

The markets for our products in our reportable segments are highly competitive. We compete based on technological innovation, price, quality, performance, service and delivery. We compete for new business both at the beginning of the development of new models and upon the redesign of existing models for OEM customers. New model development generally begins two to five years before the marketing of such models to the public. Once a supplier has been selected to provide parts for a new program, an OEM customer will usually continue to purchase those parts from the selected supplier for the life of the program, although not necessarily for any model redesigns. We compete for aftermarket sales based on price, product functionality, quality and service.

Our diversity in products creates a wide range of competitors, which vary depending on both market and geographic location. We compete based on strong customer relations and a fast and flexible organization that develops technically effective solutions at a competitive price.

Product Development

Our research and development efforts for our reportable segments are largely product design and development oriented and consist primarily of applying known technologies to customer requests or developing new, innovative technologies aligned with industry megatrends or customer requests. A large portion of our development expenses are related to customer-sponsored programs where we are involved in designing custom-engineered solutions for specific applications or for next generation technology. To further our vehicle platform penetration, we have also developed collaborative relationships with the design and engineering departments of key customers. These collaborative efforts have resulted in the development of new and complimentary products and the enhancement of existing products.

Our product development investment and spending activities are globally coordinated to maximize utilization of resources and collaboration among engineering resources which are organized based on resource availability, capability and cost effectiveness. The product development operations are executed by technology groups in Barneveld, Netherlands; Campinas, Brazil; Juarez, Mexico; Lexington, Ohio; Novi, Michigan; Stockholm, Sweden; Suzhou, China and Tallinn, Estonia.

We have invested, and will continue to invest heavily in technology aligned with our strategy to develop smart products that contain embedded electronics or logic. Product development costs, other than capitalized software development costs, incurred in connection with the development of new products and manufacturing methods, to the extent not recoverable from the customer, are expensed as incurred.

We will continue to prioritize investment spending toward the design and development of new products over sustaining existing product programs for specific customers, which allows us to sell our products to multiple customers. The typical product development process takes three to seven years to show tangible results. As part of our effort to evaluate our investment spending, we review our current product portfolio and adjust our spending to either accelerate or eliminate our investment in these products based on our position in the market and the potential of the market and product.

Environmental and Other Regulations

Our operations are subject to various federal, state, local and foreign laws and regulations governing, among other things, emissions to air, discharge to water and the generation, handling, storage, transportation, treatment and disposal of waste and other materials. We believe that our business, operations and facilities have been and are being operated in compliance, in all material respects, with applicable environmental and health and safety laws and regulations, many of which provide for substantial fines and criminal sanctions for violations.

Human Capital Management

As of December 31, 2023, Stoneridge employed approximately 4,850 full time and temporary employees in 14 countries, with about 86% located outside of the United States. Although we have no collective bargaining agreements covering U.S. employees, a significant number of employees located in Brazil, China, Estonia, Mexico, Netherlands, Sweden and the United Kingdom either (i) are represented by a union and are covered by a collective bargaining agreement, or (ii) are covered by a works council or other employment arrangements required by law. We work to ensure positive relations with our employees.

We strive to create a work environment that enhances employee engagement, fosters productivity, and is aligned with our values of Integrity, Accountability, Teamwork, Adaptability, Customer Orientation, and Social Responsibility. We know that our success is dependent on our employees' engagement, performance, skills, and development. To that end, we have established talent management programs at Stoneridge, which include but are not limited to the following:

- Periodic global employee engagement surveys and subsequent action planning
- Regular talent reviews for employee development and succession planning
- Feedback and coaching to ensure performance is aligned with our goals and strategic direction
- Delivery of Code of Conduct and global policy training
- New employee orientation with globally consistent and locally flexible messaging
- Frequent global "town hall" meetings and other communications
- Employee wellness programs
- Opportunities for community and charitable involvement
- Employee mentoring program
- Internship programs

When we hire new employees, we focus not just on the skills required for current positions, but the ever-changing complex skills and competencies that will be required as we move forward on our path to being the mobility industry's integrated technology partner. We seek diverse sources for candidates and we offer wages and benefits that are competitive in the markets where employees are located.

Stoneridge is committed to creating diverse, equitable and inclusive workplaces that align with our core values and deliver sustainable business success. It is our mission to attract, advance and advocate for a diverse workforce that represents the communities around us. To this end, Stoneridge created a steering committee to drive diversity, equity and inclusion initiatives across its various sites and functions and report on progress to our executive leadership team and Board of Directors. Additionally, we are challenging and responding to bias and eliminating barriers through fair policies and practices. We are building an inclusive Stoneridge where all employees can grow, excel, and contribute to our success in a meaningful way.

The Human Resources function at Stoneridge is an active and visible partner to the business at all levels. Our Chief Human Resources Officer reports directly to the Chief Executive Officer and interacts frequently with the Company's Board of Directors. Our Human Capital focus will continue to be on employee engagement, employee and leadership development, communications, and employee health and safety.

Information About Our Executive Officers

Each executive officer of the Company serves the Board of Directors at its pleasure. The Board of Directors appoints corporate officers annually. The following table sets forth the names, ages, and positions of the executive officers of the Company:

Name	Age	Position
James Zizelman	63	President, Chief Executive Officer and Director
Matthew R. Horvath	38	Chief Financial Officer and Treasurer
Susan C. Benedict	57	Chief Human Resources Officer and Assistant General Counsel
Caetano R. Ferraiolo	56	President of the Stoneridge Brazil Division
Robert J. Hartman Jr.	57	Chief Accounting Officer
Salvatore D. Orsini	54	Chief Procurement Officer
Peter Österberg	55	President of the Electronics Division
Rajaey Kased	44	President of the Control Devices Division

James Zizelman, President, Chief Executive Officer and Director. Mr. Zizelman was appointed as President and Chief Executive Officer and elected as Director in January 2023. Previously he served as President of the Control Devices Division since April 2020. Prior to joining Stoneridge, Mr. Zizelman served as the Vice President of Engineering and Program Management for Aptiv from December 2017 to March 2019. Prior to that, Mr. Zizelman was employed at Delphi for more than 20 years, where he was last a Vice President of Engineering from 2016 to 2017.

Matthew R. Horvath, Chief Financial Officer and Treasurer. Mr. Horvath was appointed Chief Financial Officer and Treasurer in September 2021. He previously served as Stoneridge's Executive Director of Corporate Strategy and Investor Relations from September 2020 to August 2021, and prior to that as Director of Investor Relations from November 2016 to August 2020. Prior to joining Stoneridge, Mr. Horvath spent six years at EY, formerly known as Ernst & Young, in the Transaction Advisory practice, primarily focused on business and asset valuation with a focus on the automotive and transportation industry from 2010 - 2016.

Susan C. Benedict, Chief Human Resources Officer and Assistant General Counsel. Ms. Benedict was appointed Chief Human Resources Officer and Assistant General Counsel in June 2019. Ms. Benedict previously served as Stoneridge's Director of Legal since November 2017. Prior to Stoneridge, Ms. Benedict served as Senior Counsel for Koch Industries in October 2017 and Corporate Counsel for Guardian Industries from December 2012 to September 2017.

Caetano R. Ferraiolo, President of the PST Electronics Division. Mr. Ferraiolo was appointed to President of the Stoneridge Brazil Electronics Division in June 2017. Mr. Ferraiolo joined the Company in 2015 and previously served as the Chief Operating Officer of Stoneridge Brazil. From 2010 to 2015 he served as Vice President of Operations for Cannondale Sports Group in Brazil. Prior to that, Mr. Ferraiolo served as Director of European Commercial and Development, Autocam Corporation from 2005 to 2010.

Robert J. Hartman Jr., Chief Accounting Officer. Mr. Hartman was appointed as Chief Accounting Officer and to the role of principal accounting officer in July 2016. Prior to that, Mr. Hartman served as Corporate Controller of the Company since 2006 and prior to that as Stoneridge's Director of Internal Audit from 2003.

Salvatore D. Orsini, Chief Procurement Officer. Mr. Orsini was appointed Chief Procurement Officer in July 2022. Prior to that Mr. Orsini had been employed at Nexteer Automotive as Vice President, Global Chief Supply Management Officer from 2020 until June 2022. From 2019 to 2020 Mr. Orsini served as Supply Chain Director at Aptiv and from 2013 to 2019 Mr. Orsini held various leadership roles at General Motors, most recently Global Commodity Director. Prior to that Mr. Orsini held various positions at Rolls-Royce Aerospace and Delphi.

Peter Österberg, President of the Electronics Division. Mr. Österberg was appointed as President of the Electronics Division in March 2022. Before joining Stoneridge, Peter served as vice president of Supplier Quality and Development at Volvo Group from 2017 to 2022. Before that, he served in a variety of roles at Volvo including Vice President of Engineering at Volvo CE, Global Director Volvo Powertrain, and other positions with increasing responsibility over time. Prior to that, he worked at Volvo Cars, both within product development and quality.

Rajaey Kased, President of the Control Devices Division. Mr. Kased was appointed as President of the Control Devices Division in January 2023. He previously was the Vice President of Sales, Strategy, and Product Line Management for the Control Devices Division from 2019. Prior to joining Stoneridge, Mr. Kased served as Head of Business Development, ADAS and Powertrain, North America, at Henkel from 2017 to 2019. Prior to that, Mr. Kased was employed at Delphi from 2005 to 2017 where he served in management and engineering roles of increasing responsibility.

Available Information

We make available, free of charge through our website (www.stoneridge.com), our Annual Reports on Form 10-K ("Annual Report"), Quarterly Reports on Form 10-Q, Current Reports on Form 8-K, all amendments to those reports, and other filings with the U.S. Securities and Exchange Commission ("SEC"), as soon as reasonably practicable after they are filed with the SEC. Our Corporate Governance Guidelines, Code of Business Conduct and Ethics, Code of Ethics for Senior Financial Officers, Whistleblower Policy and Procedures and the charters of the Board of Director's Audit, Compensation, Nominating and Corporate Governance and Compliance and Ethics Committees are posted on our website as well. Copies of these documents will be available to any shareholder upon request. Requests should be directed in writing to Investor Relations at Stoneridge, Inc., 39675 MacKenzie Drive, Suite 400, Novi, Michigan 48377. The SEC maintains a website (www.sec.gov) that contains reports, proxy and information statements, and other information regarding issuers that file electronically with the SEC, including the Company.

Item 1A. Risk Factors.

Uncertain Business, Economic and Market Conditions

Our business is cyclical and a downturn in the automotive, commercial, off-highway and agricultural vehicle markets as well as overall economic conditions could reduce our sales and profitability.

The demand for products is largely dependent on the domestic and foreign production of automotive, commercial, off-highway and agricultural vehicles. The markets for our products have been cyclical, because new vehicle demand is dependent on, among other things, consumer spending and is tied closely to the overall strength of the economy. Because the majority of our products are used principally in the production of vehicles for the automotive, commercial, off-highway and agricultural vehicle markets, our net sales, and therefore our results of operations, are significantly dependent on the general state of the economy and other factors which affect these markets.

In 2023, approximately 94% of our net sales were derived from automotive, commercial, off-highway and agricultural vehicle markets while approximately 6% were derived from aftermarket distributors and monitoring services markets. An economic downturn or other adverse industry conditions that result in a decline in automotive, commercial, off-highway or agricultural vehicle production, or a material decline in market share by our significant customers, could adversely affect our results of operations and financial condition.

Public health crises and other global health pandemics, epidemics or disease outbreaks could adversely impact our business, results of operation and financial condition.

A significant public health crisis, pandemic or disease outbreak, such as COVID-19, could adversely impact our business as well as those of our suppliers and customers. For example, the COVID-19 pandemic disrupted the global vehicle industry and customer sales, production volumes, supply of components critical to our business, and purchases of automotive, commercial, off-highway and agricultural vehicles by end-consumers. Any future significant public health crisis could adversely impact the global economy, our industry and the overall demand for our products. In addition, preventative or reactionary measures taken by governmental authorities may disrupt the ability of our employees, suppliers and other business partners to perform their respective functions and obligations relative to the conduct of our business. Our ability to predict and respond to future changes resulting from potential health crises is uncertain as are the ultimate potential impacts on our business. The extent to which a pandemic or similar significant health crises will impact our business in the future is uncertain. In addition, to the extent such significant health crises may adversely affect our business, financial condition, results of operations and cash flows, they may also have the effect of heightening many of the other risk factors in this section.

The loss or insolvency of any of our principal customers would adversely affect our future results.

We are dependent on several principal customers for a significant percentage of our net sales. In 2023, our top five customers were PACCAR, Traton, Volvo, Daimler Truck and Ford, which comprised 16%, 15%, 10%, 8% and 6% of our net sales, respectively. In 2023, our top ten customers accounted for 66% of our net sales. The loss of any significant portion of our sales to these customers would have a material adverse effect on our results of operations and financial condition. In addition, we have significant receivable balances related to these customers and other major customers that would be at risk in the event of their insolvency.

The Company's estimated sourced future sales from awarded programs may not be realized.

The Company typically enters into customer agreements at the beginning of a vehicle life cycle with the intent to fulfill customer-purchasing requirements for the entire vehicle production life cycle. The vehicle life cycle typically included the two to four year pre-production period and production for a term covering the life of such vehicle model or platform, generally between three to seven years, although there is no guarantee that this will occur. The Company's customers make no firm commitments regarding volume and may terminate these agreements or orders at any time. Therefore, these arrangements do not represent firm orders. The Company's estimated sourced future sales from awarded programs, also referred to as backlog, is the estimated remaining cumulative awarded life-of-program sales for up to a five year period. Several factors may change forecasted revenue from awarded programs; namely, new business wins, vehicle production volume changes, customer price reductions, foreign currency exchange rates, component take rates by customers and short cycled or cancelled models or platforms.

We must implement and sustain a competitive technological advantage in producing our products to compete effectively.

Our products are subject to changing technology, which could place us at a competitive disadvantage relative to alternative products introduced by competitors. Our success will depend on our ability to continue to meet customers' changing specifications with respect to technological innovation, price, quality, performance, service and delivery by implementing and sustaining competitive technological advances. Our business may, therefore, require significant recurring additional capital expenditures and investment in product development, manufacturing and information technology systems. We cannot assure that we will be able to achieve technological advances or introduce new products that may be necessary to remain competitive. Our inability to continuously improve existing products, develop new products and achieve technological advances could have a material adverse effect on our business, financial condition or results of operations.

The discontinuation of, loss of business or lack of commercial success, with respect to a particular vehicle model for which the Company is a significant supplier could reduce the Company's sales and harm its profitability.

Although the Company has purchase orders from many of its customers, these purchase orders generally provide for the supply of a customer's annual requirements for a particular vehicle model and assembly plant, or in some cases, for the supply of a customer's requirements for the life of a particular vehicle model, rather than for the purchase of a specific quantity of products. In addition, it is possible that our customers could elect to manufacture components internally that are currently produced by outside suppliers, such as our Company. The discontinuation of, the loss of business with respect to or a lack of commercial success of a particular vehicle model for which the Company is a significant supplier, could reduce the Company's sales and have a material adverse effect on our business, financial condition or results of operations.

Financial Risks

We have foreign currency translation and transaction risks that may materially adversely affect our operating results, financial condition and liquidity.

The financial position and results of operations of our international subsidiaries are initially recorded in various foreign currencies and then translated into U.S. dollars at the applicable exchange rate for inclusion in our consolidated financial statements. The strengthening of the U.S. dollar against these foreign currencies ordinarily has a negative effect on our reported sales and operating margin (and conversely, the weakening of the U.S. dollar against these foreign currencies has a positive impact). The volatility of currency exchange rates may materially adversely affect our business, financial condition or results of operations.

Our debt obligations could limit our flexibility in managing our business and expose us to risks.

As of December 31, 2023, there was \$189.3 million in borrowings outstanding on our Fifth Amended and Restated Credit Agreement (the "Credit Facility"). In addition, we are permitted under our Credit Facility to incur additional debt, subject to specified limitations. Our leverage and the terms of our indebtedness may have important consequences including the following:

- we may have difficulty satisfying our obligations with respect to our indebtedness, and if we fail to comply with these requirements, an event of default could result;

- we may be required to dedicate a substantial portion of our cash flow from operations to required payments on indebtedness, thereby reducing the availability of cash flow for working capital, capital expenditures and other general corporate activities;
- covenants relating to our debt may limit our ability to obtain additional financing for working capital, capital expenditures and other general corporate activities;
- covenants relating to our debt may limit our flexibility in planning for, or reacting to, changes in our business and the industry in which we operate; and
- we may be placed at a competitive disadvantage against less leveraged competitors.

These and other consequences of our leverage and the terms of our indebtedness could have a material adverse effect on our business, financial condition or results of operations.

Covenants in our Credit Facility may limit our ability to pursue our business strategies.

Our Credit Facility limits our ability to, among other things:

- incur additional debt and guarantees;
- pay dividends and repurchase our shares;
- make other restricted payments, including investments;
- create liens;
- sell or otherwise dispose of assets, including capital shares of subsidiaries;
- enter into agreements that restrict dividends from subsidiaries;
- consolidate, merge or sell or otherwise dispose of all or substantially all of our assets; and
- substantially change the nature of our business.

Our ability to comply with these covenants as well as the negative covenants under the terms of our indebtedness may be affected by events beyond our control.

A breach of any of the negative covenants under our indebtedness or our inability to comply with the leverage and interest ratio requirements in the Credit Facility could result in an event of default. If an event of default occurs, the lenders under the Credit Facility could elect to declare all outstanding borrowings, together with accrued interest and other fees, to be immediately due and payable and terminate any commitments they have to provide further borrowings, and the Credit Facility lenders could pursue foreclosure and other remedies against us and our assets.

Unanticipated changes in our effective tax rate, the adoption of U.S. or international tax legislation, or exposure to additional tax liabilities could adversely affect our profitability.

Our effective tax rate and future cash tax liability could be impacted by various factors, such as changes in the mix of earnings between jurisdictions, changes in the recognition and/or release of valuation allowances, and the enactment of tax laws or changes in tax laws, regulations, or accounting principles.

The Organization for Economic Cooperation and Development ("OECD") issued new guidelines to implement a 15% global corporate minimum tax to ensure that large multinational enterprises pay a minimum level of tax in the countries they operate. Our effective tax rate and cash tax liabilities could increase in future years, depending on which countries enact the legislation and in what manner. As a result of future changes in our effective tax rate our business, financial condition or results of operations could be materially adversely affected.

Risks Related to Products, Pricing and Supply

We are dependent on the availability and price of raw materials and other supplies.

We require substantial amounts of raw materials, components and other supplies, and substantially all such materials we require are purchased from outside sources. The availability and prices of raw materials, components and other supplies may be subject to curtailment or change due to, among other things, new laws or regulations, suppliers' allocations to other purchasers and interruptions in production by suppliers, weather emergencies, natural disasters, commercial disputes, acts of terrorism or war, changes in exchange rates and worldwide price levels. If demand for raw materials we require increases, we may have difficulties obtaining adequate raw materials and other supplies from our suppliers to satisfy our customers. Currently, and at times in the past, we have experienced difficulty obtaining adequate supplies of semiconductors, memory chips and other electronic components. In addition, there have been challenges at times in obtaining timely supply of nylon and resins for our Control Devices segment and audio component parts for our Stoneridge Brazil segment. If we cannot obtain adequate raw materials and other supplies, or if we experience an increase in the price of raw materials and other supplies, our business, financial condition or results of operations could be materially adversely affected.

The prices that we can charge our customers are typically predetermined and we bear the risk of costs in excess of our estimates, in addition to the risk of adverse effects resulting from general customer demands for cost reductions and quality improvements.

Our supply agreements with our customers typically require us to provide our products at predetermined prices. In some cases, these prices decline over the course of the contract and may require us to meet certain productivity and cost reduction targets. In addition, our customers may require us to share productivity savings in excess of our cost reduction targets. The costs that we incur in fulfilling these contracts may vary substantially from our initial estimates. Unanticipated cost increases or the inability to meet certain cost reduction targets may occur as a result of several factors, including increases in the costs of labor, components or materials and operating inefficiencies. In some cases, we are permitted to pass on to our customers the cost increases associated with specific materials. However, cost overruns that we cannot pass on to our customers and the inability to achieve productivity and cost reduction targets could adversely affect our business, financial condition or results of operations.

OEM customers have exerted and continue to exert considerable pressure on component suppliers to reduce costs, improve quality and provide additional design and engineering capabilities and continue to demand and receive price reductions and measurable increases in quality through their use of competitive selection processes, rating programs and various other arrangements. We may be unable to generate sufficient production cost savings in the future to offset required price reductions. Additionally, OEMs have generally required component suppliers to provide more design engineering input at earlier stages of the product development process, the costs of which have, in some cases, been absorbed by the suppliers. Future price reductions, increased quality standards and additional engineering capabilities required by OEMs may reduce our profitability and have a material adverse effect on our business, financial condition or results of operations.

We have limited or no redundancy for certain of our manufacturing facilities, and therefore damage or disruption to those facilities could interrupt our operations, increase our costs of doing business and impair our ability to deliver our products on a timely basis.

If certain of our existing production facilities become incapable of manufacturing products for any reason, we may be unable to meet production requirements, we may lose revenue and we may not be able to maintain our relationships with our customers. Without operation of certain existing production facilities, we may be limited in our ability to deliver products until we restore the manufacturing capability at the particular facility, find an alternative manufacturing facility or arrange an alternative source of supply. We carry business interruption insurance to cover lost revenue and profits in an amount we consider adequate, however, this insurance does not cover all possible situations and may be insufficient. Also, our business interruption insurance would not compensate us for the loss of opportunity and potential adverse impact on relations with our existing customers resulting from our inability to produce products for them.

We rely on independent dealers and distributors to sell certain products in the aftermarket sales channel and a disruption to this channel would harm our business.

Because we sell certain products such as security accessories and driver information products to independent dealers and distributors, we are subject to many risks, including risks related to their inventory levels and support for our products. If dealers and distributors do not maintain sufficient inventory levels to meet customer demand, our sales could be negatively impacted.

Our dealer network also sells products offered by our competitors. If our competitors offer our dealers more favorable terms, those dealers may de-emphasize or decline to carry our products. In the future, we may not be able to retain or attract a sufficient number of qualified dealers and distributors. Our inability to maintain successful relationships with dealers and distributors, or to expand our distribution channels, could have a material adverse effect on our business, financial condition or results of operations.

Our Global Positioning Systems ("GPS") products depend upon satellites maintained by the United States Department of Defense. If a significant number of these satellites become inoperable, unavailable or are not replaced, or if the policies of the United States government for the use of the GPS without charge are changed, our business will suffer.

The GPS is a satellite-based navigation and positioning system consisting of a constellation of orbiting satellites. The satellites and their ground control and monitoring stations are maintained and operated by the United States Department of Defense. The Department of Defense does not currently charge users for access to the satellite signals. These satellites and their ground support systems are complex electronic systems subject to electronic and mechanical failures and possible sabotage.

If a significant number of satellites were to become inoperable, unavailable or are not replaced, it would impair the current utility of our GPS products and the growth of market opportunities. In addition, there can be no assurance that the U.S. government will remain committed to the operation and maintenance of GPS satellites over a long period, or that the policies of the U.S. government that provide for the use of the GPS without charge and without accuracy degradation will remain unchanged. Because of the increasing commercial applications of the GPS, other U.S. government agencies may become involved in the administration or the regulation of the use of GPS signals. Any of the foregoing factors could affect the willingness of buyers of our products to select GPS-based products instead of products based on competing technologies, which could adversely affect our business, financial condition and results of operation.

Geopolitical Uncertainties

We are subject to risks related to our international operations.

Approximately 49% of our net sales in 2023 were derived from sales outside of North America. At December 31, 2023, significant concentrations of net assets outside of North America included \$228.7 million in Europe, \$43.9 million in Asia Pacific and \$51.0 million in South America. Non-current assets outside of North America accounted for approximately 63% of our non-current assets as of December 31, 2023. International sales and operations are subject to significant risks, including, among others:

- political and economic instability and conflicts;
- restrictive trade policies;
- economic conditions in local markets;
- currency exchange rates and controls;
- labor or social unrest;
- difficulty in obtaining distribution support and potentially adverse tax consequences; and
- the imposition of product tariffs and the burden of complying with a wide variety of international and U.S. export laws.

Because of the interconnectedness of the global economy, a financial crisis, economic downturn or recession, natural disaster, war, geopolitical crises, or other significant events in one area of the world can have an immediate and material adverse impact on markets around the world. These uncertainties could have a material adverse effect on our business, financial condition or results of operations.

We operate our business on a global basis and policy changes affecting international trade could adversely impact the demand for our products and our competitive position.

We manufacture, sell and service products globally and rely upon a global supply chain to deliver the raw materials, components, systems and parts that we need to manufacture and service our products. Changes in government policies on foreign trade and investment can affect the demand for our products and services, cause non-U.S. customers to shift preferences toward domestically manufactured or branded products and impact the competitive position of our products or prevent us from being able to sell products in certain countries. Our business benefits from free trade agreements, such as the United States-Mexico-Canada Agreement and the U.S. trade relationships with China and Brazil and efforts to withdraw from, or substantially modify such agreements or arrangements, in addition to the implementation of more restrictive trade policies, such as more detailed inspections, higher tariffs import or export licensing requirements, exchange controls or new barriers to entry, could adversely impact our production costs, customer demand and our relationships with customers and suppliers. Any of these consequences could have a material adverse effect on our business, financial condition or results of operations.

Strategic Performance Risks

Our inability to effectively manage the timing, quality and costs of new program launches could adversely affect our financial performance.

In connection with the award of new business, we obligate ourselves to deliver new products and services that are subject to our customers' timing, performance and quality standards. Additionally, as a Tier 1 supplier, we must effectively coordinate the activities of numerous suppliers in order for the program launches of our products to be successful. Given the complexity of new program launches, we may experience difficulties managing product quality, timeliness and associated costs. In addition, new program launches require a significant ramp-up of costs; however, our sales related to these new programs generally are dependent upon the timing and success of our customers' introduction of new vehicles. Our inability to effectively manage the timing, quality and costs of these new program launches could adversely affect our business, financial condition or results of operations.

We may not be able to successfully integrate acquisitions into our business or may otherwise be unable to benefit from pursuing acquisitions.

Failure to successfully identify, complete and/or integrate acquisitions could have a material adverse effect on us. A portion of our growth in sales and earnings has been generated from acquisitions and subsequent improvements in the performance of the businesses acquired. We expect to follow a strategy of selectively identifying and acquiring businesses with complementary products. We cannot assure you that any business acquired by us will be successfully integrated with our operations or prove to be profitable. We could incur substantial indebtedness in connection with our acquisition strategy, which could significantly increase our interest expense.

We anticipate that acquisitions could occur in foreign markets in which we do not currently operate. As a result, the process of integrating acquired operations into our existing operations may result in unforeseen operating difficulties and may require significant financial resources that would otherwise be available for the ongoing development or expansion of existing operations. Any failure to successfully integrate such acquisitions could have a material adverse effect on our business, financial condition or results of operations.

If we do not respond appropriately, the evolution of the global transportation industry toward electrification and shared mobility could adversely affect our business.

The global transportation industry is increasingly focused on the development of more fuel-efficient solutions to meet demands from consumers and governments worldwide to address climate change and an increased desire for environmentally sustainable solutions. The impacts of these changes on us are uncertain and could ultimately prove dramatic. If we do not respond appropriately, the evolution toward electrification and other energy sources could adversely affect our business. The increased adoption of electrified and other non-internal combustion-based powertrains may result in lower demand for some of our products. There has also been an increase in consumer preferences for car and ride sharing, as opposed to automobile ownership, which may result in a long-term reduction in the number of vehicles per capita. The evolution of the industry toward electrification and shared mobility has also attracted increased competition from entrants outside of the traditional light vehicle industry, some of whom may seek to provide products which compete with ours. Failure to innovate and to develop or acquire new and compelling products that capitalize upon new technologies in response to these evolving consumer preferences and demands could adversely affect our business, financial condition or results of operations.

Product Liability Risks

Increased or unexpected product warranty claims could adversely affect us.

We typically provide our customers a warranty covering workmanship, and in some cases materials, on products we manufacture. Our warranty generally provides that products will be free from defects and adhere to customer specifications. If a product fails to comply with the warranty, we may be obligated or compelled, at our expense, to correct any defect by repairing or replacing the defective product. Our customers are increasingly seeking to hold suppliers responsible for product warranties, which could negatively impact our exposure to these costs. We maintain warranty reserves in an amount based on historical trends of units sold and costs incurred, combined with our current understanding of the status of existing claims. To estimate the warranty reserves, we must forecast the resolution of existing claims, as well as expected future claims on products previously sold. The costs of claims estimated to be due and payable could differ materially from what we may ultimately be required to pay. An increase in the rate of warranty claims or the occurrence of unexpected warranty claims could have a material adverse effect on our customer relations, our business, financial condition, or results of operations.

We may incur material product liability costs.

We may be subject to product liability claims in the event that the failure of any of our products results in personal injury or death and we cannot assure that we will not experience material product liability losses in the future. We cannot assure that our product liability insurance will be adequate for liabilities ultimately incurred or that it will continue to be available on terms acceptable to us. In addition, if any of our products prove to be defective, we may be required to participate in government-imposed or customer OEM-instituted recalls involving such products. A successful claim brought against us that exceeds available insurance coverage or a requirement to participate in any product recall could have a material adverse effect on our business, financial condition or results of operations.

Intellectual Property Risks

If we fail to protect our intellectual property rights or maintain our rights to use licensed intellectual property or are found liable for infringing the rights of others, our business could be adversely affected.

Our intellectual property, including our patents, trademarks, copyrights, trade secrets and license agreements, are important in the operation of our businesses, and we rely on the patent, trademark, copyright and trade secret laws of the United States and other countries, as well as nondisclosure agreements, to protect our intellectual property rights. We may not, however, be able to prevent third parties from infringing, misappropriating or otherwise violating our intellectual property, breaching any nondisclosure agreements with us, or independently developing technology that is similar or superior to ours and not covered by our intellectual property. Any of the foregoing could reduce any competitive advantage we have developed, cause us to lose sales or otherwise harm our business. We cannot assure that any intellectual property will provide us with any competitive advantage or will not be challenged, rejected, cancelled, invalidated, or declared unenforceable. In the case of pending patent applications, we may not be successful in securing issued patents or securing patents of a scope that provide us with a competitive advantage for our businesses. In addition, our competitors may design products around our patents that avoid infringement and violation of our intellectual property rights.

We cannot be certain that we have rights to all intellectual property currently used in the conduct of our businesses or that we have complied with the terms of agreements by which we acquire such rights, which could expose us to infringement, misappropriation or other claims alleging violations of third party intellectual property rights, or customer indemnification claims. Third parties have asserted and may assert or prosecute infringement claims against us or our customers in connection with the services and products that we offer, and we may or may not be able to successfully defend these claims. Litigation, either to enforce our intellectual property rights or to defend against claims regarding intellectual property rights of others, could result in substantial costs and a diversion of our resources. As a result of such claims, we could enter into licensing agreements (if available on acceptable terms or at all), be forced to pay damages or cease making or selling certain products, lose our intellectual property protection, or suffers some combination of these effects. Moreover, in such a situation, we may need to redesign some of our products to avoid future infringement liability. We also may be required to indemnify customers or other third parties at significant expense in connection with such claims and actions. The Company is aware of claims being made against manufacturers of vehicles by alleged owners of patents related to connectivity-enabled products (frequently referred to as "standard essential patents"). Customers may seek indemnification related to such claims from the Company. The Company has taken actions to mitigate this risk from new programs; however, significant indemnification claims related to these products could have a material adverse effect on our business, financial condition or results of operations.

Information Technology and Cybersecurity Risks

A failure of our information technology (IT) networks and systems, or the inability to successfully implement upgrades to our enterprise resource planning (ERP) systems, could adversely impact our business and operations.

We rely upon information technology networks and systems to process, transmit and store electronic information, and to manage or support a variety of business processes and/or activities. The secure operation of these IT networks and systems and the proper processing and maintenance of this electronic information are critical to our business operations.

In addition, we continually update our IT networks and systems in response to the changing needs of our business and periodically upgrade our ERP systems. Should our networks or systems not be implemented or upgraded successfully, or if the systems do not perform in a satisfactory manner once implementation or upgrade is complete, our business and operations could be disrupted and our results of operations could be adversely affected, including our ability to report accurate and timely financial results.

We may be subject to risks relating to our information technology systems and cybersecurity.

We rely on information technology systems to process, transmit and store electronic information and manage and operate our business. Despite the implementation of security measures, our IT networks and systems are at risk to damages from computer viruses, unauthorized access, cyber-attack and other similar disruptions. A breach in security could expose us and our customers and suppliers to risks of misuse of confidential information, manipulation and destruction of data, production downtimes and operations disruptions, which in turn could adversely affect our reputation, competitive position, business or results of operations. While we have taken steps to protect the Company from cybersecurity risks and security breaches (including enhancing our firewall, workstation, email security and network monitoring with managed detection and response (MDR) and alerting capabilities, and training employees around phishing, malware and other cybersecurity risks), and we have policies and procedures to prevent or limit the impact of systems failures, interruptions, and security breaches, there can be no assurance that such events will not occur or that they will be adequately addressed if they do. Although we rely on commonly used security and processing systems to provide the security and authentication necessary to effect the secure transmission of data, these precautions may not protect our systems from all potential compromises or breaches of security. We may be required to incur significant costs to protect against damage caused by these disruptions or security breaches in the future.

Privacy and security concerns relating to the Company's current or future products and services could damage its reputation and deter current and potential users from using them.

We may gain access to sensitive, confidential or personal data or information that is subject to privacy and security laws, regulations and customer-imposed controls. Concerns about our practices with regard to the collection, use, disclosure, or security of personal information or other privacy related matters, even if unfounded, could damage our reputation and adversely affect our business, our financial condition or operating results. Furthermore, regulatory authorities around the world are considering a number of legislative and regulatory proposals concerning cybersecurity and data protection. In addition, the interpretation and application of consumer and data protection laws in the U.S., Europe and elsewhere are often uncertain and frequently change. Complying with these various laws could cause the Company to incur substantial costs.

Environmental, Climate and Weather Risks

Compliance with environmental and other governmental regulations could be costly and require us to make significant expenditures.

Our operations are subject to various federal, state, local and foreign laws and regulations governing, among other things:

- the discharge of pollutants into the air and water;
- the generation, handling, storage, transportation, treatment, and disposal of waste and other materials;
- the cleanup of contaminated properties; and
- the health and safety of our employees.

Our business, operations and facilities are subject to environmental and health and safety laws and regulations, many of which provide for substantial fines for violations. The operation of our manufacturing facilities entails risks and we cannot assure you that we will not incur material costs or liabilities in connection with these operations. In addition, potentially significant expenditures could be required in order to comply with evolving environmental, health and safety laws, regulations or requirements that may be adopted or imposed in the future. Changes in environmental, health and safety laws, regulations and requirements or other governmental regulations could increase our cost of doing business or adversely affect the demand for our products.

An emphasis on global climate change and other environmental, social, and corporate governance ("ESG") matters by various stakeholders could negatively affect our business.

Customer, investor, employee and other stakeholder expectations of us and our supply base in areas such as the environment, social matters and corporate governance have been rapidly evolving and increasing. The enhanced stakeholder focus on ESG requires the continuous monitoring of various and evolving standards and their associated requirements. Our failure, or that of our supply base, to adequately meet stakeholder expectations may result in, among other things, the loss of business, diluted market valuation, an inability to attract customers or an inability to attract and retain top talent that could adversely affect our business, financial condition or results of operations.

Item 1B. Unresolved Staff Comments.

None.

Item 1C. Cybersecurity.

Cybersecurity Risk Management and Strategy

The Company has processes in place to identify, assess, and monitor material risks from cybersecurity threats, which are part of the Company's overall cybersecurity risk management strategy and have been embedded in the information systems operating procedures and internal controls.

Our information technology ("IT") function manages IT operations and continually evolves our systems to meet the constantly changing digital environment. We enhanced our workstation, server, email security, and network monitoring with managed detection and response and alerting capabilities. We perform periodic cybersecurity risk assessments to identify, assess, and prioritize potential risks to information, data assets, and infrastructure. The Company addresses identified risks and develops and implements controls to mitigate issues. The Company engages third parties in connection with its cybersecurity processes as appropriate. The Company has established processes to identify risks from cybersecurity threats associated with its third-party service providers.

The Company has established a cybersecurity policy which requires mandatory compliance of all Company directors, officers, employees, interns, consultants, and contractors. The Company has also established cybersecurity and information security awareness training programs. Employees with access to the Company's network receive annual training on topics such as phishing, malware, and other cybersecurity risks. Training is administered and tracked through online learning modules.

We work to continually evolve our systems to meet the constantly changing digital environment and continue to invest in the cybersecurity and resiliency of our networks and to enhance our internal controls and processes, which are designed to help protect our systems and infrastructure, and the information they contain. There have been no risks from cybersecurity threats that have materially affected or are reasonably likely to materially affect our business strategy, results of operations or financial condition. The nature of potential cybersecurity risks and threats are uncertain, and any future incidents, outages or breaches could have a material adverse effect on the Company's business, financial conditions or results of operations. For more information about the cybersecurity risks we face, refer to the Risk Factors in section "Information Technology and Cybersecurity Risks" in Part I, Item 1A, "Risk Factors".

Cybersecurity Governance

The Company's Board of Directors, as a whole, has oversight responsibility for our strategic and operational risks. The Audit Committee of the Board of Directors is responsible for board-level oversight of cybersecurity risk, and the Audit Committee regularly reports risks and compliance actions to the Board. As part of its oversight role, the Audit Committee receives reporting about the Company's strategy, programs, incidents and threats, and other developments and action items related to cybersecurity regularly throughout the year, including through periodic updates from the Chief Information Officer ("CIO").

Our cybersecurity program is managed by our Director of Global IT Architecture and Cybersecurity (the "Cybersecurity Director"), and our CIO, who reports directly to our Chief Executive Officer. Our CIO and Cybersecurity Director each have over 30 years of experience leading numerous business and technology initiatives and global cross-functional projects to improve the Company's business systems, infrastructure, and processes, including extensive experience assessing and managing cybersecurity programs and risk. Our CIO and the IT function monitor the prevention, mitigation, detection, and remediation of cybersecurity incidents through their management of, and participation in, the processes described above, including the operation of the Company's incident response plans, which include appropriate escalation to the executive team and the Audit Committee. As discussed above, the CIO reports at least semiannually to the Audit Committee about cybersecurity threat risks, among other cybersecurity related matters.

Item 2. Properties.

At December 31, 2023, the Company owned or leased seven manufacturing facilities, which together contain approximately 0.9 million square feet of manufacturing space. Of these manufacturing facilities, two are used by our Control Devices reportable segment, four are used by our Electronics reportable segment and one is used by our Stoneridge Brazil reportable segment. The following table provides information regarding our facilities:

Location	Owned/ Leased	Use	Square Footage
Control Devices			
Lexington, Ohio	Owned	Manufacturing/Engineering	219,612
Suzhou, China ^(A)	Leased	Manufacturing/Engineering/Sales Office	145,033
El Paso, Texas ^(A)	Leased	Warehouse	57,000
Lexington, Ohio	Leased	Warehouse	15,000
Novi, Michigan	Leased	Engineering	6,398
Electronics			
Juarez, Mexico ^(B)	Owned	Manufacturing/Engineering	235,035
Tallinn, Estonia	Leased	Manufacturing/Engineering	85,911
Orebro, Sweden	Leased	Manufacturing/Engineering	77,472
Barneveld, Netherlands	Owned	Manufacturing/Engineering	62,700
Stockholm, Sweden	Leased	Engineering/Division Office	41,248
Bayonne, France	Leased	Sales Office/Warehouse	9,655
Dundee, Scotland	Leased	Sales Office/Engineering	4,683
Gothenburg, Sweden	Leased	Engineering	710
Stoneridge Brazil			
Manaus, Brazil	Owned	Manufacturing	94,103
Campinas, Brazil	Owned	Engineering/Division Office	45,467
Hortolândia, Brazil	Leased	Sales Office	3,229
Buenos Aires, Argentina	Leased	Sales Office	4,532
Serra, Brazil	Leased	Sales Office	344
Corporate and Other			
Novi, Michigan ^(A, B)	Leased	Headquarters/Division Office	37,713
Esslingen, Germany	Leased	Sales Office	1,722

(A) This facility is also used in the Electronics reportable segment.

(B) This facility is also used in the Control Devices reportable segment.

Item 3. Legal Proceedings.

From time to time we are subject to various legal actions and claims incidental to our business, including those arising out of breach of contracts, product warranties, product liability, patent infringement, regulatory matters, and employment-related matters. It is our opinion that the outcome of such matters will not have a material adverse impact on our consolidated financial position, results of operations, or cash flows. However, the final amounts required to resolve these matters could differ materially from our recorded estimates. See Note 11 to the consolidated financial statements.

Item 4. Mine Safety Disclosure.

Not Applicable.

PART II

Item 5. Market for Registrant's Common Equity, Related Stockholder Matters and Issuer Purchases of Equity Securities.

Our shares are listed on the New York Stock Exchange ("NYSE") under the symbol "SRI." As of February 26, 2024, we had 27,553,610 Common Shares, without par value, outstanding that were owned by approximately 165 shareholders of record. This does not include persons whose stock is in nominee or "street name" accounts held by banks, brokers and other nominees.

There were no sales of unregistered securities by the Company or its affiliates during the fiscal year ended December 31, 2023.

The following table presents information with respect to repurchases of Common Shares made by us during the three months ended December 31, 2023. There were 1,236 Common Shares delivered to us by employees as payment for withholding taxes due upon vesting of performance share awards and share unit awards during the three months ended December 31, 2023.

Period	Total number of shares purchased	Average price paid per share	Total number of shares purchased as part of publicly announced plans or programs	Maximum number of shares that may yet be purchased under the plans or programs
10/1/23-10/31/23	394	\$ 18.66	N/A	N/A
11/1/23-11/30/23	—	\$ —	N/A	N/A
12/1/23-12/31/23	842	\$ 19.51	N/A	N/A
Total	<u>1,236</u>			

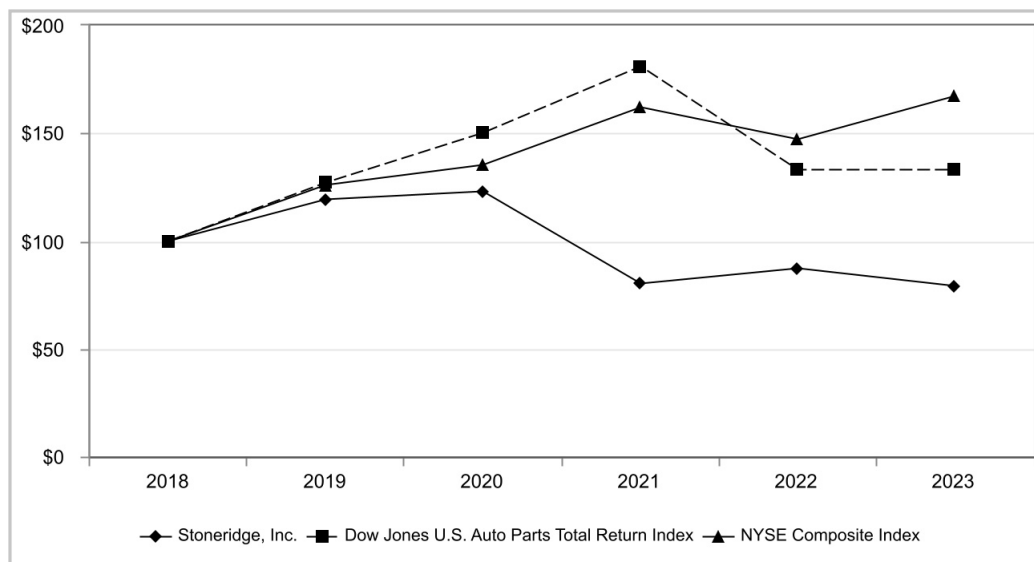
Other than the repurchase of Common Shares of 87,387 and 42,100, respectively, to satisfy employee tax withholdings associated with the delivery of Common Shares earned by employees pursuant to equity-based awards under the Company's Long-Term Incentive Plan there were no other repurchases of Common Shares made by us during the years ended December 31, 2023 or 2022.

The Company did not have a Board approved share repurchase program in effect in either 2023 or 2022.

For information on "Related Stockholder Matters" required by Item 201(d) of Regulation S-K, refer to Item 12 of this report.

Performance Graph

Set forth below is a line graph comparing the cumulative total return of a hypothetical investment in our Common Shares with the cumulative total return of hypothetical investments in the Dow Jones U.S. Auto Parts (TR) Index and the NYSE Composite Index. The graph is based on the respective market price of each investment as of December 31, 2018, 2019, 2020, 2021, 2022 and 2023 assuming in each case an initial investment of \$100 on December 31, 2018, and reinvestment of dividends.



	2018	2019	2020	2021	2022	2023
Stoneridge, Inc.	\$ 100	\$ 119	\$ 123	\$ 80	\$ 87	\$ 79
Dow Jones U.S. Auto Parts Total Return Index	\$ 100	\$ 127	\$ 150	\$ 181	\$ 133	\$ 133
NYSE Composite Index	\$ 100	\$ 126	\$ 135	\$ 162	\$ 147	\$ 167

Item 6. [Reserved]

Item 7. Management's Discussion and Analysis of Financial Condition and Results of Operations.

We are a global designer and manufacturer of highly engineered electrical and electronic systems, components and modules primarily for the automotive, commercial, off-highway and agricultural vehicle markets.

The following discussion and analysis should be read in conjunction with the consolidated financial statements and notes related thereto and other financial information included elsewhere herein.

Segments

We are organized by products produced and markets served. Under this structure, our operations have been reported using the following segments:

Control Devices. This segment includes results of operations that manufacture actuators, sensors, switches and connectors.

Electronics. This segment includes results of operations from the production of driver information systems, vision and safety systems, connectivity and compliance products and electronic control units.

Stoneridge Brazil. This segment includes results of operations that design and manufacture vehicle tracking devices and monitoring services, vehicle security alarms and convenience accessories, in-vehicle audio and infotainment devices, driver information systems and telematics solutions.

Overview

During 2023, we benefited from increased volumes in both our North American and European commercial vehicle markets, compared to the prior year, due to improvements in end market demand and launches of previously awarded programs including launches for our MirrorEye camera monitor system and our SE5000 Smart 2 tachograph. We continued to benefit from both previously agreed pricing actions, as well as incremental actions taken within the year, with the majority of our customers, which offset a portion of the incremental material, supply chain and other input costs we incurred.

The Company had net loss of \$5.2 million, or \$(0.19) per diluted share, for the year ended December 31, 2023.

Net loss in 2023 decreased by \$8.9 million, or \$0.33 per diluted share, from \$14.1 million, or \$(0.52) per diluted share, for the year ended December 31, 2022 primarily due to additional contribution from higher sales levels, including the benefit of negotiated price increases and favorable foreign exchange fluctuations offset by higher Selling, General and Administrative ("SG&A") and Design and Development ("D&D") spending, including higher business realignment costs, and interest expense.

In 2023, our net sales increased by \$75.9 million, or 8.4%, while our operating income increased \$9.9 million.

Our Control Devices segment net sales decreased by 0.2% primarily due to a decrease in our North American automotive market, which was adversely impacted in the fourth quarter of 2023 by the UAW strike and a slower than expected penetration rate for electric vehicle platforms, as well as a decrease in our agricultural market. These decreases were offset by negotiated price increases and an increase in our China commercial vehicle and automotive markets. Segment gross margin as a percentage of sales decreased due to higher direct material costs from inflation and support costs for a troubled supplier. Segment operating income decreased due to lower gross margin and higher SG&A and D&D spending.

Our Electronics segment net sales increased by 14.1% primarily due to higher sales volumes in our European and North American commercial vehicle markets, including the launches of a next generation tachograph product for OEM and aftermarket applications in Europe and our first OEM MirrorEye program in North America, and the impact of negotiated price increases offset by lower required electronic component spot buy purchases. Segment gross margin as a percent of sales increased primarily due to higher contribution from higher sales levels, negotiated price increases, lower material costs including the favorable effect of foreign currency and lower required electronic component spot buy purchases offset by an increase in labor and overhead costs. Operating income for the segment increased primarily due to higher gross margin partially offset by higher SG&A and D&D spending, including support for new product launches and business realignment expense of \$2.9 million focused on centralizing critical functions in order to effectively utilize global resources.

Our Stoneridge Brazil segment net sales increased by 9.5% due to favorable foreign currency translation and higher sales of our OEM products offset by lower sales demand for our other product lines. Segment gross margin increased due to increased contribution margin from higher sales and favorable foreign currency fluctuations. Operating income increased due to higher gross margin offset by an increase in SG&A spending.

In 2023, SG&A expenses increased compared to 2022 due to higher business realignment costs of \$3.0 million, higher incentive compensation due to the achievement of performance targets, consulting and professional service fees and travel related costs.

D&D costs increased in 2023 due to lower customer reimbursements as a result of a shift to platform development and higher costs related to product launch preparations offset by increased capitalized software development costs.

At December 31, 2023 and 2022, we had cash and cash equivalents of \$40.8 million and \$54.8 million, respectively. At December 31, 2023 and 2022, we had \$189.3 million and \$167.8 million, respectively, in borrowings outstanding on the Credit Facility. The 2023 decrease in cash and cash equivalents was due to capital expenditures for new product launches and relatively higher working capital levels to support higher sales and production levels as well as the residual impact of supply chain issues on inventory.

Outlook

The Company believes that focusing on products that address industry megatrends has had and will continue to have a positive effect on both our top-line growth and underlying margins. For example, the Company is aligned with platforms likely to perform well against overall market dynamics including light-trucks, SUVs and crossover vehicles and our continued focus on safety, vehicle intelligence and connectivity based products, such as the recent release of our next generation tachograph in Europe as well as current and future launches of our MirrorEye programs in North America and Europe for both OEM and aftermarket applications.

Global inflation has increased significantly since 2021. Rising costs of materials, labor and other inputs used to manufacture and sell our products, have impacted, and may continue to impact, our results. While incremental material and production costs have started to moderate, we expect continued cost inflation to persist into 2024 which will continue to put pressure on margins. In order to minimize the impact of these incremental costs, we have taken several actions, including negotiating price increases and cost recoveries with our customers. Additionally, we continued to focus on improving manufacturing performance and optimizing our global cost structure to both reduce costs and improve operational efficiency. We expect these actions will benefit our future financial performance.

Based on IHS Market production forecasts, the North American automotive market is expected to increase from 15.6 million units in 2023 to 15.8 million units in 2024 as this market continues to recover from the effects of prior supply chain disruptions, the impact of the UAW strike in the fourth quarter of 2024 and economic headwinds. In our Control Devices segment, we expect lower than previously anticipated growth rates for sales of products used in electric vehicle platforms due to reduced production expectations with some of our key customers. We continue to focus on improved manufacturing execution, supply chain strategy, material cost improvement actions and enterprise-wide cost improvement plans and will continue to react to changes in our end-markets as needed to maintain and improve our margins. During 2023, our Control Devices segment incurred \$2.5 million of support costs for a troubled supplier. We expect these costs to moderate in the first half of 2024. We will continue to focus on growing our core product portfolio aligned with industry megatrends by investing in our actuation and system-level sensor products as we anticipate greater opportunities as powertrains become increasingly electrified and efficient.

In 2024, our European and North American commercial vehicle end market volumes are forecasted to decrease 10.5% and 7.6%, respectively. We expect our Electronics' segment sales to outperform forecasted changes in production volumes due to strong demand for our existing products and the ramp-up of recently launched programs, including our next generation tachograph product in Europe for both OEM and aftermarket applications and our first North American OEM MirrorEye program, as well as expected program launches, including our next OEM MirrorEye program launch in Europe in 2024. Recovery from customers related to spot buys of materials purchased by the Company on behalf of those customers increased net sales by \$14.6 million and \$58.4 million for 2023 and 2022, respectively. Spot buy material purchasing activity, which is recognized as revenue and material costs, was mostly passed through to customers and was driven by electronic component shortages. The Company expects spot buy activity to continue to decline as supply chains normalize and material availability improves.

In 2024, we expect net D&D spend to increase primarily driven by spend for the development of next generation products as new product launch related spend decreases in the second half of 2024. As a result of reduced launch activities we expect lower customer reimbursements and capitalization of software development costs. We continue to evaluate and optimize our engineering footprint to enhance capabilities and capacity for the most efficient return on our engineering spend.

In January 2024, the International Monetary Fund forecasted the Brazil gross domestic product to grow 1.7% in 2024. We expect our served market channels to remain relatively stable in 2024 based on current market conditions. Stoneridge Brazil will focus on continuing to grow our OEM capabilities in-region to better support our global customers. This focus will provide opportunities for future growth and provide a platform to continue to rotate our local portfolio to more closely align with our global business.

We remain focused on improving cash generation and the reduction of debt through efficient operating performance and targeted actions to reduce net working capital, particularly our inventory levels, as the impacts from product launches and material availability normalizes.

We expect higher interest expense in 2024 driven by higher outstanding balances on our Credit Facility.

Our future effective tax rate depends on various factors, such as changes in tax laws, regulations, accounting principles and our jurisdictional mix of earnings. We monitor these factors and the impact on our effective tax rate.

Other Matters

A significant portion of our sales are outside of the United States. These sales are generated by our non-U.S. based operations, and therefore, movements in foreign currency exchange rates can have a significant effect on our results of operations, which are presented in U.S. dollars. A significant portion of our raw materials purchased by our Electronics and Stoneridge Brazil segments are denominated in U.S. dollars and, therefore, movements in foreign currency exchange rates can also have a significant effect on our results of operations. The U.S. Dollar strengthened against the Chinese yuan and Argentine peso in 2023 and the euro, Swedish krona, Chinese yuan and Argentine peso in 2022, unfavorably impacting our reported results.

On November 2, 2021, the Company entered into a Share Purchase Agreement (the "SPA") with Minda Corporation Limited ("Minda"), as the buyer, and MSIL. Pursuant to the SPA, the Company agreed to sell to Minda the Company's minority interest in MSIL for approximately \$21.5 million equivalent Indian Rupee which was payable in U.S. dollars at closing. On December 30, 2021, pursuant to the SPA, the Company closed the sale of MSIL to Minda for \$21.6 million. The Company recognized net proceeds of \$21.0 million and a gain, net of direct selling costs, of \$1.8 million.

On March 8, 2021, the Company entered into an Asset Purchase Agreement (the "APA") by and among the Company, the Company's wholly owned subsidiary, Stoneridge Electronics AS, as the Sellers, and Standard Motor Products, Inc. ("SMP") and SMP Poland SP Z O.O., as the Buyers. Pursuant to the APA, the Company agreed to sell to the Buyers the Company's assets located in Lexington, Ohio and Tallinn, Estonia related to the manufacturing of particulate matter sensor products and related service part operations (together, the "PM sensor business"). The Buyers did not acquire any of the Company's locations or employees. The purchase price for the sale of the PM sensor business was \$4.0 million (subject to a post-closing inventory adjustment, which was a payment to SMP of \$1.1 million) plus the assumption of certain liabilities. The purchase price was allocated among PM sensor product lines, Gen 1 and Gen 2 as defined under the APA. The purchase price allocated to Gen 1 fixed assets and inventory and Gen 2 fixed assets was \$3.2 million and \$0.8 million, respectively. The sale of the Gen 2 assets occurred during November 2021 as the Company's supply commitments to certain customers were completed in September 2021. The Company and SMP also entered into certain ancillary agreements, including a contract manufacturing agreement, a transitional services agreement, and a supply agreement, pursuant to which the Company provided and was compensated for certain manufacturing, transitional, administrative and support services to SMP on a short-term basis.

On May 19, 2020, the Company committed to the strategic exit of its Control Devices particulate matter sensor product line ("PM Sensor Exit"). The costs for the PM Sensor Exit included employee severance and termination costs and other related costs including supplier settlements. Non-cash charges included impairment and accelerated depreciation of fixed assets associated with PM sensor production. We recognized \$2.4 million of expense as a result of this initiative during the year ended December 31, 2021.

In December 2018, the Company entered into an agreement to make a \$10.0 million investment in a fund ("Autotech Fund II") managed by Autotech Ventures ("Autotech"), a venture capital firm focused on ground transportation technology. The Company's \$10.0 million investment in the Autotech Fund II will be contributed over the expected ten year life of the fund. The Company has contributed \$8.4 million to the Autotech Fund II since December 2018.

We regularly evaluate the performance of our businesses and their cost structures, including personnel, and make necessary changes thereto in order to optimize our results. We also evaluate the required skill sets of our personnel and periodically make strategic changes. As a consequence of these actions, we incur severance related costs which we refer to as business realignment charges. Business realignment costs of \$4.5 million and \$0.3 million were incurred during the years ended December 31, 2023 and 2022, respectively. Realignment expense for the year ended December 31, 2023 was primarily related to the centralization of the product line management, sales and engineering functions and executive separation costs.

Because of the competitive nature of the markets we serve, we face pricing pressures from our customers in the ordinary course of business. In response to these pricing pressures we have been able to effectively manage our production costs by the combination of lowering certain costs and limiting the increase of others, the net impact of which to date has not been material. However, if we are unable to effectively manage production costs in the future to mitigate future pricing pressures, our results of operations would be adversely affected.

Year Ended December 31, 2023 Compared To Year Ended December 31, 2022

Consolidated statements of operations as a percentage of net sales are presented in the following table (in thousands):

						Dollar increase / (decrease)
Year ended December 31,	2023			2022		
Net sales	\$	975,818	100.0 %	\$	899,923	100.0 %
\$ 75,895						
Costs and expenses:						
Cost of goods sold		774,512	79.4		724,997	80.6
Selling, general and administrative		117,395	12.0		106,695	11.9
Design and development		71,075	7.3		65,296	7.3
Operating income		12,836	1.3		2,935	0.3
Interest expense, net		13,000	1.3		7,097	0.8
Equity in loss of investee		522	0.1		823	0.1
Other expense, net		1,236	0.1		5,711	0.6
Loss before income taxes		(1,922)	(0.2)		(10,696)	(1.2)
Provision for income taxes		3,261	0.3		3,360	0.4
Net loss	\$	(5,183)	(0.5)%	\$	(14,056)	(1.6)%
						\$ 8,873

Net Sales. Net sales for our reportable segments, excluding inter-segment sales are summarized in the following table (in thousands):

					Dollar	Percent
Year ended December 31,		2023		2022	increase / (decrease)	increase / (decrease)
Control Devices	\$	342,065	35.1 %	\$ 342,596	38.1 %	\$ (531) (0.2) %
Electronics		576,539	59.0	505,097	56.1	71,442 14.1 %
Stoneridge Brazil		57,214	5.9	52,230	5.8	4,984 9.5 %
Total net sales	\$	975,818	100.0 %	\$ 899,923	100.0 %	\$ 75,895 8.4 %

Our Control Devices segment net sales decreased \$0.5 million due to a decrease in our North American automotive market of \$6.3 million, including the adverse impact of the UAW strike in the fourth quarter of 2023 and a slower than expected penetration rate for electric vehicle platforms, as well as a decrease in our agricultural market of \$1.1 million. These decreases were offset by increases in our China commercial vehicle and automotive markets of \$2.6 million and \$2.2 million, respectively. In addition, net sales for the year ended December 31, 2023 were impacted by negotiated price increases of \$5.4 million offset by an increase in unfavorable foreign currency translation of \$2.5 million.

Our Electronics segment net sales increased \$71.4 million due to higher sales volumes in our European and North American commercial vehicle markets of \$55.2 million and \$52.4 million, respectively, including the launches of a next generation tachograph product in Europe for both OEM and aftermarket applications and our first OEM MirrorEye program in North America, and the impact of negotiated price increases of \$7.5 million. These increases were offset by the impact of lower required electronic component spot buy purchases of \$40.8 million compared to 2022. In addition, we experienced lower sales volumes in North American off-highway vehicle market of \$3.5 million and unfavorable foreign currency translation of \$3.2 million, mostly from euro and Swedish krona, compared to the prior year.

Our Stoneridge Brazil segment net sales increased \$5.0 million due to higher sales in our OEM product line and favorable foreign currency translation offset by lower sales demand for our other product lines.

Net sales by geographic location are summarized in the following table (in thousands):

						Dollar	Percent		
Year ended December 31,		2023		2022		increase / (decrease)	increase / (decrease)		
North America	\$	495,541	50.8 %	\$	444,928	49.4 %	\$	50,613	11.4 %
South America		57,214	5.9		52,230	5.8		4,984	9.5 %
Europe and Other		423,063	43.3		402,765	44.8		20,298	5.0 %
Total net sales	\$	975,818	100.0 %	\$	899,923	100.0 %	\$	75,895	8.4 %

The increase in North American net sales was attributable to increased sales volume in our commercial vehicle market of \$51.5 million and by negotiated price increases of \$10.7 million. These increases were offset by lower sales volume in our North American automotive, off-highway and agricultural markets.

The increase in net sales in South America was primarily due to higher sales in our OEM product line and favorable foreign currency translation offset lower sales demand for our other product lines.

The increase in net sales in Europe and Other was due to increases in our European and China commercial vehicle markets of \$55.2 million and \$4.5 million, respectively, China automotive of \$2.2 million and negotiated price increases of \$2.2 million. These increases were offset by lower required customer recoveries of electronic component spot buys of \$39.7 million. In addition, we experienced unfavorable foreign currency translation of \$5.7 million.

Cost of Goods Sold and Gross Margin. Cost of goods sold increased compared to 2022 and our gross margin increased to 20.6% in 2023 compared to 19.4% in 2022. Our material cost as a percentage of net sales decreased by 2.4% to 59.4% in 2023 compared to 61.8% in 2022. The decrease in the material cost percentage was partially due to the impact of required electronic component spot buy purchases that were offset by customer recoveries. The impact of these spot buy purchases increased cost of goods sold by \$14.6 million, or 1.5% of net sales, and \$58.4 million, or 6.5% of sales, during 2023 and 2022, respectively, which reduced gross margin percent by 0.3% and 1.4% in 2023 and 2022, respectively. Other factors reducing the material cost percentage were favorable foreign currency fluctuations and favorable sales mix in our Electronics segment. Overhead as a percentage of net sales was 15.1% and 14.2% for 2023 and 2022, respectively. The increase in overhead as a percentage of sales was attributable to higher indirect wage inflation and warranty costs which offset favorable fixed cost leverage from higher sales levels.

Our Control Devices segment gross margin decreased primarily due to higher direct material costs associated with inflation and financial support for a troubled supplier as well as unfavorable sales mix.

Our Electronics segment gross margin increased due to the contribution from higher sales levels, including negotiated price increases, and the reduction of the adverse effect of required electronic component spot buy purchases, net of customer recoveries, offset by higher labor and overhead costs including wages and warranty expense.

Our Stoneridge Brazil segment gross margin increased primarily due to increased contribution from higher sales and favorable foreign currency fluctuations.

Selling, General and Administrative. SG&A expenses increased by \$10.7 million compared to 2022 due to higher business realignment costs of \$3.0 million, higher incentive compensation due to achievement of performance targets, consulting and professional service fees and travel related costs. In addition, our Control Devices segment recognized 2022 favorable legal settlements offset by a 2023 gain on the sale of fixed assets of an idled sensor production line.

Design and Development. D&D costs increased by \$5.8 million due to lower customer reimbursements and higher costs related to product launch preparations offset by increases in capitalized software development costs for our Electronics segment. All other segments also incurred slightly higher spending attributable to product launch activities.

Operating Income. Operating income (loss) is summarized in the following table by reportable segment (in thousands):

Year ended December 31,	2023	2022	Dollar increase / (decrease)	Percent increase / (decrease)
Control Devices	\$ 13,582	\$ 23,917	\$ (10,335)	(43.2) %
Electronics	27,309	5,128	22,181	432.5 %
Stoneridge Brazil	4,454	3,150	1,304	41.4 %
Unallocated corporate	(32,509)	(29,260)	(3,249)	(11.1) %
Operating income	\$ 12,836	\$ 2,935	\$ 9,901	337.3 %

Our Control Devices segment operating income decreased due to lower gross margin primarily resulting from higher material costs associated with inflation and troubled supplier support costs, unfavorable sales mix and a 2022 favorable legal settlement offset by a 2023 gain on disposal of fixed assets.

Our Electronics segment operating income increased primarily due to higher contribution from higher sales and negotiated pricing and favorable foreign exchange fluctuations offset by higher labor and overhead costs as well as higher SG&A and D&D spending including business realignment costs.

Our Stoneridge Brazil segment operating income increased due to contribution from higher sales levels offset by higher SG&A and D&D spending.

Our unallocated corporate operating loss increased primarily from higher service related costs, business realignment costs associated with employee separation related costs of \$0.9 million and higher incentive compensation due to achievement of performance targets.

Operating income (loss) by geographic location is summarized in the following table (in thousands):

Year ended December 31,	2023	2022	Dollar increase / (decrease)	Percent increase / (decrease)
North America	\$ (13,566)	\$ (2,066)	\$ (11,500)	556.6 %
South America	4,454	3,150	1,304	41.4 %
Europe and Other	21,948	1,851	20,097	1085.7 %
Operating income	\$ 12,836	\$ 2,935	\$ 9,901	337.3 %

Our North American operating loss increased due to higher material and labor costs, higher business realignment, higher incentive compensation and a 2022 favorable legal settlement offset by a 2023 gain on disposal of fixed assets. Operating income in South America increased due to higher sales levels offset by higher SG&A and D&D spending. Our operating results in Europe and Other increased primarily due to contribution from higher sales levels offset by higher D&D expense.

Interest Expense, net. Interest expense, net increased by \$5.9 million compared to 2022 due to both higher interest rates and outstanding balances for our Credit Facility in addition to the write-off of \$0.3 million of deferred financing fees as a result of entering into the Fifth Amended and Restated Credit Agreement.

Equity in Loss of Investee. Equity losses for Autotech Fund II were \$0.5 million and \$0.8 million for the years ended December 31, 2023 and 2022. The decrease in Autotech Fund II earnings was due to unfavorable 2023 and 2022 fair value adjustments to fund investments and fund expenses.

Other Expense, net. We record certain foreign currency transaction losses (gains) as a component of other expense, net on the consolidated statement of operations. Other expense, net of \$1.2 million, decreased by \$4.5 million in 2023 compared to other expense, net of \$5.7 million for 2022 primarily due to the impact of favorable foreign currency movements in our Electronics and Control Devices segments from moderated strengthening of the U.S. dollar.

Provision for Income Taxes. In 2023, the provision for income tax expense was \$3.3 million, resulting in an effective tax rate of (169.7)%. In 2022, the provision for income tax expense was \$3.4 million, resulting in an effective tax rate of (31.4)%. In 2023 and 2022, the provision for income taxes was impacted by jurisdictional earnings mix, U.S. taxes on foreign earnings, various tax credits and incentives and tax losses for which no benefit is recognized due to valuation allowances.

The OECD implemented a 15% global corporate minimum tax to ensure that large multinational enterprises pay a minimum level of tax in the countries they operate. While various countries have implemented the legislation as of January 1, 2024, we do not expect a material change to our income tax provision for the year ended December 31, 2024. As additional jurisdictions implement this legislation, our effective tax rate and cash tax payments could increase in future years.

Year Ended December 31, 2022 Compared To Year Ended December 31, 2021

Consolidated statements of operations as a percentage of net sales are presented in the following table (in thousands):

Year ended December 31,	2022		2021		Dollar increase / (decrease)
Net sales	\$ 899,923	100.0 %	\$ 770,462	100.0 %	\$ 129,461
Costs and expenses:					
Cost of goods sold	724,997	80.6	603,604	78.3	121,393
Selling, general and administrative	106,695	11.9	116,000	15.1	(9,305)
Gain on sale of Canton Facility, net	—	—	(30,718)	(4.0)	30,718
Design and development	65,296	7.3	66,165	8.6	(869)
Operating income	2,935	0.3	15,411	2.0	(12,476)
Interest expense, net	7,097	0.8	5,189	0.7	1,908
Equity in loss (earnings) of investee	823	0.1	(3,658)	(0.5)	4,481
Other expense, net	5,711	0.6	1,444	0.2	4,267
(Loss) income before income taxes	(10,696)	(1.2)	12,436	1.6	(23,132)
Provision for income taxes	3,360	0.4	9,030	1.2	(5,670)
Net (loss) income	\$ (14,056)	(1.6)%	\$ 3,406	0.4 %	\$ (17,462)

Net Sales. Net sales for our reportable segments, excluding inter-segment sales are summarized in the following table (in thousands):

Year ended December 31,	2022		2021		Dollar increase / (decrease)	Percent increase / (decrease)
Control Devices	\$ 342,596	38.1 %	\$ 355,775	46.2 %	\$ (13,179)	(3.7) %
Electronics	505,097	56.1	357,910	46.5	147,187	41.1 %
Stoneridge Brazil	52,230	5.8	56,777	7.4	(4,547)	(8.0) %
Total net sales	\$ 899,923	100.0 %	\$ 770,462	100.0 %	\$ 129,461	16.8 %

Our Control Devices segment net sales decreased \$13.2 million due to lower sales volumes in our served markets and unfavorable foreign currency translation of \$20.0 million and \$2.3 million, respectively, which were offset by negotiated price increases of \$9.1 million. Sales volumes decreased in our China commercial, North American commercial and China automotive markets of \$5.8 million, \$3.4 million and \$2.3 million, respectively. European automotive and commercial vehicle markets decreased by \$10.3 million and \$2.4 million, respectively, due to our exit of the PM sensor business. Net sales for 2022 were favorably impacted by an increase in our North American automotive markets of \$2.9 million compared to the prior year.

Our Electronics segment net sales increased \$147.2 million due to higher sales volumes in our European commercial, North American commercial, European off-highway vehicle and North American off-highway markets of \$55.1 million, \$33.8 million, \$18.2 million and \$6.0 million, respectively. In addition, 2022 net sales were favorably impacted by both customer pricing for recoveries of electronic component spot buy purchases and for negotiated price increases of \$40.8 million and \$23.0 million, respectively. These increases were offset by unfavorable euro and Swedish krona foreign currency translation compared to the prior year of \$28.8 million.

Our Stoneridge Brazil segment net sales decreased \$4.5 million due to lower sales in most Stoneridge Brazil product lines of \$7.8 million offset by favorable foreign currency translation of \$2.6 million and higher sales of tracking devices and monitoring services fees of \$0.7 million.

Net sales by geographic location are summarized in the following table (in thousands):

						Dollar	Percent	
						increase /	increase /	
Year ended December 31,	2022			2021			(decrease)	(decrease)
North America	\$	444,928	49.4 %	\$	386,944	50.2 %	\$	57,984
South America		52,230	5.8		56,777	7.4		(4,547)
Europe and Other		402,765	44.8		326,741	42.4		76,024
Total net sales	\$	899,923	100.0 %	\$	770,462	100.0 %	\$	129,461
								16.8 %

The increase in North American net sales was mostly attributable to increases in sales volume in our Electronics segment commercial vehicle and off-highway markets of \$33.8 million and \$6.0 million, respectively and in our Control Devices segment automotive market of \$2.9 million offset by sales volume decreases in our Control Devices segment commercial vehicle market of \$3.4 million. In addition, North American net sales were favorably impacted by negotiated price increases of \$16.1 million and customer recoveries of semiconductor spot buy purchases of \$0.7 million.

The decrease in net sales in South America was primarily due to lower sales in most Stoneridge Brazil product lines of \$7.8 million offset by favorable foreign currency translation of \$2.6 million and higher sales of tracking devices and monitoring service fees of \$0.7 million.

The increase in net sales in Europe and Other was due to customer recoveries of semiconductor spot buy purchases and negotiated price increases of \$40.1 million and \$15.9 million, respectively and increases in our Electronics segment European commercial vehicle and European off-highway markets of \$52.9 million and \$18.2 million, respectively. This increase for Europe and Other was offset by decreases in our Control Devices European automotive and commercial vehicle markets of \$10.4 million and \$2.4 million, respectively, and China commercial vehicle and automotive markets of \$5.8 million and \$2.3 million, respectively. In addition, Europe and Other net sales decreased \$31.1 million due to unfavorable foreign currency translation.

Cost of Goods Sold and Gross Margin. Cost of goods sold increased compared to 2021 and our gross margin decreased to 19.4% in 2022 compared to 21.7% in 2021. Our material cost as a percentage of net sales increased by 4.8% to 61.8% in 2022 compared to 57.0% in 2021 primarily caused by costs associated with supply chain disruptions including spot purchases of electronic components and inflation. In 2022, cost of goods sold increased by \$58.4 million, or 6.5% of net sales, due to semiconductor spot buy purchases that was offset by customer recoveries. The impact of these spot buy purchases reduced gross margin percent by 1.4%. Overhead as a percentage of net sales decreased by 1.9% to 14.2% for 2022 compared to 16.1% for 2021 primarily due to leverage of fixed costs from higher sales levels.

Our Control Devices segment gross margin decreased due to higher material costs associated with supply chain disruptions and inflation offset by negotiated price increases and lower restructuring and realignment costs of \$1.5 million.

Our Electronics segment gross margin increased primarily due to increased contribution from higher sales levels and favorable negotiated pricing offset by higher material costs associated with supply chain disruptions including spot purchases of electronic components, adverse foreign exchange fluctuations and inflation.

Our Stoneridge Brazil segment gross margin as a percentage of sales was consistent with the prior year as adverse leverage of fixed costs from lower product sales was offset by favorable sales mix from a greater percentage of monitoring service fees.

Selling, General and Administrative. SG&A expenses decreased by \$9.3 million compared to 2021 due to favorable non-recurring 2022 commercial and legal settlements, lower wages, incentive compensation, legal fees and selling costs. In addition, compared to 2021, SG&A was favorably impacted by an unfavorable adjustment to the fair value of the Stoneridge Brazil earn-out consideration in 2021, lower business realignment and restructuring costs and Sarasota environmental remediation costs incurred in 2021. Offsetting these favorable items were the 2021 gain on disposal of the MSIL joint venture, the 2021 gain on disposal of the PM Sensor business and unfavorable net adjustments for Brazilian indirect tax credits.

Design and Development. D&D costs decreased by \$0.9 million due to higher customer reimbursements for ongoing development activities in our Electronics segment of \$8.3 million that were offset by increased spend for awarded business program launches and development of advanced technologies and systems in our Electronics, Control Devices and Stoneridge Brazil segments.

Operating Income (Loss). Operating income (loss) is summarized in the following table by reportable segment (in thousands):

Year ended December 31,	2022	2021	Dollar increase / (decrease)	Percent increase / (decrease)
Control Devices	\$ 23,917	\$ 54,933	\$ (31,016)	(56.5) %
Electronics	5,128	(12,502)	17,630	141.0 %
Stoneridge Brazil	3,150	995	2,155	216.6 %
Unallocated corporate	(29,260)	(28,015)	(1,245)	(4.4) %
Operating income (loss)	\$ 2,935	\$ 15,411	\$ (12,476)	(81.0) %

Our Control Devices segment operating income decreased due to the gain on sale of the Canton Facility of \$30.7 million in 2021 and the gain on disposal of the PM sensor business of \$1.1 million in 2021.

Our Electronics segment operating income increased from higher contribution from increased sales levels and lower SG&A and D&D costs from higher customer reimbursements.

Our Stoneridge Brazil segment operating income increased primarily due to lower SG&A expenses from the unfavorable adjustment to the fair value of the Stoneridge Brazil earn-out consideration in 2021 and lower selling costs offset by lower gross margin and unfavorable net adjustments for Brazilian indirect tax credits.

Our unallocated corporate operating loss increased due to the 2021 gain on disposal of the MSIL joint venture offset by lower business realignment.

Operating income (loss) by geographic location is summarized in the following table (in thousands):

Year ended December 31,	2022	2021	Dollar increase / (decrease)	Percent increase / (decrease)
North America	\$ (2,066)	\$ 13,072	\$ (15,138)	(115.8) %
South America	3,150	995	2,155	216.6 %
Europe and Other	1,851	1,344	507	37.7 %
Operating income (loss)	\$ 2,935	\$ 15,411	\$ (12,476)	(81.0) %

Our North American operating income decreased due to the 2021 gains on the sale of the Canton Facility, the disposal of the MSIL joint venture and the PM Sensor business, and higher material costs from supply chain disruptions. Offsetting these gains were increased contribution from higher sales levels and 2022 non-recurring commercial and legal settlements. The increase in operating income in South America was primarily due to an unfavorable change in fair value of earn-out consideration adjustments of \$2.1 million in 2021 and lower selling costs offset by lower contribution from lower sales levels and an unfavorable net adjustments for Brazilian indirect tax credits. Our operating results in Europe and Other increased slightly primarily due to higher contribution from increased sales levels and the favorable impact of negotiated pricing offset by higher costs from supply chain disruptions including spot purchases of electronic components net of recoveries and adverse foreign exchange fluctuations and inflation.

Interest Expense, net. Interest expense, net increased by \$1.9 million compared to 2021 due to higher Credit Facility interest rates and \$0.4 million related to the write-off of deferred financing fees as a result of Amendment No. 3 to the Credit Facility.

Equity in Loss (Earnings) of Investee. Equity loss (earnings) for Autotech Fund II were \$0.8 million and \$(1.9) million for the years ended December 31, 2022 and 2021. The decrease in Autotech Fund II earnings was due to unfavorable 2022 fair value adjustments to fund investments. Equity earnings for MSIL were \$1.8 million for the year ended December 31, 2021. As discussed in Note 2 to the consolidated financial statements, the Company sold its equity interest in MSIL on December 30, 2021.

Other Expense, net. We record certain foreign currency transaction losses (gains) as a component of other income, net on the consolidated statement of operations. Other expense, net of \$5.7 million, increased by \$4.3 million in 2022 compared to other expense, net of \$1.4 million for 2021 primarily due to foreign currency transaction losses in our Electronics, Control Devices and Stoneridge Brazil segments from the strengthening of the U.S. dollar.

Provision for Income Taxes. In 2022, income tax expense of \$3.4 million was attributable to the mix of earnings among tax jurisdictions as well as tax losses for which no benefit is recognized due to valuation allowances in certain jurisdictions and U.S. taxes on foreign earnings offset by tax credits and incentives. The effective tax rate of (31.4)% varies from the statutory tax rate primarily due to tax credits and incentives offset by the impact of tax losses for which no benefit is recognized due to valuation allowances in certain jurisdictions as well as U.S. tax on foreign earnings.

In 2021, income tax expense of \$9.0 million was attributable to the gain on the sale of the Canton facility, the gain on the sale of the Company's minority interest in MSIL, the mix of earnings among tax jurisdictions as well as tax losses for which no benefit is recognized due to valuation allowances in certain jurisdictions. The effective tax rate of 72.6% was greater than the statutory tax rate primarily due to the impact of tax losses for which no benefit is recognized due to valuation allowances in certain jurisdictions, the tax impact of the sale of the Company's minority interest in MSIL, partially offset by tax incentives.

Liquidity and Capital Resources

Summary of Cash Flows for the years ended December 31, 2023 and 2022 (in thousands):

Year ended December 31,	2023	2022	Dollar increase / (decrease)
Net cash provided by (used for):			
Operating activities	\$ 4,946	\$ 6,806	\$ (1,860)
Investing activities	(36,979)	(28,581)	(8,398)
Financing activities	17,485	(7,297)	24,782
Effect of exchange rate changes on cash and cash equivalents	591	(1,677)	2,268
Net change in cash and cash equivalents	\$ (13,957)	\$ (30,749)	\$ 16,792

Cash provided by operating activities decreased compared to 2022 primarily due to an increase in cash used to fund working capital levels from a combination of higher inventory levels for new product launches and the residual impact of supply chain issues on inventory, lower accounts payable and the 2022 increase in assets for spot buys not yet invoiced. Our receivable terms and collections rates have remained consistent between periods presented.

Net cash used for investing activities increased compared to the prior year due to higher capital expenditures and capitalized software development costs and cash proceeds from the 2022 settlement of the net investment hedges offset by increased proceeds from the sale of fixed assets.

Net cash provided by financing activities increased compared to the prior year primarily due to higher Credit Facility net borrowings, offset by the 2022 cash payment of Stoneridge Brazil earn-out consideration and 2023 debt issuance costs.

Summary of Cash Flows for the years ended December 31, 2022 and 2021 (in thousands):

Years ended December 31,	2022	2021	Dollar increase / (decrease)
Net cash provided by (used for):			
Operating activities	\$ 6,806	\$ (36,248)	\$ 43,054
Investing activities	(28,581)	28,041	(56,622)
Financing activities	(7,297)	22,876	(30,173)
Effect of exchange rate changes on cash and cash equivalents	(1,677)	(3,041)	1,364
Net change in cash and cash equivalents	\$ (30,749)	\$ 11,628	\$ (42,377)

Cash provided by operating activities increased compared to 2021 primarily due to a reduction in cash used to fund working capital levels primarily for inventory due to supply chain disruptions and new product launches. Our receivable terms and collections rates have remained consistent between periods presented.

Net cash used for investing activities increased compared to the prior year due to 2021 proceeds from the sale of the Canton Facility, from the disposal of the MSIL joint venture and from the disposal of the PM sensor business as well as higher capital expenditures and capitalized software costs which were offset by 2022 proceeds from the settlement of the net investment hedges and lower investments in the Autotech Fund II.

Net cash used for financing activities increased compared to the prior year primarily due to lower Credit Facility net borrowings and the 2022 cash payment of Stoneridge Brazil earn-out consideration.

Summary of Future Cash Flows

The following table summarizes our future cash outflows resulting from financial contracts and commitments, as of December 31, 2023 (in thousands):

	Total	Less than 1 year	2-3 years	4-5 years	After 5 years
Credit Facility	\$ 189,346	\$ —	\$ 189,346	\$ —	\$ —
Debt	2,113	2,113	—	—	—
Interest payments ^(A)	45,116	15,498	29,618	—	—
Operating leases	12,959	4,220	5,622	2,125	992
Total contractual obligations ^(B)	\$ 249,534	\$ 21,831	\$ 224,586	\$ 2,125	\$ 992

(A) Includes estimated payments under the Company's Credit Facility and other debt obligations using the most current interest rate and principal balance information available at December 31, 2023, extended through the end of the term.

(B) In December 2018, the Company entered into an agreement to make a \$10.0 million investment in Autotech Fund II managed by Autotech, a venture capital firm focused on ground transportation technology. The Company's \$10.0 million investment in the Autotech Fund II will be contributed over the expected ten year life of the fund. The Company has contributed \$8.4 million to the Autotech Fund II since December 2018.

Management will continue to focus on efficiently managing its weighted-average cost of capital and believes that cash flows from operations and the availability of funds from our Credit Facility provides sufficient liquidity to meet our future growth and operating needs.

As outlined in Note 5 to our consolidated financial statements, the Credit Facility permits borrowing up to a maximum level of \$275.0 million through November 2, 2026. The Credit Facility contains certain financial covenants that require the Company to maintain less than a maximum leverage ratio and more than a minimum interest coverage ratio. The Credit Facility also contains affirmative and negative covenants and events of default that are customary for credit arrangements of this type including covenants that place restrictions and/or limitations on the Company's ability to borrow money, make capital expenditures and pay dividends. The Credit Facility had an outstanding balance of \$189.3 million at December 31, 2023.

The Company was in compliance with all covenants at December 31, 2023. The Company has not experienced a violation that would limit the Company's ability to borrow under the Credit Facility and does not expect that the covenants under it will restrict the Company's financing flexibility. However, it is possible that future borrowing flexibility under the Credit Facility may be limited as a result of lower than expected financial performance. The Company expects to make additional repayments on the Credit Facility when cash exceeds the amount needed for operations and to remain in compliance with all covenants.

The Company's wholly-owned subsidiary located in Stockholm, Sweden, has an overdraft credit line which allows overdrafts on the subsidiary's bank account up to a daily maximum level of 20.0 million Swedish krona, or \$2.0 million and \$1.9 million, at December 31, 2023 and 2022, respectively. At December 31, 2023 and 2022, there were no borrowings outstanding on this overdraft credit line. During the year ended December 31, 2023, the subsidiary borrowed and repaid 358.5 million Swedish krona, or \$35.6 million.

The Company's wholly-owned subsidiary located in Suzhou, China, has lines of credit which allow up to a maximum borrowing level of 20.0 million Chinese yuan, or \$2.8 million and \$2.9 million, at December 31, 2023 and 2022, respectively. At December 31, 2023 and 2022 there was \$2.1 million and \$1.5 million, respectively, in borrowings outstanding recorded within current portion of debt. In addition, the Suzhou subsidiary has a bank acceptance draft line of credit which facilitates the extension of trade payable payment terms by 180 days. The bank acceptance draft line of credit allows up to a maximum borrowing level of 60.0 million Chinese yuan, or \$8.5 million, at December 31, 2023 and \$8.7 million at December 31, 2022. There was \$2.4 million and \$2.0 million utilized on the Suzhou bank acceptance draft line of credit at December 31, 2023 and 2022, respectively.

In December 2018, the Company entered into an agreement to make a \$10.0 million investment in Autotech Fund II managed by Autotech. The Company's \$10.0 million investment in the Autotech Fund II will be contributed over the expected ten-year life of the fund. As of December 31, 2023, the Company's cumulative investment in the Autotech Fund II was \$8.4 million. The Company contributed \$0.4 million and \$1.0 million, net to the Autotech Fund II during the years ended December 31, 2023 and 2022, respectively.

Our future results could also be adversely affected by unfavorable changes in foreign currency exchange rates. We have significant foreign denominated transaction exposure in certain locations, especially in Brazil, Argentina, Mexico, Sweden, Estonia, the Netherlands, United Kingdom and China. We have entered into foreign currency forward contracts to reduce our exposure related to certain foreign currency fluctuations. See Note 10 to the consolidated financial statements for additional details. Our future results could also be unfavorably affected by increased commodity prices as commodity fluctuations impact the cost of our raw material purchases.

At December 31, 2023, we had a cash and cash equivalents balance of approximately \$40.8 million, of which 94.1% was held in foreign locations. The Company has approximately \$85.7 million of undrawn commitments under the Credit Facility as of December 31, 2023, which results in total undrawn commitments and cash balances of more than \$126.5 million.

Commitments and Contingencies

See Note 11 to the consolidated financial statements for disclosures of the Company's commitments and contingencies.

Seasonality

Our Control Devices and Electronics segments are moderately seasonal, impacted by mid-year and year-end shutdowns and the ramp-up of new model production at key customers. In addition, the demand for our Stoneridge Brazil segment consumer products is generally higher in the second half of the year.

Inflation and International Presence

By operating internationally, we are affected by foreign currency exchange rates and the economic conditions of certain countries. Furthermore, given the current economic climate and recent fluctuations in certain commodity prices, we believe that an increase in such items could significantly affect our profitability. See Note 10 to the consolidated financial statements for additional details on the Company's commodity price and foreign currency exchange rate risks.

Critical Accounting Policies and Estimates

The preparation of financial statements in conformity with U.S. Generally Accepted Accounting Principles ("GAAP") requires management to make estimates and assumptions that affect the reported amounts of assets and liabilities and the disclosure of contingent liabilities at the date of the consolidated financial statements, and the reported amounts of revenues and expenses during the reporting period.

On an ongoing basis, we evaluate estimates and assumptions used in our consolidated financial statements. We base our estimates on historical experience and on various other factors that we believe to be reasonable under the circumstances, the results of which form the basis for making judgments about the carrying values of assets and liabilities that are not readily apparent from other sources. Actual results could differ from these estimates.

Our critical accounting policies, those most important to the financial presentation and those that are the most complex, subjective or require significant judgment, are as follows. For additional information, see Item 8 of Part II, "Financial Statements and Supplementary Data — Note 2 — Summary of Significant Accounting Policies."

Revenue Recognition and Sales Commitments. We recognize revenue when obligations under the terms of a contract with our customer are satisfied; generally this occurs with the transfer of control of our products and services, which is usually when the parts are shipped or delivered to the customer's premises. Revenue is measured as the amount of consideration we expect to receive in exchange for transferring goods or providing services. The transaction price will include estimates of variable consideration to the extent it is probable that a significant reversal of revenue recognized will not occur. Incidental items that are not significant in the context of the contract are recognized as expense. Revenue for OEM and Tier 1 supplier customers and aftermarket products are recognized at the point in time it satisfies a performance obligation by transferring control of a part to the customer. A small portion of our sales are comprised of monitoring services of which the revenue is recognized over the life of the contract. See Note 3 to the consolidated financial statements for additional information on our revenue recognition policies, including recognizing revenue based on satisfying performance obligations.

Warranties. Our warranty liability is established based on our best estimate of the amounts necessary to settle existing and future claims on products sold as of the balance sheet dates. These accruals are based on several factors including past experience, production changes, industry developments and various other considerations. Our estimate is based on historical trends of units sold and claim payment amounts, combined with our current understanding of the status of existing claims and discussions with our customers. The key factors in our estimate are the stated or implied warranty period, the customer source, customer policy decisions regarding warranties and customers seeking to hold the company responsible for their product warranties. Although we believe that our warranty liability is adequate and that the judgment applied is appropriate, such amounts estimated to be due and payable could differ materially from what will actually transpire in the future.

Contingencies. We are subject to legal proceedings and claims, including product liability claims, commercial or contractual disputes, environmental enforcement actions and other claims that arise in the normal course of business. We routinely assess the likelihood of any adverse judgments or outcomes to these matters, as well as ranges of probable losses, by consulting with internal personnel principally involved with such matters and with our outside legal counsel handling such matters.

We have accrued for estimated losses when it is probable that a liability or loss has been incurred and the amount can be reasonably estimated. Contingencies by their nature relate to uncertainties that require the exercise of judgment both in assessing whether or not a liability or loss has been incurred and estimating that amount of probable loss. The liabilities may change in the future due to new developments or changes in circumstances. The inherent uncertainty related to the outcome of these matters can result in amounts materially different from any provisions made with respect to their resolution.

Income Taxes. Deferred income taxes are provided for temporary differences between the amount of assets and liabilities for financial reporting purposes and the basis of such assets and liabilities as measured by tax laws and regulations. Our deferred tax assets include, among other items, net operating loss carryforwards and tax credits that can be used to offset taxable income in future periods and reduce income taxes payable in those future periods. Our U.S. state and foreign net operating losses expire at various times or have indefinite expiration dates. Our U.S. federal general business credits, if unused, begin to expire in 2027, and the state and foreign tax credits expire at various times.

Accounting standards require that deferred tax assets be reduced by a valuation allowance if, based on all available evidence, it is considered more likely than not that some portion or all of the recorded deferred tax assets will not be realized in future periods. This assessment requires significant judgment, and in making this evaluation, the Company considers available positive and negative evidence, including the potential to carryback net operating losses and credits, the future release of certain taxable temporary differences, actual and forecasted results, and tax planning strategies that are both prudent and feasible. Certain deferred tax assets are dependent on future taxable income to be realized. Risk factors include U.S. and foreign economic conditions that affect the automotive and commercial vehicle markets of which the Company has significant operations.

The Company has recognized deferred taxes related to foreign withholding taxes and the expected foreign currency impact upon repatriation from foreign subsidiaries not considered indefinitely reinvested.

The Company has made an accounting policy election to reflect the impact of global intangible low-taxed income ("GILTI") taxes, if any, as a current period tax expense when incurred.

Recently Adopted Accounting Standards

In March 2020, the Financial Accounting Standards Board ("FASB") issued Accounting Standards Update ("ASU") 2020-04, "Reference Rate Reform (Topic 848) – Facilitation of the Effects of Reference Rate Reform on Financial Reporting." The guidance in ASU 2020-04 provides temporary optional expedient and exceptions to the guidance in U.S. GAAP on contract modifications and hedge accounting to ease the financial reporting burdens related to expected market transition from the London Interbank Offered Rate ("LIBOR") and other interbank offered rates to alternative reference rates, such as the Secured Overnight Financing Rate ("SOFR") (also known as the "reference rate reform"). The guidance allows companies to elect not to apply certain modification accounting requirements to contracts affected by the reference rate reform, if certain criteria are met. The guidance will also allow companies to elect various optional expedients which would allow them to continue to apply hedge accounting for hedging relationships affected by the reference rate reform, if certain criteria are met. The new standard was effective upon issuance and generally can be applied to applicable contract modifications through December 31, 2023.

In February 2022, the Company amended its credit facility to incorporate hardwired mechanics to permit a future replacement of LIBOR as the interest reference rate without lender consent. The Company has applied the guidance to impacted transactions during the transition period. The adoption of this standard did not have a material impact on the Company's consolidated financial statements.

Recently Issued Accounting Standards Not Yet Adopted as of December 31, 2023

In November 2023, the FASB issued ASU No. 2023-07, "Segment Reporting (Topic 280) – Improvements to Reportable Segment Disclosures", which expands annual and interim disclosure requirements for reportable segments, primarily through enhanced disclosures about significant segment expenses. The updated standard is effective for annual periods beginning in fiscal 2025 and interim periods beginning in the first quarter of fiscal 2026. Early adoption is permitted. We are currently evaluating the impact that the updated standard will have on our financial statement disclosures.

In December 2023, the FASB issued ASU No. 2023-09, "Income Taxes (Topic 740) – Improvements to Income Tax Disclosures," which requires companies to disclose, on an annual basis, specific categories in the effective tax rate reconciliation and provide additional information for reconciling items that meet a quantitative threshold. In addition, companies are required to disclose additional information about income taxes paid. The standard is effective for fiscal years beginning after December 15, 2024, with early adoption permitted. The standard is to be adopted on a prospective basis; however, retrospective application is permitted. We are currently evaluating the impact on our annual consolidated financial statement disclosures.

Item 7A. Quantitative and Qualitative Disclosures About Market Risk.

Interest Rates

We are exposed to interest rate risk primarily from the effects of changes in interest rates. At December 31, 2023, approximately 98.9% of our outstanding debt was floating-rate and 1.1% was fixed-rate. We estimate that a 1.0% change in the interest costs of our floating-rate debt outstanding as of December 31, 2023 would change interest expense on an annual basis by approximately \$1.9 million.

Currency Exchange Rates

In addition to the United States, we have significant operations in Europe, South America, Mexico and China. As a result we are subject to translation risk because of the transactions of our foreign operations are in local currency (particularly the Brazilian real, Chinese renminbi, Mexican peso, euro, Swedish krona and Argentinian peso) and must be translated into U.S. dollars. As currency exchange rates fluctuate, the translation of our consolidated statements of operations into U.S. dollars affects the comparability of revenues, expenses, operating income, net income and earnings per share between years.

We have previously used derivative financial instruments, including foreign currency forward contracts, to mitigate our exposure to fluctuations in foreign currency exchange rates by reducing the effect of such fluctuations on foreign currency denominated intercompany transactions, inventory material purchases and other foreign currency exposures.

As discussed in detail in Note 10 to our consolidated financial statements, we entered into foreign currency forward contracts the purpose of which is to reduce exposure related to the Company's future Mexican peso-denominated purchases.

We estimate that a 10.0% unidirectional change in currency exchange rates relative to the U.S dollar would have changed our income before income taxes for the year ended December 31, 2023 by approximately \$3.0 million.

Commodity Price Risk

The competitive marketplace in which we operate may limit our ability to recover increased costs through higher prices. As such, we are subject to market risk with respect to commodity price fluctuations principally related to our purchases of purchase of copper, steel, zinc, resins and certain other commodities through a combination of fixed price agreements, staggered short-term contract maturities and commercial negotiations with our suppliers and customers. In the future, if we believe that the terms of a fixed price agreement become beneficial to us, we will enter into another such instrument. We may also consider pursuing alternative commodities or alternative suppliers to mitigate this risk over a period of time.

Item 8. Financial Statements and Supplementary Data.

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AND FINANCIAL STATEMENT SCHEDULE**

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Report of Independent Registered Public Accounting Firm

To the Shareholders and the Board of Directors of Stoneridge, Inc.

Opinion on the Financial Statements

We have audited the accompanying consolidated balance sheets of Stoneridge, Inc. and subsidiaries (the Company) as of December 31, 2023 and 2022, the related consolidated statements of operations, comprehensive income (loss), cash flows and shareholders' equity for each of the three years in the period ended December 31, 2023, and the related notes and financial statement schedule listed in the Index at Item 15 (collectively referred to as the "consolidated financial statements"). In our opinion, the consolidated financial statements present fairly, in all material respects, the financial position of the Company at December 31, 2023 and 2022, and the results of its operations and its cash flows for each of the three years in the period ended December 31, 2023, in conformity with U.S. generally accepted accounting principles.

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, 2023, based on criteria established in Internal Control—Integrated Framework issued by the Committee of Sponsoring Organizations of the Treadway Commission (2013 framework), and our report dated March 1, 2024 expressed an unqualified opinion thereon.

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 the critical audit matter does not alter in any way our opinion on the consolidated 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 account or disclosure to which it relates.

Product warranty and recall reserves

Description of the Matter

The Company's reserves for product warranty and recall totaled \$21.6 million at December 31, 2023. As described in Note 2 to the consolidated financial statements, the Company's reserve for product warranty and recall is based on several factors, including the historical trends of units sold and claim payment amounts, combined with the Company's current understanding of existing warranty and recall claims. The warranty liability requires a forecast of the resolution of existing claims as well as expected future claims on products previously sold.

Auditing the Company's reserve for product warranty and recall is complex due to the measurement uncertainty associated with the estimate, management's judgment in determining the cost and volume estimates used in the computation, as well as volume and costing assumptions in determining the expected future claims on products previously sold.

How We Addressed the Matter in Our Audit

We evaluated the design and tested the operating effectiveness of the Company's controls over the product warranty and recall process. For example, we tested management review controls over the appropriateness of assumptions management used in the calculation and the completeness of warranty claims.

To evaluate the reserve for product warranty and recall, we performed audit procedures that included, among others, testing the completeness and accuracy of the underlying claims data and costs used in the computation of management's estimate, performing inquiries of the Company's quality control team, and obtaining legal confirmation letters to evaluate the status and assessment of certain reserves. We assessed the historical accuracy of management's product warranty and recall reserves and performed sensitivity analyses of significant assumptions to evaluate the impact to the reserve that would result from changes in the assumptions.

/s/ Ernst & Young LLP

We have served as the Company's auditor since 2002.

Detroit, MI
March 1, 2024

STONERIDGE, INC. AND SUBSIDIARIES
CONSOLIDATED BALANCE SHEETS

December 31, (in thousands)	2023	2022
ASSETS		
Current assets:		
Cash and cash equivalents	\$ 40,841	\$ 54,798
Accounts receivable, less reserves of \$ 1,058 and \$ 962 , respectively	166,545	158,155
Inventories, net	187,758	152,580
Prepaid expenses and other current assets	34,246	44,018
Total current assets	429,390	409,551
Long-term assets:		
Property, plant and equipment, net	110,126	104,643
Intangible assets, net	47,314	45,508
Goodwill	35,295	34,225
Operating lease right-of-use asset	10,795	13,762
Investments and other long-term assets, net	46,980	44,416
Total long-term assets	250,510	242,554
Total assets	\$ 679,900	\$ 652,105
LIABILITIES AND SHAREHOLDERS' EQUITY		
Current liabilities:		
Current portion of debt	\$ 2,113	\$ 1,450
Accounts payable	111,925	110,202
Accrued expenses and other current liabilities	64,203	66,040
Total current liabilities	178,241	177,692
Long-term liabilities:		
Revolving credit facility	189,346	167,802
Deferred income taxes	7,224	8,498
Operating lease long-term liability	7,684	10,594
Other long-term liabilities	9,688	6,577
Total long-term liabilities	213,942	193,471
Shareholders' equity:		
Preferred Shares, without par value, 5,000 shares authorized, none issued	—	—
Common Shares, without par value, 60,000 shares authorized, 28,966 and 28,966 shares issued and 27,549 and 27,341 shares outstanding at December 31, 2023 and December 31, 2022, respectively, with no stated value	—	—
Additional paid-in capital	227,340	232,758
Common Shares held in treasury, 1,417 and 1,625 shares at December 31, 2023 and December 31, 2022, respectively, at cost	(43,344)	(50,366)
Retained earnings	196,509	201,692
Accumulated other comprehensive loss	(92,788)	(103,142)
Total shareholders' equity	287,717	280,942
Total liabilities and shareholders' equity	\$ 679,900	\$ 652,105

The accompanying notes are an integral part of these consolidated financial statements.

STONERIDGE, INC. AND SUBSIDIARIES
CONSOLIDATED STATEMENTS OF OPERATIONS

Year ended December 31, (in thousands, except per share data)	2023	2022	2021
Net sales	\$ 975,818	\$ 899,923	\$ 770,462
Costs and expenses:			
Cost of goods sold	774,512	724,997	603,604
Selling, general and administrative	117,395	106,695	116,000
Gain on sale of Canton Facility, net	—	—	(30,718)
Design and development	71,075	65,296	66,165
Operating income	12,836	2,935	15,411
Interest expense, net	13,000	7,097	5,189
Equity in loss (earnings) of investee	522	823	(3,658)
Other expense, net	1,236	5,711	1,444
(Loss) income before income taxes	(1,922)	(10,696)	12,436
Provision for income taxes	3,261	3,360	9,030
Net (loss) income	\$ (5,183)	\$ (14,056)	\$ 3,406
(Loss) earnings per share:			
Basic	\$ (0.19)	\$ (0.52)	\$ 0.13
Diluted	\$ (0.19)	\$ (0.52)	\$ 0.12
Weighted-average shares outstanding:			
Basic	27,443	27,258	27,114
Diluted	27,443	27,258	27,416

The accompanying notes are an integral part of these consolidated financial statements.

STONERIDGE, INC. AND SUBSIDIARIES
CONSOLIDATED STATEMENTS OF COMPREHENSIVE INCOME (LOSS)

Year ended December 31, (in thousands)	2023	2022	2021
Net (loss) income	\$ (5,183)	\$ (14,056)	\$ 3,406
Other comprehensive income (loss), net of tax:			
Foreign currency translation ⁽¹⁾	9,118	(6,171)	(8,408)
Unrealized gain on derivatives ⁽²⁾	1,236	53	1,019
Other comprehensive income (loss), net of tax	10,354	(6,118)	(7,389)
Comprehensive income (loss)	\$ 5,171	\$ (20,174)	\$ (3,983)

(1) Net of tax expense of \$ 514 and \$ 267 for the years ended December 31, 2022 and 2021, respectively.

(2) Net of tax expense of \$ 328 , \$ 14 and \$ 271 for the years ended December 31, 2023, 2022 and 2021, respectively.

The accompanying notes are an integral part of these consolidated financial statements.

STONERIDGE, INC. AND SUBSIDIARIES
CONSOLIDATED STATEMENTS OF CASH FLOWS

Year ended December 31, (in thousands)	2023	2022	2021
OPERATING ACTIVITIES:			
Net (loss) income	\$ (5,183)	\$ (14,056)	\$ 3,406
Adjustments to reconcile net income to net cash provided by (used for) operating activities:			
Depreciation	26,749	26,720	27,823
Amortization, including accretion and write-off of deferred financing costs	8,132	8,055	6,648
Deferred income taxes	(4,038)	(5,110)	(511)
Loss (earnings) of equity method investee	522	823	(3,658)
Gain on sale of fixed assets	(860)	(241)	(165)
Share-based compensation expense	3,322	5,942	5,960
Excess tax deficiency (benefit) related to share-based compensation expense	230	543	(563)
Gain on sale of Canton Facility, net	—	—	(30,718)
Gain on disposal of business and joint venture, net	—	—	(2,942)
Change in fair value of earn-out contingent consideration	—	—	2,065
Changes in operating assets and liabilities:			
Accounts receivable, net	(5,854)	(13,161)	(17,019)
Inventories, net	(31,563)	(20,127)	(51,270)
Prepaid expenses and other assets	16,625	(5,159)	(5,116)
Accounts payable	1,090	18,489	16,515
Accrued expenses and other liabilities	(4,226)	4,088	13,297
Net cash provided by (used for) operating activities	4,946	6,806	(36,248)
INVESTING ACTIVITIES:			
Capital expenditures, including intangibles	(38,498)	(31,609)	(27,031)
Proceeds from sale of fixed assets	1,869	158	268
Proceeds from settlement of net investment hedges	—	3,820	—
Proceeds from disposal of business, net	—	—	1,837
Proceeds from disposal of joint venture, net	—	—	20,999
Proceeds from sale of Canton Facility, net	—	—	35,167
Investment in venture capital fund, net	(350)	(950)	(3,199)
Net cash (used for) provided by investing activities	(36,979)	(28,581)	28,041
FINANCING ACTIVITIES:			
Revolving credit facility borrowings	117,369	21,562	91,913
Revolving credit facility payments	(96,568)	(18,000)	(64,000)
Proceeds from issuance of debt	35,757	38,940	45,753
Repayments of debt	(35,102)	(42,248)	(48,107)
Earn-out consideration cash payment	—	(6,276)	—
Other financing costs	(2,251)	(484)	(18)
Repurchase of Common Shares to satisfy employee tax withholding	(1,720)	(791)	(2,665)
Net cash provided by (used for) financing activities	17,485	(7,297)	22,876
Effect of exchange rate changes on cash and cash equivalents	591	(1,677)	(3,041)
Net change in cash and cash equivalents	(13,957)	(30,749)	11,628
Cash and cash equivalents at beginning of period	54,798	85,547	73,919
Cash and cash equivalents at end of period	\$ 40,841	\$ 54,798	\$ 85,547
Supplemental disclosure of cash flow information:			
Cash paid for interest	\$ 13,007	\$ 7,293	\$ 6,055
Cash paid for income taxes, net	\$ 10,302	\$ 6,178	\$ 11,267

The accompanying notes are an integral part of these consolidated financial statements.

STONERIDGE, INC. AND SUBSIDIARIES
CONSOLIDATED STATEMENTS OF SHAREHOLDERS' EQUITY

	Number of Common Shares outstanding	Number of treasury shares	Additional paid-in capital	Common Shares held in treasury	Retained earnings	Accumulated other comprehensive (loss) income	Total shareholders' equity
(in thousands)							
BALANCE , DECEMBER 31, 2020	27,006	1,960	\$ 234,409	\$ (60,482)	\$ 212,342	\$ (89,635)	\$ 296,634
Net income	—	—	—	—	3,406	—	3,406
Unrealized gain on derivatives, net	—	—	—	—	—	1,019	1,019
Currency translation adjustments	—	—	—	—	—	(8,408)	(8,408)
Issuance of Common Shares	265	(265)	—	—	—	—	—
Repurchased Common Shares for treasury, net	(80)	80	—	5,218	—	—	5,218
Share-based compensation, net	—	—	(1,919)	—	—	—	(1,919)
BALANCE DECEMBER 31, 2021	27,191	1,775	\$ 232,490	\$ (55,264)	\$ 215,748	\$ (97,024)	\$ 295,950
Net loss	—	—	\$ —	\$ —	(14,056)	—	(14,056)
Unrealized gain on derivatives, net	—	—	—	—	—	53	53
Currency translation adjustments	—	—	—	—	—	(6,171)	(6,171)
Issuance of Common Shares	193	(193)	—	—	—	—	—
Repurchased Common Shares for treasury, net	(43)	43	—	4,898	—	—	4,898
Share-based compensation, net	—	—	268	—	—	—	268
BALANCE DECEMBER 31, 2022	27,341	1,625	\$ 232,758	\$ (50,366)	\$ 201,692	\$ (103,142)	\$ 280,942
Net loss	—	—	\$ —	\$ —	(5,183)	—	(5,183)
Unrealized gain on derivatives, net	—	—	—	—	—	1,236	1,236
Currency translation adjustments	—	—	—	—	—	9,118	9,118
Issuance of Common Shares	297	(297)	—	—	—	—	—
Repurchased Common Shares for treasury, net	(89)	89	—	7,022	—	—	7,022
Share-based compensation, net	—	—	(5,418)	—	—	—	(5,418)
BALANCE DECEMBER 31, 2023	27,549	1,417	\$ 227,340	\$ (43,344)	\$ 196,509	\$ (92,788)	\$ 287,717

The accompanying notes are an integral part of these consolidated financial statements.

STONERIDGE, INC. AND SUBSIDIARIES**NOTES TO CONSOLIDATED FINANCIAL STATEMENTS****(in thousands, except share and per share data, unless otherwise indicated)****1. Organization and Nature of Business**

Stoneridge, Inc. and its subsidiaries are global designers and manufacturers of highly engineered electrical and electronic systems, components and modules for the automotive, commercial, off-highway and agricultural vehicle markets.

2. Summary of Significant Accounting Policies**Basis of Presentation**

The accompanying consolidated financial statements include the accounts of Stoneridge, Inc. and its wholly-owned subsidiaries (collectively, the "Company"). Intercompany transactions and balances have been eliminated in consolidation. The Company analyzes its ownership interests in accordance with Accounting Standards Codification ("ASC") "Consolidations (Topic 810)" to determine whether they are a variable interest entity and, if so, whether the Company is the primary beneficiary.

Prior to the sale of our investment in Minda Stoneridge Instruments Ltd. ("MSIL") on December 30, 2021, the Company accounted for its 49 % ownership in MSIL under the equity method of accounting.

Accounting Estimates

The preparation of financial statements in conformity with U.S. Generally Accepted Accounting Principles ("GAAP") requires management to make estimates and assumptions that affect the reported amounts of assets and liabilities, including certain self-insured risks and liabilities, disclosure of contingent assets and liabilities at the date of the consolidated financial statements and the reported amounts of revenues and expenses during the reporting period. Because actual results could differ from those estimates, the Company revises its estimates and assumptions as new information becomes available.

Cash and Cash Equivalents

The Company's cash and cash equivalents include actively traded money market funds with short-term investments in marketable securities, primarily U.S. government securities. Cash and cash equivalents are stated at cost, which approximates fair value, due to the highly liquid nature and short-term duration of the underlying securities with original maturities of 90 days or less.

Accounts Receivable and Concentration of Credit Risk

Revenues are principally generated from the automotive, commercial, off-highway and agricultural vehicle markets. The Company's largest customers are PACCAR and Traton, primarily related to the Electronics reportable segment and accounted for the following percentages of consolidated net sales:

	2023	2022	2021
PACCAR	16 %	15 %	6 %
Traton	15 %	11 %	9 %

Accounts receivable are recorded at the invoice price, net of an estimate of allowance for doubtful accounts and other reserves.

Allowance for Doubtful Accounts

The Company evaluates the collectability of accounts receivable based on a combination of factors. In circumstances where the Company is aware of a specific customer's inability to meet its financial obligations, a specific allowance for doubtful accounts is recorded against amounts due to reduce the net recognized receivable to the amount the Company reasonably believes will be collected. Additionally, the Company reviews historical trends for collectability in determining an estimate for its allowance for doubtful accounts. If economic circumstances change substantially, estimates of the recoverability of amounts due to the Company could be reduced by a material amount. The Company does not have collateral requirements with its customers.

STONERIDGE, INC. AND SUBSIDIARIES
NOTES TO CONSOLIDATED FINANCIAL STATEMENTS

(in thousands, except share and per share data, unless otherwise indicated)

Inventories

Inventories are valued at the lower of cost (using either the first-in, first-out ("FIFO") or average cost methods) or net realizable value. The Company evaluates and adjusts as necessary its excess and obsolescence reserve on a quarterly basis. Excess inventories are quantities of items that exceed anticipated sales or usage for a reasonable period. The Company has guidelines for calculating provisions for excess inventories based on the number of months of inventories on hand compared to anticipated sales or usage. Management uses its judgment to forecast sales or usage and to determine what constitutes a reasonable period. Inventory cost includes material, labor and overhead. Inventories consist of the following:

December 31	2023	2022
Raw materials	\$ 142,744	\$ 121,983
Work-in-progress	11,907	7,812
Finished goods	33,107	22,785
Total inventories, net	\$ 187,758	\$ 152,580

Inventory valued using the FIFO method was \$ 176,033 and \$ 139,996 at December 31, 2023 and 2022, respectively. Inventory valued using the average cost method was \$ 11,725 and \$ 12,584 at December 31, 2023 and 2022, respectively.

Long Term Supply Commitment

In 2022, the Company entered into a long term supply agreement with a supplier for the purchase of certain electronic semiconductor components through December 31, 2026. Pursuant to the agreement, the Company paid capacity deposits of \$ 1,000 in 2022 and 2023, respectively. The capacity deposits are recognized in prepaid and other current assets on our consolidated balance sheet. This long term supply agreement requires the Company to purchase minimum annual volumes while requiring the supplier to sell these components at a fixed price. The Company purchased \$ 6,028 and \$ 1,174 of these components during the years ended December 31, 2023 and 2022, respectively. The Company is required to purchase \$ 7,828 , \$ 10,764 and \$ 10,764 of components in each of the years 2024 through 2026, respectively.

Pre-production Costs Related to Long-term Supply Arrangements

Engineering, research and development and other design and development costs for products sold on long-term supply arrangements are expensed as incurred unless the Company has a contractual guarantee for reimbursement from the customer which are capitalized as pre-production costs. Costs for molds, dies and other tools used to make products sold on long-term supply arrangements for which the Company either has title to the assets or has the noncancelable right to use the assets during the term of the supply arrangement are capitalized in property, plant and equipment and amortized to cost of sales over the shorter of the term of the arrangement or over the estimated useful lives of the assets, typically three to seven years . Costs for molds, dies and other tools used to make products sold on long-term supply arrangements for which the Company has a contractual guarantee to a lump sum reimbursement from the customer are capitalized either as a component of prepaid expenses and other current assets or an investment and other long-term assets, net within the consolidated balance sheets. Capitalized pre-production costs were \$ 12,378 and \$ 19,539 at December 31, 2023 and 2022, respectively, and were recorded as a component of prepaid expenses and other current assets on the consolidated balance sheets.

Disposal of Particulate Matter Sensor Business

On March 8, 2021, the Company entered into an Asset Purchase Agreement (the "APA") by and among the Company, the Company's wholly owned subsidiary, Stoneridge Electronics AS, as the Sellers, and Standard Motor Products, Inc. ("SMP") and SMP Poland SP Z O.O., as the Buyers. Pursuant to the APA, the Company agreed to sell to the Buyers the Company's assets located in Lexington, Ohio and Tallinn, Estonia related to the manufacturing of particulate matter sensor products and related service part operations (together, the "PM sensor business"). The Buyers did not acquire any of the Company's locations or employees. The purchase price for the sale of the PM sensor assets was \$ 4,000 (subject to a post-closing inventory adjustment which was a payment to SMP of \$ 1,133) plus the assumption of certain liabilities. The purchase price was allocated among PM sensor product lines, Gen 1 and Gen 2 as defined under the APA. The purchase price allocated to Gen 1 fixed assets and inventory and Gen 2 fixed assets was \$ 3,214 and \$ 786 , respectively. The sale of the Gen 2 assets occurred during November 2021, upon completion of the Company's supply commitments to certain customers. The Company and SMP also entered into certain ancillary agreements, including a contract manufacturing agreement, a transitional services agreement, and a supply agreement, pursuant to which the Company provided and was compensated for certain manufacturing, transitional, administrative and support services to SMP on a short-term basis.

STONERIDGE, INC. AND SUBSIDIARIES
NOTES TO CONSOLIDATED FINANCIAL STATEMENTS
(in thousands, except share and per share data, unless otherwise indicated)

On March 8, 2021 the Company's Control Devices segment recognized net sales and cost of goods sold ("COGS") of \$ 971 and \$ 898 , respectively, for the one-time sale of Gen 1 inventory and a gain on disposal of \$ 740 for the sale of Gen 1 fixed assets less transaction costs of \$ 60 within selling, general and administrative ("SG&A") during the three months ended March 31, 2021.

Pursuant to the contract manufacturing agreement, the Company produced and sold PM sensor Gen 1 finished goods inventory to SMP recognizing net sales of \$ 8,042 in the year ended December 31, 2021. In addition, the Company received \$ 308 and \$ 783 for services provided pursuant to the transition services agreement which were recognized as a reduction in SG&A for the years ended December 31, 2022 and 2021, respectively.

PM sensor Gen 1 net sales, including sales of \$ 8,042 to SMP pursuant to the contract manufacturing agreement and the sale of Gen 1 inventory components of \$ 2,283 and operating income were \$ 12,592 and \$ 1,415 , respectively, for the year ended December 31, 2021.

The Company completed the PM sensor Gen 2 product supply commitments and ended production on September 23, 2021. In November 2021, the Company's Control Devices segment recognized proceeds of \$ 786 and a gain on disposal of \$ 408 for the sale of the Gen 2 fixed assets within SG&A, for the year ended December 31, 2021.

Sale of Canton Facility

On May 7, 2021, the Company entered into a Real Estate Purchase and Sale Agreement (the "Agreement") with Sun Life Assurance Company of Canada, a Canadian corporation (the "Buyer"), to sell the Canton Facility for \$ 38,200 (subject to adjustment pursuant to the Agreement).

On June 17, 2021, pursuant to the Agreement, as amended after May 7, 2021, the Company closed the sale of the Canton Facility to the Buyer for an adjusted purchase price of \$ 37,900 . The Company recognized in the Control Devices segment, net proceeds of \$ 35,167 and a gain, net of direct selling costs, of \$ 30,718 within SG&A.

Sale of MSIL

On November 2, 2021, the Company entered into a Share Purchase Agreement (the "SPA") with Minda Corporation Limited ("Minda"), as the buyer, and MSIL. Pursuant to the SPA the Company agreed to sell to Minda the Company's minority interest in MSIL for approximately \$ 21,500 equivalent Indian Rupee which was payable in U.S. dollars at closing.

On December 30, 2021, pursuant to the SPA, the Company closed the sale of MSIL to Minda for \$ 21,587 . The Company recognized net proceeds of \$ 20,999 and a gain, net of transaction costs, of \$ 1,794 .

Property, Plant and Equipment

Property, plant and equipment are recorded at cost and consist of the following:

December 31	2023	2022
Land and land improvements	\$ 3,133	\$ 3,030
Buildings and improvements	32,097	29,703
Machinery and equipment	254,738	247,237
Office furniture and fixtures	9,708	9,100
Tooling	47,191	42,950
Information technology	36,853	32,584
Vehicles	789	783
Leasehold improvements	5,249	5,199
Construction in progress	27,589	20,676
Total property, plant, and equipment	417,347	391,262
Less: accumulated depreciation	(307,221)	(286,619)
Property, plant and equipment, net	\$ 110,126	\$ 104,643

STONERIDGE, INC. AND SUBSIDIARIES**NOTES TO CONSOLIDATED FINANCIAL STATEMENTS****(in thousands, except share and per share data, unless otherwise indicated)**

Depreciation is provided using the straight-line method over the estimated useful lives of the assets. Depreciation expense for the years ended December 31, 2023, 2022 and 2021 was \$ 26,697 , \$ 26,687 and \$ 27,823 , respectively. Depreciable lives within each property classification are as follows:

Buildings and improvements	10 - 40 years
Machinery and equipment	3 - 10 years
Office furniture and fixtures	3 - 10 years
Tooling	2 - 7 years
Information technology	3 - 7 years
Vehicles	3 - 7 years
Leasehold improvements	shorter of lease term or 3 - 10 years

Maintenance and repair expenditures that are not considered improvements and do not extend the useful life of the property, plant and equipment are charged to expense as incurred. Expenditures for improvements and major renewals are capitalized. When assets are retired or otherwise disposed of, the related cost and accumulated depreciation are removed from the accounts, and any gain or loss on the disposition is recorded in the consolidated statements of operations as a component of SG&A expenses.

Impairment of Long-Lived or Finite-Lived Assets

The Company reviews the carrying value of its long-lived assets and finite-lived intangible assets for impairment when events or circumstances indicate that their carrying value may not be recoverable. Factors the Company considers important that could trigger testing of the related asset groups for an impairment include current period operating or cash flow losses combined with a history of operating or cash flow losses, a projection or forecast that demonstrates continuing losses, significant adverse changes in the business climate within a particular business or current expectations that a long-lived asset will be sold or otherwise disposed of significantly before the end of its estimated useful life. To test for impairment, the estimated undiscounted cash flows expected to be generated from the use and disposal of the asset or asset group is compared to its carrying value. An asset group is established by identifying the lowest level of cash flows generated by the group of assets that are largely independent of cash flows of other assets. If cash flows cannot be separately and independently identified for a single asset, we will determine whether an impairment has occurred for the group of assets for which we can identify projected cash flows. If these undiscounted cash flows are less than their respective carrying values, an impairment charge would be recognized to the extent that the carrying values exceed estimated fair values. The estimation of undiscounted cash flows and fair value requires us to make assumptions regarding future operating results over the life of the asset or the life of the primary asset in the asset group. The results of the impairment testing are dependent on these estimates which require judgment. The occurrence of certain events, including changes in economic and competitive conditions, could impact cash flows eventually realized and management's ability to accurately assess whether an asset is impaired.

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

The total purchase price associated with acquisitions is allocated to the acquisition date fair values of identifiable assets acquired and liabilities assumed with the excess purchase price assigned to goodwill.

Goodwill was \$ 35,295 and \$ 34,225 at December 31, 2023 and 2022, respectively, all of which relates to the Electronics segment. Goodwill is not amortized, but instead is tested for impairment at least annually, or earlier when events and circumstances indicate that it is more likely than not that such assets have been impaired, by applying a fair value-based test. In conducting our annual impairment assessment testing, we first perform a qualitative assessment of whether it is more likely than not that a reporting unit's fair value is less than its carrying amount. If not, no further goodwill impairment testing is performed. If it is more likely than not that a reporting unit's fair value is less than its carrying amount, or if we elect not to perform a qualitative assessment of a reporting unit, we then compare the fair value of the reporting unit to the related net book value. If the net book value of a reporting unit exceeds its fair value, an impairment loss is measured and recognized.

STONERIDGE, INC. AND SUBSIDIARIES
NOTES TO CONSOLIDATED FINANCIAL STATEMENTS

(in thousands, except share and per share data, unless otherwise indicated)

The Company utilizes an income statement approach to estimate the fair value of a reporting unit and a market valuation approach to further support this analysis. The income approach is based on projected debt-free cash flow which is discounted to the present value using discount factors that consider the timing and risk of cash flows. We believe that this approach is appropriate because it provides a fair value estimate based on the reporting unit's expected long-term operating cash flow performance. This approach also mitigates the impact of cyclical trends that occur in the industry. Fair value is estimated using internally developed forecasts, as well as commercial and discount rate assumptions. The discount rate used is the value-weighted average of our estimated cost of equity and of debt ("cost of capital") derived using both known and estimated customary market metrics. Our weighted average cost of capital is adjusted to reflect a risk factor, if necessary. Other significant assumptions include terminal value growth rates, terminal value margin rates, future capital expenditures and changes in future working capital requirements. While there are inherent uncertainties related to the assumptions used and to management's application of these assumptions to this analysis, we believe that the income statement approach provides a reasonable estimate of the fair value of a reporting unit. The market valuation approach is used to further support our analysis. There was no impairment of goodwill for the years ended December 31, 2023, 2022 or 2021.

Goodwill and changes in the carrying amount of goodwill for the Electronics segment for the years ended December 31, 2023 and 2022 were as follows:

	2023	2022
Balance at January 1	\$ 34,225	\$ 36,387
Currency translation	1,070	(2,162)
Balance at December 31	\$ 35,295	\$ 34,225

The Company's cumulative goodwill impairment loss since inception was \$ 300,083 at December 31, 2023 and 2022, which includes Stoneridge Brazil's goodwill impairment in 2014 and goodwill impairment recorded by the Company's Control Devices segment in 2008 and 2004.

Other Intangible Assets

Other intangible assets, net at December 31, 2023 and 2022 consisted of the following:

As of December 31, 2023	Acquisition cost	Accumulated amortization	Net
Customer lists	\$ 46,393	\$ (27,580)	\$ 18,813
Tradenames	17,423	(9,118)	8,305
Technology and patents	13,636	(11,098)	2,538
Capitalized software development	23,023	(5,365)	17,658
Total	\$ 100,475	\$ (53,161)	\$ 47,314

As of December 31, 2022	Acquisition cost	Accumulated amortization	Net
Customer lists	\$ 44,394	\$ (23,355)	\$ 21,039
Tradenames	16,430	(7,761)	8,669
Technology and patents	12,921	(10,100)	2,821
Capitalized software development	15,591	(2,612)	12,979
Total	\$ 89,336	\$ (43,828)	\$ 45,508

Other intangible assets, net at December 31, 2023 for customer lists, tradenames, technology and patents, and capitalized software development include \$ 15,161 , \$ 3,439 , \$ 396 and \$ 15,509 , respectively, related to the Electronics segment. Customer lists, tradenames and technology of \$ 3,652 , \$ 4,866 and \$ 2,082 , respectively, related to the Stoneridge Brazil segment at December 31, 2023. Capitalized software development and patents of \$ 2,149 and \$ 60 , respectively, related to the Control Devices segment at December 31, 2023.

The Company designs and develops software that will be embedded into certain products and sold to customers. Software development costs are capitalized after the software product development reaches technological feasibility and until the software product becomes available for general release to customers. These intangible assets are amortized using the straight-line method over estimated useful lives generally ranging from three to seven years .

STONERIDGE, INC. AND SUBSIDIARIES**NOTES TO CONSOLIDATED FINANCIAL STATEMENTS****(in thousands, except share and per share data, unless otherwise indicated)**

The Company recognized \$ 6,942 , \$ 7,003 and \$ 6,006 of amortization expense related to intangible assets in 2023, 2022 and 2021, respectively. Amortization expense is included as a component of COGS, SG&A and design and development ("D&D") on the consolidated statements of operations. Annual amortization expense for intangible assets is estimated to be approximately \$ 8,700 for the year 2024 and approximately \$ 7,000 for the years 2025 through 2028. The weighted-average remaining amortization period is approximately 7 years.

There were no intangible impairment charges for the years ended December 31, 2023, 2022 or 2021.

Accrued Expenses and Other Current Liabilities

Accrued expenses and other current liabilities consist of the following:

As of December 31	2023	2022
Compensation related liabilities	\$ 23,941	\$ 19,015
Product warranty and recall obligations	14,381	9,040
Other ^(A)	25,881	37,985
Total accrued expenses and other current liabilities	<u>\$ 64,203</u>	<u>\$ 66,040</u>

(A) "Other" is comprised of miscellaneous accruals, none of which individually contributed a significant portion of the total.

Income Taxes

The Company accounts for income taxes using the liability method. Deferred income taxes reflect the tax consequences on future years of differences between the tax basis of assets and liabilities and their financial reporting amounts. Future tax benefits are recognized to the extent that realization of such benefits is more likely than not to occur. The effect of a change in tax rates on deferred tax assets and liabilities is recognized in the period that includes the enactment date.

Deferred tax assets are recognized to the extent that these assets are more likely than not to be realized (See Note 6). In making such a determination, the Company considers all available positive and negative evidence, including future release of existing taxable temporary differences, projected future taxable income, tax planning strategies, and results of recent operations. Certain deferred tax assets are dependent on future taxable income to be realized. Release of some or all of a valuation allowance would result in the recognition of certain deferred tax assets and a decrease to income tax expense for the period the release is recorded.

The Company's policy is to provide for uncertain tax positions and the related interest and penalties based upon management's assessment of whether a tax benefit is more likely than not to be sustained upon examination by tax authorities. To the extent the Company prevails in matters for which a liability for an unrecognized tax benefit is established or is required to pay amounts in excess of the liability, the Company's effective tax rate in a given financial statement period may be affected. The Company adjusts this liability in the period in which an uncertain tax position is effectively settled, the statute of limitations expires for the relevant taxing authority to examine the tax position, or more information becomes available.

The Company has made an accounting policy election to reflect global intangible low-taxed income ("GILTI") taxes, if any, as a current period tax expense when incurred.

Currency Translation

The financial statements of foreign subsidiaries, where the local currency is the functional currency, are translated into U.S. dollars using exchange rates in effect at the period end for assets and liabilities and average exchange rates during each reporting period for the results of operations. Adjustments resulting from translation of financial statements are reflected as a component of accumulated other comprehensive loss in the Company's consolidated balance sheets.

Foreign currency transactions are remeasured into the functional currency using translation rates in effect at the time of the transaction with the resulting adjustments included on the consolidated statements of operations within other expense, net. These foreign currency transaction losses, including the impact of hedging activities, were \$ 1,226 , \$ 5,534 and \$ 2,037 for the years ended December 31, 2023, 2022 and 2021, respectively.

STONERIDGE, INC. AND SUBSIDIARIES
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Revenue Recognition and Sales Commitments

The Company recognizes revenue when obligations under the terms of a contract with our customer are satisfied; generally this occurs with the transfer of control of our products and services, which is usually when the parts are shipped or delivered to the customer's premises. The Company recognizes monitoring service revenues over time, as the services are provided to customers. Revenue is measured as the amount of consideration we expect to receive in exchange for transferring goods or providing services. The transaction price will include estimates of variable consideration to the extent it is probable that a significant reversal of revenue recognized will not occur. Incidental items that are not significant in the context of the contract are recognized as expense. The Company collects certain taxes and fees on behalf of government agencies and remits such collections on a periodic basis. The taxes are collected from customers but are not included in net sales. Estimated returns are based on historical authorized returns. The Company often enters into agreements with its customers at the beginning of a given vehicle's expected production life. Once such agreements are entered into, it is the Company's obligation to fulfill the customers' purchasing requirements for the entire production life of the vehicle. These agreements are subject to potential renegotiation from time to time, which may affect product pricing. See Note 3 for additional disclosure.

Shipping and Handling Costs

Shipping and handling costs are included in COGS on the consolidated statements of operations.

Product Warranty and Recall Reserves

Amounts accrued for product warranty and recall claims are established based on the Company's best estimate of the amounts necessary to settle existing and future claims on products sold as of the balance sheet dates. These accruals are based on several factors including past experience, production changes, industry developments and various other considerations. Our estimate is based on historical trends of units sold and claim payment amounts, combined with our current understanding of the status of existing claims, forecasts of the resolution of existing claims, expected future claims on products sold and commercial discussions with our customers. The key factors in our estimate are the warranty period and the customer source. The Company can provide no assurances that it will not experience material claims or that it will not incur significant costs to defend or settle such claims beyond the amounts accrued. The current portion of the product warranty and recall reserve is included as a component of accrued expenses and other current liabilities on the consolidated balance sheets. Product warranty and recall includes \$ 7,228 and \$ 4,437 of a long-term liability at December 31, 2023 and 2022, respectively, which is included as a component of other long-term liabilities on the consolidated balance sheets.

During the second quarter of 2023, the Company received a request for arbitration of warranty claims related to past sales of PM sensor products, a product line we exited in 2019. The claim notification was submitted by one of our customers seeking recovery for warranty related claims. Based on our review of the technical merits and specific claims as well as prior discussions with the customer, we believe these claims lack merit and are significantly overstated. While no assurances can be made as to the ultimate outcome of this matter, or any other future claims, we do not currently believe a material loss is probable.

The following provides a reconciliation of changes in the product warranty and recall reserve:

Year ended December 31,	2023	2022
Product warranty and recall at beginning of period	\$ 13,477	\$ 9,846
Accruals for warranties established during period	15,057	9,917
Aggregate changes in pre-existing liabilities due to claim developments	1,199	1,502
Settlements made during the period	(8,639)	(7,351)
Foreign currency translation	516	(437)
Product warranty and recall at end of period	<u>\$ 21,610</u>	<u>\$ 13,477</u>

Design and Development Costs

Expenses associated with the development of new products, and changes to existing products, other than capitalized software development costs, are charged to expense as incurred, and are included in the Company's consolidated statements of operations as a separate component of costs and expenses. These product development costs amounted to \$ 71,075 , \$ 65,296 and \$ 66,165 for the years ended December 31, 2023, 2022 and 2021, respectively, or 7.3 %, 7.3 % and 8.6 % of net sales for these respective periods.

STONERIDGE, INC. AND SUBSIDIARIES**NOTES TO CONSOLIDATED FINANCIAL STATEMENTS**

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Research and Development Activities

The Company enters into research and development contracts with certain customers, which generally provide for reimbursement of costs. The Company incurred and was reimbursed for contracted research and development costs of \$ 18,809 , \$ 23,784 and \$ 15,849 for the years ended December 31, 2023, 2022 and 2021, respectively.

Share-Based Compensation

At December 31, 2023, the Company had two share-based compensation plans: (1) 2016 Long-Term Incentive Plan for employees and (2) the 2018 Amended and Restated Directors' Restricted Shares Plan, for non-employee directors. See Note 8 for additional details on share-based compensation plans.

Total compensation expense recognized as a component of SG&A expense on the consolidated statements of operations for share-based compensation arrangements was \$ 3,322 , \$ 5,942 and \$ 5,960 for the years ended December 31, 2023, 2022 and 2021, respectively. There was no share-based compensation expense capitalized in inventory during 2023, 2022 or 2021. Share-based compensation expense is calculated using estimated volatility and forfeitures based on historical data, future expectations and the expected term of the share-based compensation awards.

Financial Instruments and Derivative Financial Instruments

Financial instruments, including derivative financial instruments, held by the Company include cash and cash equivalents, accounts receivable, accounts payable, long-term debt and foreign currency forward contracts. The carrying value of cash and cash equivalents, accounts receivable and accounts payable is considered to be representative of fair value because of the short maturity of these instruments. See Note 10 for fair value disclosures of the Company's financial instruments.

Common Shares Held in Treasury

The Company accounts for Common Shares held in treasury under the cost method (applied on a FIFO basis) and includes such shares as a reduction of total shareholders' equity.

(Loss) Earnings Per Share

Basic (loss) earnings per share was computed by dividing net (loss) income by the weighted-average number of Common Shares outstanding for each respective period. Diluted earnings per share was calculated by dividing net (loss) income by the weighted-average of all potentially dilutive Common Shares that were outstanding during the periods presented. However, for all periods in which the Company recognized a net loss, the Company did not recognize the effect of the potential dilutive securities as their inclusion would be anti-dilutive. Potential dilutive shares of 227,741 and 232,458 for the years ended December 31, 2023 and December 31, 2022, respectively, were excluded from diluted loss per share because the effect would have been anti-dilutive.

Actual weighted-average Common Shares outstanding used in calculating basic and diluted net (loss) income per share were as follows:

Year ended December 31,	2023	2022	2021
Basic weighted-average Common Shares outstanding	27,442,984	27,258,456	27,114,359
Effect of dilutive shares	—	—	301,175
Diluted weighted-average Common Shares outstanding	27,442,984	27,258,456	27,415,534

There were 418,834 , 767,593 and 580,116 performance-based right to receive Common Shares outstanding at December 31, 2023, 2022 and 2021. These performance-based restricted and right to receive Common Shares are included in the computation of diluted earnings per share based on the number of Common Shares that would be issuable if the end of the year were the end of the contingency period.

Deferred Financing Costs, net

Deferred financing costs are amortized over the life of the related financial instrument using the straight-line method, which approximates the effective interest method. Deferred financing cost amortization and debt discount accretion, for the years ended December 31, 2023, 2022 and 2021 was \$ 1,190 , \$ 1,051 and \$ 643 , respectively, and is included as a component of interest expense, net in the consolidated statements of operations. In 2022, the Company capitalized \$ 484 of deferred financing costs as a result of entering into Amendment No. 3 to the Fourth Amended and Restated Credit Facility. In connection with Amendment No. 3, the Company wrote off a portion of the previously recorded deferred financing costs of \$ 365 in interest expense, net during the year ended December 31, 2022. In 2023, the Company capitalized \$ 332 of deferred financing costs as a resulting of entering into Amendment No. 4 to the Fourth Amended and Restated Credit Facility.

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Additionally 2023, the Company capitalized \$ 1,915 of deferred financing costs and wrote off \$ 309 of previously recorded deferred financing costs as a result of entering into the Fifth Amended and Restated Credit Agreement. See Note 5 to the consolidated financial statements for additional details regarding the Credit Facility and related deferred financing costs. The Company has elected to continue to present deferred financing costs within long-term assets in the Company's consolidated balance sheets. Deferred financing costs, net, were \$ 2,057 and \$ 996 , as of December 31, 2023 and 2022, respectively.

Changes in Accumulated Other Comprehensive Income (Loss) by Component

Changes in accumulated other comprehensive income (loss) for the years ended December 31, 2023 and 2022 were as follows:

	Foreign currency translation	Unrealized gain (loss) on derivatives	Total
Balance at January 1, 2023	\$ (103,374)	\$ 232	\$ (103,142)
Other comprehensive income before reclassifications	9,118	1,817	10,935
Amounts reclassified from accumulated other comprehensive loss	—	(581)	(581)
Net other comprehensive income, net of tax	9,118	1,236	10,354
Balance at December 31, 2023	\$ (94,256)	\$ 1,468	\$ (92,788)
Balance at January 1, 2022	\$ (97,203)	\$ 179	\$ (97,024)
Other comprehensive (loss) income before reclassifications	(6,171)	1,816	(4,355)
Amounts reclassified from accumulated other comprehensive loss	—	(1,763)	(1,763)
Net other comprehensive (loss) income, net of tax	(6,171)	53	(6,118)
Balance at December 31, 2022	\$ (103,374)	\$ 232	\$ (103,142)

Reclassifications

Certain prior period amounts have been reclassified to conform to their 2023 presentation in the consolidated financial statements.

Recently Adopted Accounting Standards

In March 2020, the Financial Accounting Standards Board ("FASB") issued Accounting Standards Update ("ASU") 2020-04, "Reference Rate Reform (Topic 848) – Facilitation of the Effects of Reference Rate Reform on Financial Reporting." The guidance in ASU 2020-04 provides temporary optional expedient and exceptions to the guidance in U.S. GAAP on contract modifications and hedge accounting to ease the financial reporting burdens related to expected market transition from the London Interbank Offered Rate ("LIBOR") and other interbank offered rates to alternative reference rates, such as the Secured Overnight Financing Rate ("SOFR") (also known as the "reference rate reform"). The guidance allows companies to elect not to apply certain modification accounting requirements to contracts affected by the reference rate reform, if certain criteria are met. The guidance will also allow companies to elect various optional expedients which would allow them to continue to apply hedge accounting for hedging relationships affected by the reference rate reform, if certain criteria are met. The new standard was effective upon issuance and generally can be applied to applicable contract modifications through December 31, 2023.

In February 2022, the Company amended its credit facility to incorporate hardwired mechanics to permit a future replacement of LIBOR as the interest reference rate without lender consent. The Company has applied the guidance to impacted transactions during the transition period. The adoption of this standard did not have a material impact on the Company's consolidated financial statements.

Recently Issued Accounting Standards Not Yet Adopted as of December 31, 2023

In November 2023, the FASB issued ASU No. 2023-07, "Segment Reporting (Topic 280) – Improvements to Reportable Segment Disclosures", which expands annual and interim disclosure requirements for reportable segments, primarily through enhanced disclosures about significant segment expenses. The updated standard is effective for annual periods beginning in fiscal 2025 and interim periods beginning in the first quarter of fiscal 2026. Early adoption is permitted. We are currently evaluating the impact that the updated standard will have on our financial statement disclosures.

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In December 2023, the FASB issued ASU No. 2023-09, "Income Taxes (Topic 740) – Improvements to Income Tax Disclosures," which requires companies to disclose, on an annual basis, specific categories in the effective tax rate reconciliation and provide additional information for reconciling items that meet a quantitative threshold. In addition, companies are required to disclose additional information about income taxes paid. The standard is effective for fiscal years beginning after December 15, 2024, with early adoption permitted. The standard is to be adopted on a prospective basis; however, retrospective application is permitted. We are currently evaluating the impact on our annual consolidated financial statement disclosures.

3. Revenue

Revenue is recognized when obligations under the terms of a contract with our customer are satisfied; generally this occurs with the transfer of control of our products and services, which is usually when the parts are shipped or delivered to the customer's premises. Revenue is measured as the amount of consideration we expect to receive in exchange for transferring goods or providing services. The transaction price will include estimates of variable consideration to the extent it is probable that a significant reversal of revenue recognized will not occur. Incidental items that are not significant in the context of the contract are recognized as expense. The expected costs associated with our base warranties are recognized as expense when the products are sold. Customer returns only occur if products do not meet the specifications of the contract and are not connected to any repurchase obligations of the Company.

The Company does not have any financing components or significant payment terms as payment occurs shortly after the point of sale. Taxes assessed by a governmental authority that are both imposed on and concurrent with a specific revenue-producing transaction that are collected by the Company from a customer are excluded from revenue. Amounts billed to customers related to shipping and handling costs are included in net sales in the consolidated statements of operations. Shipping and handling costs associated with outbound freight after control over a product is transferred to the customer are accounted for as a fulfillment cost and are included in cost of sales.

Revenue by Reportable Segment

Control Devices. Our Control Devices segment designs and manufactures products that monitor, measure or activate specific functions within a vehicle. This segment includes product lines such as actuators, sensors, switches and connectors. We sell these products principally to the automotive market in the North American and Asia Pacific regions. To a lesser extent, we also sell these products to the commercial vehicle and agricultural markets in the North American and Asia Pacific regions. Our customers included in these markets primarily consist of original equipment manufacturers ("OEM") and companies supplying components directly to the OEMs ("Tier 1 supplier").

Electronics. Our Electronics segment designs and manufactures driver information systems, vision and safety systems, connectivity and compliance products and electronic control units. These products are sold principally to the commercial and off-highway vehicle markets primarily through our OEM and aftermarket channels in the European, North American and Asia Pacific regions.

Stoneridge Brazil. Our Stoneridge Brazil segment primarily serves the South American region and specializes in the design, manufacture and sale of vehicle tracking devices and monitoring services, vehicle security alarms and convenience accessories, in-vehicle audio and infotainment devices, driver information systems and telematics solutions. Stoneridge Brazil sells its products through the aftermarket distribution channel, to factory authorized dealer installers, also referred to as original equipment services and directly to OEMs. In addition, monitoring services and tracking devices are sold directly to corporate customers and individual consumers.

The following tables disaggregate our revenue by reportable segment and geographical location⁽¹⁾ for the periods ended December 31, 2023, 2022 and 2021:

Year ended December 31,	Control Devices			Electronics			Stoneridge Brazil			Consolidated		
	2023	2022	2021	2023	2022	2021	2023	2022	2021	2023	2022	2021
Net Sales:												
North America	\$ 290,213	\$ 291,808	\$ 282,525	\$ 205,328	\$ 153,120	\$ 104,419	\$ —	\$ —	\$ —	\$ 495,541	\$ 444,928	\$ 386,944
South America	—	—	—	—	—	—	57,214	52,230	56,777	57,214	52,230	56,777
Europe	—	—	12,681	360,682	347,129	248,468	—	—	—	360,682	347,129	261,149
Asia Pacific	51,852	50,788	60,569	10,529	4,848	5,023	—	—	—	62,381	55,636	65,592
Total net sales	\$ 342,065	\$ 342,596	\$ 355,775	\$ 576,539	\$ 505,097	\$ 357,910	\$ 57,214	\$ 52,230	\$ 56,777	\$ 975,818	\$ 899,923	\$ 770,462

⁽¹⁾ Company sales based on geographic location are where the sale originates not where the customer is located.

STONERIDGE, INC. AND SUBSIDIARIES

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Performance Obligations

For OEM and Tier 1 supplier customers, the Company typically enters into contracts to provide serial production parts that consist of a set of documents including, but not limited to, an award letter, master purchase agreement and master terms and conditions. For each production product, the Company enters into separate purchase orders that contain the product specifications and an agreed-upon price. The performance obligation does not exist until a customer release is received for a specific number of parts. The majority of the parts sold to OEM and Tier 1 supplier customers are customized to the specific customer, with the exception of MirrorEye camera monitor systems ("CMS") sold through our aftermarket channel that are common across all customers. The transaction price is equal to the contracted price per part and there is no expectation of material variable consideration in the transaction price. For most customer contracts, the Company does not have an enforceable right to payment at any time prior to when the parts are shipped or delivered to the customer; therefore, the Company recognizes revenue at the point in time it satisfies a performance obligation by transferring control of a part to the customer. Certain customer contracts contain an enforceable right to payment if the customer terminates the contract for convenience and therefore are recognized over time using the cost to complete input method.

Our aftermarket products are focused on meeting the demand for safety and compliance parts and accessories as well as repair and replacement parts and are sold primarily to aftermarket distributors and direct to consumers in our South American, European and North American markets. Aftermarket products have one type of performance obligation which is the delivery of aftermarket parts and spare parts. For aftermarket customers, the Company typically has standard terms and conditions for all customers. In addition, aftermarket products have alternative use as they can be sold to multiple customers. Revenue for aftermarket part production contracts is recognized at a point in time when the control of the parts transfer to the customer which is based on the shipping terms. Aftermarket contracts may include variable consideration related to discounts, rebates and extended warranties which are included in the transaction price upon recognizing the product revenue.

A small portion of the Company's sales are comprised of monitoring services that include both monitoring devices and fees to individual, corporate, fleet and cargo customers in our Stoneridge Brazil segment. These monitoring service contracts are generally not capable of being distinct and are accounted for as a single performance obligation. We recognize revenue for our monitoring products and services contracts over the life of the contract. There is no variable consideration associated with these contracts. The Company has the right to consideration from a customer in the amount that corresponds directly with the value to the customer of the Company's performance to date. Therefore, the Company recognizes revenue over time using the practical expedient ASC 606-10-55-18 in the amount the Company has a "right to invoice" rather than selecting an output or input method.

Contract Balances

The Company had no material contract assets, contract liabilities or capitalized contract acquisition costs as of December 31, 2023 or 2022.

4. Investments

Minda Stoneridge Instruments Ltd.

The Company had a 49 % equity interest in MSIL, a company based in India that manufactured electronics, instrumentation equipment and sensors primarily for the motorcycle, commercial vehicle and automotive markets. As discussed in Note 2, the Company sold its equity interest in MSIL on December 30, 2021. The investment was accounted for under the equity method of accounting. Equity in earnings of MSIL included in the consolidated statements of operations was \$ 1,776 for the year ended December 31, 2021.

PST Eletrônica Ltda.

The Company had a 74 % controlling interest in Stoneridge Brazil from December 31, 2011 through May 15, 2017. On May 16, 2017, the Company acquired the remaining 26 % noncontrolling interest in Stoneridge Brazil. As part of the acquisition agreement, the Company was required to pay additional earn-out consideration based on Stoneridge Brazil's financial performance in 2021. The final earn-out consideration of \$ 8,272 was paid in the second quarter of 2022. See Note 10 for the fair value and foreign currency adjustments of the earn-out consideration for the current and prior periods.

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Other Investments

In December 2018, the Company entered into an agreement to make a \$ 10,000 investment in a fund ("Autotech Fund II") managed by Autotech Ventures ("Autotech"), a venture capital firm focused on ground transportation technology which is accounted for under the equity method of accounting. The Company's \$ 10,000 investment in the Autotech Fund II will be contributed over the expected ten-year life of the fund. The Company has contributed \$ 8,400 to the Autotech Fund II as of December 31, 2023. The Company contributed \$ 350 and \$ 950 to the Autotech Fund II during the years ended December 31, 2023 and 2022, respectively. The Company contributed \$ 3,450 to and received \$ 251 in distributions from the Autotech Fund II during the year ended December 31, 2021. The Company has a 6.6 % interest in Autotech Fund II. The Company recognized loss (earnings) of \$ 522 , \$ 823 and \$(1,882) during the years ended December 31, 2023, 2022 and 2021, respectively. The Autotech Fund II investment recorded in investments and other long-term assets, net in the consolidated balance sheets was \$ 8,472 and \$ 8,644 as of December 31, 2023 and 2022, respectively.

5. Debt

	December 31, 2023	December 31, 2022	Interest rates at December 31, 2023	Maturity
Revolving Credit Facility				
Credit Facility	\$ 189,346	\$ 167,802	8.16 %	November 2026
Debt				
Sweden short-term credit line	—	—		
Suzhou short-term credit line	2,113	1,450	3.25 %	August 2024
Total debt	2,113	1,450		
Less: current portion	(2,113)	(1,450)		
Total long-term debt, net	\$ —	\$ —		

Revolving Credit Facility

On June 5, 2019, the Company entered into the Fourth Amended and Restated Credit Agreement, as amended, (the "Fourth Amended and Restated Credit Agreement"). The Fourth Amended and Restated Credit Agreement provided for a \$ 300,000 senior secured revolving credit facility. As a result of entering into the Fourth Amended and Restated Credit Agreement and related amendments, the Company capitalized \$ 332 and \$ 484 of deferred financing costs during the years ended December 31, 2023 and 2022, respectively. The Company wrote off a portion of the previously recorded deferred financing costs of \$ 365 in interest expense, net during the year ended December 31, 2022.

On November 2, 2023, the Company entered into the Fifth Amended and Restated Credit Agreement (the "Credit Facility"). The Credit Facility provides for a \$ 275,000 senior secured revolving credit facility and it replaced and superseded the Fourth Amended and Restated Credit Agreement. The Credit Facility has an accordion feature which allows the Company to increase the availability by up to \$ 150,000 upon the satisfaction of certain conditions, including the consent of lenders providing the increase in commitments and also includes a letter of credit subfacility, swing line subfacility and multicurrency subfacility. The Credit Facility has a termination date of November 2, 2026. Borrowings under the Credit Facility bear interest at either the Base Rate or the SOFR rate, at the Company's option, plus the applicable margin as set forth in the Credit Facility. The Credit Facility contains certain financial covenants that require the Company to maintain less than a maximum leverage ratio and more than a minimum interest coverage ratio.

As a result of entering into the Fifth Amended and Restated Credit Agreement, the Company capitalized \$ 1,915 of deferred financing costs and wrote off \$ 309 of previously recorded deferred financing costs during the year ended December 31, 2023.

The Credit Facility contains customary affirmative covenants and representations. The Credit Facility also contains customary negative covenants, which, among other things, are subject to certain exceptions, including restrictions on (i) indebtedness, (ii) liens, (iii) liquidations, mergers, consolidations and acquisitions, (iv) disposition of assets or subsidiaries, (v) affiliate transactions, (vi) continuation of or change in business, (vii) restricted payments, (viii) restrictions in agreements on dividends, intercompany loans and granting liens on the collateral, (ix) loans and investments and (x) changes in organizational documents and fiscal year. The Credit Facility contains customary events of default, subject to customary thresholds and exceptions, including, among other things, (i) non-payment of principal and non-payment of interest and fees, (ii) a material inaccuracy of a representation or warranty at the time made, (iii) a failure to comply with any covenant, subject to customary grace periods in the case of certain affirmative covenants, (iv) cross default of other debt, final judgments and other adverse orders in excess of \$ 30,000 , (v) any loan document shall cease to be a legal, valid and binding agreement,

STONERIDGE, INC. AND SUBSIDIARIES**NOTES TO CONSOLIDATED FINANCIAL STATEMENTS****(in thousands, except share and per share data, unless otherwise indicated)**

(vi) certain uninsured losses or proceedings against assets with a value in excess of \$ 30,000 , (vii) ERISA events, (viii) a change of control, or (ix) bankruptcy or insolvency proceedings.

Borrowings outstanding on credit facilities were \$ 189,346 and \$ 167,802 at December 31, 2023 and 2022, respectively.

The Company was in compliance with all credit facility covenants at December 31, 2023 and 2022.

The Company also had outstanding letters of credit of \$ 1,586 and \$ 1,626 at December 31, 2023 and 2022, respectively.

Debt

The Company's wholly-owned subsidiary located in Stockholm, Sweden (the "Stockholm subsidiary"), has an overdraft credit line which allows overdrafts on the subsidiary's bank account up to a daily maximum level of 20,000 Swedish krona, or \$ 1,987 and \$ 1,922 at December 31, 2023 and 2022, respectively. At December 31, 2023 and December 31, 2022 there were no borrowings outstanding on this overdraft credit line. During the year ended December 31, 2023, the subsidiary borrowed and repaid 358,484 Swedish krona, or \$ 35,610 . The Stockholm subsidiary has pledged certain of its assets as collateral in order to obtain a guarantee of certain of the Stockholm subsidiary's obligations to third parties.

The Company's wholly-owned subsidiary located in Suzhou, China (the "Suzhou subsidiary"), has lines of credit (the "Suzhou credit line") which allow up to a maximum borrowing level of 20,000 Chinese yuan, or \$ 2,818 and \$ 2,900 at December 31, 2023 and 2022, respectively. At December 31, 2023 and 2022 there was \$ 2,113 and \$ 1,450 , respectively, in borrowings outstanding on the Suzhou credit line with weighted-average interest rates of 3.25 % and 3.70 %, respectively. The Suzhou credit line is included on the consolidated balance sheet within current portion of debt. In addition, the Suzhou subsidiary has a bank acceptance draft line of credit which facilitates the extension of trade payable payment terms by 180 days. The bank acceptance draft line of credit allows up to a maximum borrowing level of 60,000 Chinese yuan, or \$ 8,453 and \$ 8,699 at December 31, 2023 and 2022, respectively. There was \$ 2,387 and \$ 1,998 utilized on the Suzhou bank acceptance draft line of credit at December 31, 2023 and 2022, respectively. The Suzhou bank acceptance draft line of credit is included on the consolidated balance sheet within accounts payable.

At December 31, 2023, the future maturities of the Credit Facility and debt were as follows:

Year ended December 31,

2024	\$	2,113
2025		—
2026		189,346
2027		—
2028		—
Total	\$	191,459

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6. Income Taxes

The income tax expense included in the accompanying consolidated statement of operations represents federal, state and foreign income taxes. The components of (loss) income before income taxes and the provision (benefit) for income taxes consist of the following:

Year ended December 31,	2023	2022	2021
(Loss) income before income taxes:			
Domestic	\$ (29,658)	\$ (11,944)	\$ 11,596
Foreign	27,736	1,248	840
Total (loss) income before income taxes	\$ (1,922)	\$ (10,696)	\$ 12,436
Provision (benefit) for income taxes:			
Current:			
Federal	\$ 219	\$ 435	\$ —
State and local	(101)	747	294
Foreign	7,181	7,288	9,248
Total current provision	\$ 7,299	\$ 8,470	\$ 9,542
Deferred:			
Federal	\$ (2,265)	\$ (3,282)	\$ 714
State and local	2	(25)	(55)
Foreign	(1,775)	(1,803)	(1,171)
Total deferred benefit	(4,038)	(5,110)	(512)
Total income tax provision	\$ 3,261	\$ 3,360	\$ 9,030

A summary of the differences between the statutory federal income tax rate of 21.0% and the consolidated provision for income taxes is shown below.

Year ended December 31,	2023	2022	2021
Statutory U.S. federal income tax (benefit) provision	\$ (403)	\$ (2,246)	\$ 2,612
State income taxes, net of federal tax benefit	(136)	495	942
Tax credits and incentives	(4,886)	(3,906)	(2,865)
Foreign tax rate differential	706	910	730
Impact of change in enacted tax law	5	300	227
Change in valuation allowance	1,817	5,248	5,070
U.S. tax on foreign earnings	4,815	1,376	(347)
Tax impact of unconsolidated subsidiaries	—	395	1,828
Unremitted earnings on foreign subsidiaries	—	(898)	835
Non-deductible expenses	1,338	657	740
Compensation and benefits	306	774	358
Other	(301)	255	(1,100)
Provision for income taxes	\$ 3,261	\$ 3,360	\$ 9,030

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Significant components of the Company's deferred tax assets and liabilities were as follows:

As of December 31,	2023	2022
Deferred tax assets:		
Inventories	\$ 1,678	\$ 1,479
Employee compensation and benefits	2,324	2,078
Accrued liabilities and reserves	6,466	5,862
Property, plant and equipment	3,290	2,794
Tax loss carryforwards	18,129	16,997
Tax credit carryforwards	22,191	20,802
Capitalized research and development	4,345	4,785
Lease liability	2,351	2,817
Other	1,040	1,213
Gross deferred tax assets	61,814	58,827
Less: Valuation allowance	(21,082)	(18,496)
Deferred tax assets less valuation allowance	40,732	40,331
Deferred tax liabilities:		
Property, plant and equipment	(1,271)	(2,038)
Intangible assets	(8,942)	(10,056)
Right-of-use-assets	(2,059)	(2,595)
Other	(5,292)	(4,991)
Gross deferred tax liabilities	(17,564)	(19,680)
Net deferred tax assets	\$ 23,168	\$ 20,651

The balance sheet classification of our net deferred tax asset is shown below:

Year ended December 31,	2023	2022
Long-term deferred tax assets	\$ 30,392	\$ 29,149
Long-term deferred tax liabilities	(7,224)	(8,498)
Net deferred tax assets	\$ 23,168	\$ 20,651

The Company has recognized deferred taxes related to foreign withholding taxes and the expected foreign currency impact upon repatriation from foreign subsidiaries not considered indefinitely reinvested. At December 31, 2023, the aggregate undistributed earnings of our foreign subsidiaries amounted to \$ 27,211 .

Based on the Company's review of both positive and negative evidence regarding the realizability of deferred tax assets at December 31, 2023, a valuation allowance is recorded against certain deferred tax assets based upon the conclusion that it was more likely than not they would not be realized. Certain deferred tax assets are dependent on future taxable income to be realized.

The Company has net operating loss carry forwards of \$ 39,638 and \$ 77,027 for state and foreign tax jurisdictions, respectively. The state net operating losses expire from 2024-2043 or have indefinite lives and the foreign net operating losses expire from 2024-2028 or have indefinite lives. The Company has general business and foreign tax credit carry forwards of \$ 20,422 , \$ 1,054 and \$ 714 for U.S. federal, state and foreign jurisdictions, respectively. The U.S. federal general business credits, if unused, begin to expire in 2027, and the state and foreign tax credits expire at various times.

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The following is a reconciliation of the Company's total gross unrecognized tax benefits:

	2023	2022	2021
Balance as of January 1	\$ 2,545	\$ 2,891	\$ 3,449
Tax positions related to the current year:			
Additions	—	—	—
Tax positions related to the prior years:			
Reductions	—	—	—
Expirations of statutes of limitation	—	(346)	(558)
Balance as of December 31	\$ 2,545	\$ 2,545	\$ 2,891

The Company has classified its uncertain tax positions as a reduction to non-current deferred income tax assets. If the Company's tax positions are sustained by the taxing authorities in favor of the Company, the amount that would affect the Company's effective tax rate is approximately \$ 2,545 at December 31, 2023 and 2022.

The Company classifies interest expense and, if applicable, penalties which could be assessed related to unrecognized tax benefits as a component of income tax expense. For the years ended December 31, 2023, 2022 and 2021, the Company recognized no expense related to interest and penalties.

On August 16, 2022, the U.S. enacted the Inflation Reduction Act of 2022 ("IRA"), which, among other things, implemented a 15% minimum tax on financial statement income of certain large corporations, a 1% excise tax on net stock repurchases and several tax incentives to promote clean energy. The IRA did not have a material impact on the Company's consolidated financial statements.

The Company conducts business globally and, as a result, files income tax returns in the U.S. federal jurisdiction and various state and foreign jurisdictions. In the normal course of business, the Company is subject to examination by taxing authorities throughout the world. The following table summarizes the open tax years for each jurisdiction:

Jurisdiction	Open Tax Years
U.S. Federal	2017-2023
Argentina	2018-2023
Brazil	2015-2023
China	2019-2023
France	2020-2023
Germany	2019-2023
Italy	2018-2023
Mauritius	2017-2023
Mexico	2018-2023
Netherlands	2019-2023
Sweden	2018-2023
United Kingdom	2022-2023

7. Leases
Lessee

The Company has various cancelable and noncancelable leased assets within all segments, which include certain properties, vehicles and equipment of which are all classified as operating leases. Payments for these leases are generally fixed; however, several of our leases are composed of variable lease payments including index-based payments or inflation-based payments based on a Consumer Price Index ("CPI") or other escalators. Our lease agreements do not contain any material residual value guarantees or material restrictive covenants.

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Under Leases (Topic 842), the Company determines an arrangement is a lease when we have the right to control the use of identified property, plant or equipment for a period of time in exchange for consideration. Other than the leases that we have already identified, we are not aware of any material leases that have not yet commenced. For leases that have a calculated lease term of 12 months or less and do not include an option to purchase the underlying asset which we are reasonably certain to exercise, the Company has made the policy election to not apply the recognition requirements in Leases (Topic 842). For these short-term leases, the Company recognizes the lease as a period expense on a straight-line basis over the lease term and variable lease payments in the period in which the obligation for those payments is incurred.

For the leases identified, right of use ("ROU") assets and lease liabilities are recognized at commencement date based on the present value of lease payments over the lease term. As most of our leases do not provide an implicit rate, the Company used the calculated incremental borrowing rate based on the information available at the implementation date, and going forward at the commencement date, in determining the present value of lease payments. The Company will use the implicit rate when readily determinable. The ROU asset includes the carrying amount of the lease liability, plus (minus) any prepaid (accrued) lease payments, less the unamortized balance of lease incentives received. The Company's lease terms may include options to extend or terminate the lease and such options are included in the lease term when it is reasonably certain that the Company will exercise that option. Lease expense for lease payments is recognized on a straight-line basis over the lease term. Lease expenses are recognized within COGS, SG&A and D&D costs in the consolidated statements of operations. The Company has made the policy election to account for lease and non-lease components as a single lease component for all of its leases.

The components of lease expense are as follows:

Year ended December 31,	2023	2022
Operating lease cost	\$ 4,532	\$ 4,736
Short-term lease cost	675	958
Variable lease cost	706	585
Total lease cost	<u>\$ 5,913</u>	<u>\$ 6,279</u>

Balance sheet information related to leases is as follows:

As of December 31,	2023	2022
Assets:		
Operating lease right-of-use assets	<u>\$ 10,795</u>	<u>\$ 13,762</u>
Liabilities:		
Operating lease current liability, included in other current liabilities	\$ 3,871	\$ 3,938
Operating lease long-term liability	7,684	10,594
Total leased liabilities	<u>\$ 11,555</u>	<u>\$ 14,532</u>

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Maturities of operating lease liabilities are as follows:

As of December 31,		2023
2024	\$	4,220
2025		3,488
2026		2,134
2027		1,060
2028		1,065
Thereafter		992
Total future minimum lease payments	\$	12,959
Less: imputed interest		(1,404)
Total lease liabilities	\$	11,555

Weighted-average remaining lease term and discount rate for operating leases is as follows:

As of December 31,	2023	2022
Weighted-average remaining lease term (in years)	4.00	4.64
Weighted-average discount rate	5.98 %	5.67 %

Other information:

Year ended December 31,	2023	2022
Operating cash flows:		
Cash paid related to operating lease obligations	\$ 4,545	\$ 4,649
Non-cash activity:		
Right-of-use assets obtained in exchange for operating lease obligations	\$ 250	\$ 594

Lessor

The Company, as lessor, entered into a lease with a third-party lessee effective July 1, 2020, of its Canton, Massachusetts facility. In conjunction with the Canton restructuring plan outlined in Note 12, the Company ceased operations at this facility in March 2020. As discussed in Note 2, the Company sold the Canton facility and assigned the lease to the buyer on June 17, 2021. The Company recognized lease income on a straight-line basis over the lease term until the time of the sale. The Company recognized, in its Control Devices segment, operating and variable lease income from leases in our consolidated statements of operations of \$ 602 and \$ 199 , respectively, for the year ended December 31, 2021.

8. Share-Based Compensation Plans

In May 2016, the Company's shareholders approved the 2016 Long-Term Incentive Plan (the "2016 Plan") and reserved 1,800,000 Common Shares (of which the maximum number of Common Shares which may be issued). In May 2020, the Company's shareholders approved an amendment to the 2016 Plan to increase by 1,100,000 the number of Common Shares authorized for issuance. The amendment to the 2016 Plan brought the total Common Shares available for issuance to 2,900,000 . Under the 2016 Plan, as of December 31, 2023, the Company has granted 3,351,074 share units, of which 1,378,385 were time-based with cliff vesting using the straight-line method and 1,972,689 were performance-based. As of December 31, 2023, 1,624,076 of the shares granted have been forfeited. There are 1,173,002 shares available to be granted under the 2016 Plan at December 31, 2023.

In 2023, 2022 and 2021, pursuant to the 2016 Plan, the Company granted time-based share units and performance-based performance shares. The majority of the time-based share units cliff vest three years after the date of grant. The performance-based performance shares vest and are no longer subject to forfeiture upon the recipient remaining an employee of the Company for three years from the date of grant and, for a portion of the annual awards, upon the Company attaining certain targets of performance measured against a peer group's three year performance in terms of total shareholder return and, for the remaining portion of the annual awards, upon achieving certain earnings per share targets and return on invested capital targets established by the Company during the performance period of the award.

STONERIDGE, INC. AND SUBSIDIARIES**NOTES TO CONSOLIDATED FINANCIAL STATEMENTS****(in thousands, except share and per share data, unless otherwise indicated)**

The allocation of performance shares granted between total shareholder return, earnings per share and return on invested capital were as follows for the years ended December 31:

	2023	2022	2021
Total shareholder return	45 %	45 %	45 %
Earnings per share	36 %	36 %	36 %
Return on invested capital	18 %	18 %	18 %

In 2023, the Company granted retention-based phantom shares to certain employees that vest in June 2025 provided the employee remains employed with the Company. The phantom shares will settle in cash based on the volume-weighted average closing price of the Company's stock for a 30 day period prior to the vesting date. As of December 31, 2023, the Company has recorded a liability of \$ 795 for the phantom shares which was included on the consolidated balance sheet as a component of other long-term liabilities.

In April 2005, the Company adopted the Directors' Restricted Shares Plan (the "Director Share Plan") and reserved 500,000 Common Shares for issuance under the Director Share Plan. In May 2013, shareholders approved an amendment to the Director Share Plan to increase the number of shares for issuance by 200,000 to 700,000 . In May 2018, the Company's shareholders approved the 2018 Amended and Restated Director's Restricted Shares Plan (the "2018 Director Share Plan") to increase the number of shares for issuance by 150,000 to 850,000 . In May 2022, the Company's shareholders approved Amendment No. 1 to the 2018 Director Share Plan to increase the number of shares for issuance by 100,000 to 950,000 . Under the 2018 Director Share Plan, the Company has cumulatively issued 866,716 restricted Common Shares. As such, there are 83,284 restricted Common Shares available to be issued on December 31, 2023. Shares issued annually under the 2018 Director Share Plan are no longer subject to forfeiture one year after the date of grant.

Share Units and Performance Shares

The fair value of the non-vested time-based share unit awards was calculated using the market value of the Common Shares on the date of issuance. The weighted-average grant-date fair value of time-based share units granted during the years ended December 31, 2023, 2022 and 2021 was \$ 18.48 , \$ 18.71 , and \$ 35.13 , respectively.

The fair value of the non-vested performance-based performance share awards with a performance condition requiring the Company to obtain certain earnings per share and return on invested capital targets were estimated using the market value of the shares on the date of grant. The fair value of non-vested performance-based performance share awards with a market condition requiring the Company to obtain a total shareholder return target relative to a group of peer companies was estimated using a Monte Carlo valuation model taking into consideration the probability of achievement using multiple simulations. The awards that use earnings per share and return on invested capital as the performance target are expensed beginning when it is probable that the Company will meet the underlying performance condition.

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A summary of the status of the Company's non-vested share units and performance shares as of December 31, 2023 and the changes during the year then ended, are presented below:

	Time-based awards		Performance-based awards	
	Share units	Weighted-average grant date fair value	Performance shares	Weighted-average grant date fair value
Non-vested as of January 1, 2023	570,803	\$ 22.29	767,592	\$ 24.03
Granted	253,630	\$ 18.48	261,202	\$ 17.08
Vested	(264,566)	\$ 20.88	(6,289)	\$ 29.27
Forfeited or cancelled	(149,151)	\$ 23.65	(603,556)	\$ 22.45
Non-vested as of December 31, 2023	410,716	\$ 20.35	418,949	\$ 21.89

A summary of the status of the Company's non-vested share units and performance shares as of December 31, 2022 and the changes during the year then ended, are presented below:

	Time-based awards		Performance-based awards	
	Share units	Weighted-average grant date fair value	Performance shares	Weighted-average grant date fair value
Non-vested as of January 1, 2022	450,331	\$ 26.55	578,985	\$ 28.42
Granted	335,044	\$ 18.71	361,982	\$ 20.64
Vested	(168,222)	\$ 27.12	(2,317)	\$ 22.70
Forfeited or cancelled	(46,350)	\$ 20.17	(171,058)	\$ 31.75
Non-vested as of December 31, 2022	570,803	\$ 22.29	767,592	\$ 24.03

As of December 31, 2023 total unrecognized compensation cost related to non-vested time-based share units granted was\$ 2,066 . That cost is expected to be recognized over a weighted-average period of 1.15 years.

For the years ended December 31, 2023, 2022 and 2021, the total fair value of awards vested was \$ 5,623 , \$ 3,334 and \$ 9,637 , respectively.

As of December 31, 2023, there was no unrecognized compensation cost related to non-vested performance shares granted that are probable to vest. As noted above, the Company has issued and outstanding performance-based share units that use different performance targets (total shareholder return, earnings per share and return on invested capital).

The excess tax deficiency (benefit) realized from the vesting of share units and performance shares of the share-based payment arrangements was\$ 230 , \$ 543 and \$(563) for the years ended December 31, 2023, 2022 and 2021, respectively.

9. Employee Benefit Plans

The Company has certain defined contribution profit sharing and 401(k) plans covering substantially all of its employees in the United States and Europe. The Company provides matching contributions to the Company's 401(k) plan. Company contributions are generally discretionary. For the years ended December 31, 2023, 2022 and 2021, expenses related to these plans amounted to \$ 5,536 , \$ 4,883 and \$ 5,082 , respectively.

10. Financial Instruments and Fair Value Measurements
Financial Instruments

A financial instrument is cash or a contract that imposes an obligation to deliver or conveys a right to receive cash or another financial instrument. The carrying values of cash and cash equivalents, accounts receivable and accounts payable are considered to be representative of fair value because of the short maturity of these instruments. The fair value of debt approximates the carrying value of debt, due to the variable interest rate on the Credit Facility and the maturity of the remaining outstanding debt.

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Derivative Instruments and Hedging Activities

On December 31, 2023, the Company had open Mexican peso-denominated foreign currency forward contracts. The Company used foreign currency forward contracts solely for hedging and not for speculative purposes during 2023 and 2022. Management believes that its use of these instruments to reduce risk is in the Company's best interest. The counterparties to these financial instruments are financial institutions with investment grade credit ratings.

Foreign Currency Exchange Rate Risk

The Company conducts business internationally and, therefore, is exposed to foreign currency exchange rate risk. The Company uses derivative financial instruments as cash flow hedges and used net investment hedges to manage its exposure to fluctuations in foreign currency exchange rates by reducing the effect of such fluctuations on foreign currency denominated intercompany transactions, inventory purchases and other foreign currency exposures.

Net Investment Hedges

During 2021, the Company entered into two cross-currency swaps, designated as net investment hedges, with notional values of \$ 25,000 each that were scheduled to mature in August 2026 and August 2028. These swaps hedged a portion of the net investment in a certain euro-denominated subsidiary. As a result of favorable market conditions during 2022 the Company unwound the two net investment hedges and recognized a net gain of \$ 3,716 , which was recorded on the Company's consolidated balance sheet in accumulated other comprehensive loss. The cash received from the settlement of these swaps of \$ 3,820 was classified in investing activities in the consolidated statement of cash flows.

The Company elected to assess hedge effectiveness of the net investment hedges under the spot method. Accordingly, periodic changes in the fair value of the derivative instruments attributable to factors other than spot exchange rate variability were excluded from the measurement of hedge ineffectiveness and reported directly in earnings each reporting period. The change in fair value of these derivative instruments was recorded in cumulative translation adjustment, which is a component of accumulated other comprehensive loss in the consolidated balance sheets. The Company had no outstanding net investment hedges as of December 31, 2023 or 2022.

Cash Flow Hedges

The Company entered into foreign currency forward contracts to hedge the Mexican peso currency in 2023 and 2022. These forward contracts were executed to hedge forecasted transactions and have been accounted for as cash flow hedges. As such, gains and losses on derivatives qualifying as cash flow hedges are recorded in accumulated other comprehensive loss, to the extent that hedges are effective, until the underlying transactions are recognized in earnings. Unrealized amounts in accumulated other comprehensive loss will fluctuate based on changes in the fair value of hedge derivative contracts at each reporting period. The cash flow hedges were highly effective. The effectiveness of the transactions has been and will be measured on an ongoing basis using regression analysis and forecasted future purchases of the currency.

In certain instances, the foreign currency forward contracts may not qualify for hedge accounting or are not designated as hedges and, therefore, are marked-to-market with gains and losses recognized in the Company's consolidated statements of operations as a component of other expense, net. During 2023 and 2022, all of the Company's foreign currency forward contracts were designated as cash flow hedges.

The Company's foreign currency forward contracts offset a portion of the gains and losses on the underlying foreign currency denominated transactions as follows:

Mexican peso-denominated Foreign Currency Forward Contracts – Cash Flow Hedges

The Company holds Mexican peso-denominated foreign currency forward contracts which expire ratably on a monthly basis from January 2024 to December 2024. The notional amounts at December 31, 2023 and 2022 related to Mexican peso-denominated foreign currency forward contracts were \$ 26,613 and \$ 0 , respectively.

The Company evaluated the effectiveness of the Mexican peso-denominated foreign currency forward contracts held as of December 31, 2023 and the year then ended, and concluded that the hedges were highly effective.

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Interest Rate Risk
Interest Rate Risk – Cash Flow Hedge

On February 18, 2020, the Company entered into a floating-to-fixed interest rate swap agreement (the “Swap”) with a notional amount of \$ 50,000 to hedge its exposure to interest payment fluctuations on a portion of its Fourth Amended and Restated Credit Agreement borrowings. The Swap matured on March 10, 2023. The Swap was designated as a cash flow hedge of the variable interest rate obligation under the Company’s Fourth Amended and Restated Credit Agreement. Accordingly, the change in fair value of the Swap was recognized in accumulated other comprehensive loss. The Swap agreement required monthly settlements on the same days that the Fourth Amended and Restated Credit Agreement interest payments were due and had a maturity date of March 10, 2023, which was prior to the Fourth Amended and Restated Credit Agreement maturity date of June 4, 2024. Under the Swap terms, the Company paid a fixed interest rate and received a floating interest rate based on the one-month LIBOR, with a floor. The critical terms of the Swap were aligned with the terms of the Fourth Amended and Restated Credit Agreement, resulting in no hedge ineffectiveness. The difference between amounts to be received and paid under the Swap were recognized as a component of interest expense, net on the consolidated statements of operations. The swap settlements (reduced) increased interest expense, net by \$(290), \$(156) and \$ 651 for the years ended December 31, 2023, 2022 and 2021, respectively.

The notional amounts and fair values of derivative instruments in the consolidated balance sheets were as follows:

As of December 31,	Notional amounts ^(A)		Prepaid expenses and other current assets	
	2023	2022	2023	2022
Derivatives designated as hedging instruments:				
Cash flow hedges:				
Forward currency contracts	\$ 26,613	\$ —	\$ 1,858	\$ —
Interest rate swap	\$ —	\$ 50,000	\$ —	\$ 294

(A) Notional amounts represent the gross contract of the derivatives outstanding in U.S. dollars.

Gross amounts recorded for the cash flow hedges in other comprehensive income (loss) and in net (loss) income for the years ended December 31 were as follows:

	Gain (loss) recorded in other comprehensive income (loss)			Gain (loss) reclassified from other comprehensive income (loss) income into net (loss) income ^(A)		
	2023	2022	2021	2023	2022	2021
Derivatives designated as cash flow hedges:						
Forward currency contracts	\$ 2,304	\$ 1,346	\$ 923	\$ 446	\$ 2,076	\$ 448
Interest rate swap	\$ (4)	\$ 953	\$ 164	\$ 290	\$ 156	\$ (651)
Derivatives designated as net investment hedges:						
Cross-currency swaps	\$ —	\$ 2,446	\$ 1,270	\$ —	\$ —	\$ —

(A) Gains reclassified from comprehensive income (loss) into net (loss) income recognized in COGS in the Company’s consolidated statements of operations for the years ended December 31, 2023, 2022 and 2021 were \$ 337 , \$ 1,572 and \$ 341 , respectively. Gains reclassified from other comprehensive income (loss) into net (loss) income recognized in SG&A in the Company’s consolidated statements of operations were \$ 109 , \$ 504 and \$ 107 for the years ended December 31, 2023, 2022 and 2021, respectively. Gains (losses) reclassified from other comprehensive income (loss) into net (loss) income recognized in interest expense, net in the Company’s consolidated statements of operations were \$ 290 , \$ 156 and \$(651) for the years ended December 31, 2023, 2022 and 2021, respectively.

Cash flows from derivatives used to manage foreign exchange and interest rate risks are classified as operating activities within the consolidated statements of cash flows.

The Company has measured the ineffectiveness of the forward currency contracts and any amounts recognized in the consolidated financial statements were immaterial for the years ended December 31, 2023, 2022 and 2021.

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Fair Value Measurements

Certain assets and liabilities held by the Company are measured at fair value on a recurring basis and are categorized using the three levels of the fair value hierarchy based on the reliability of the inputs used. Fair values estimated using Level 1 inputs consist of quoted prices in active markets for identical assets or liabilities that the Company has the ability to access at the measurement date. Fair values estimated using Level 2 inputs, other than quoted prices, are observable for the asset or liability, either directly or indirectly and include among other things, quoted prices for similar assets or liabilities in markets that are active or inactive as well as inputs other than quoted prices that are observable. For forward currency and cross-currency contracts, inputs include forward foreign currency exchange rates. For the interest rate swap, inputs included LIBOR. Fair values estimated using Level 3 inputs consist of significant unobservable inputs.

The following table presents our assets and liabilities that are measured at fair value on a recurring basis and are categorized using the three levels of the fair value hierarchy based on the reliability of inputs used.

December 31,	2023				2022
	Fair values estimated using				
	Fair value	Level 1 inputs	Level 2 inputs	Level 3 inputs	Fair value
Financial assets carried at fair value:					
Forward currency contracts	\$ 1,858	\$ —	\$ 1,858	\$ —	\$ —
Interest rate swap	—	—	—	—	294
Total financial assets carried at fair value	\$ 1,858	\$ —	\$ 1,858	\$ —	\$ 294

The following table sets forth a summary of the change in fair value of the Company's Level 3 financial liabilities related to earn-out consideration that are measured at fair value on a recurring basis.

	2022
Balance at January 1	\$ 7,351
Change in fair value	—
Foreign currency adjustments	921
Earn-out consideration cash payment	\$ (8,272)
Balance at December 31	\$ —

The Company was required to pay the Stoneridge Brazil earn-out consideration based on Stoneridge Brazil's financial performance in 2021. The fair value of the Stoneridge Brazil earn-out consideration was based on 2021 earnings before interest, taxes, depreciation and amortization. The Stoneridge Brazil earn-out consideration obligation was recorded within accrued expenses and other current liabilities in the consolidated balance sheet as of December 31, 2021. The earn-out consideration obligation of \$ 8,272 was paid in April 2022 and recorded in the consolidated statement of cash flows within operating and financing activities in the amounts of \$ 1,996 and \$ 6,276, respectively, for the year ended December 31, 2022.

There were no transfers in or out of Level 3 from other levels in the fair value hierarchy for the year ended December 31, 2023.

No non-recurring fair value adjustments were required for nonfinancial assets for the years ended December 31, 2023 and 2022.

STONERIDGE, INC. AND SUBSIDIARIES**NOTES TO CONSOLIDATED FINANCIAL STATEMENTS****(in thousands, except share and per share data, unless otherwise indicated)****Impairment of Long-Lived Assets or Finite-Lived Assets**

The Company reviews the carrying value of its long-lived assets and finite-lived intangible assets for impairment when events or circumstances indicate that their carrying value may not be recoverable. Factors the Company considers important that could trigger testing of the related asset groups for an impairment include current period operating or cash flow losses combined with a history of operating or cash flow losses, a projection or forecast that demonstrates continuing losses, significant adverse changes in the business climate within a particular business or current expectations that a long-lived asset will be sold or otherwise disposed of significantly before the end of its estimated useful life. To test for impairment, the estimated undiscounted cash flows expected to be generated from the use and disposal of the asset or asset group is compared to its carrying value. An asset group is established by identifying the lowest level of cash flows generated by the group of assets that are largely independent of cash flows of other assets. If cash flows cannot be separately and independently identified for a single asset, we will determine whether an impairment has occurred for the group of assets for which we can identify projected cash flows. If these undiscounted cash flows are less than their respective carrying values, an impairment charge would be recognized to the extent that the carrying values exceed estimated fair values. The estimation of undiscounted cash flows and fair value requires us to make assumptions regarding future operating results over the life of the asset or the life of the primary asset in the asset group. The results of the impairment testing are dependent on these estimates which require judgment. The occurrence of certain events, including changes in economic and competitive conditions, could impact cash flows eventually realized and management's ability to accurately assess whether an asset is impaired.

11. Commitments and Contingencies

From time to time, we are subject to various legal actions and claims incidental to our business, including those arising out of breach of contracts, product warranties, product liability, patent infringement, regulatory matters and employment-related matters. The Company establishes accruals for matters which it believes that losses are probable and can be reasonably estimated. Although it is not possible to predict with certainty the outcome of these matters, the Company is of the opinion that the ultimate resolution of these matters will not have a material adverse effect on its consolidated results of operations or financial position.

As a result of environmental studies performed at the Company's former facility located in Sarasota, Florida, the Company became aware of soil and groundwater contamination at the site. The Company engaged an environmental engineering consultant to assess the level of contamination and to develop a remediation and monitoring plan for the site. Soil remediation at the site was completed during the year ended December 31, 2010. A remedial action plan was approved by the Florida Department of Environmental Protection and groundwater remediation began in the fourth quarter of 2015. During the years ended December 31, 2023, 2022 and 2021, the Company recognized expense of \$ 125 , \$ 0 and \$ 407 , respectively, related to ground water remediation. At December 31, 2023 and 2022, the Company had accruals of \$ 143 and \$ 246 respectively, related to future remediation costs. At December 31, 2023 and 2022, \$ 136 and \$ 132 , respectively, were recorded as a component of accrued expenses and other current liabilities on the consolidated balance sheets while the remaining amounts as of December 31, 2023 and 2022 were recorded as a component of other long-term liabilities. Costs associated with the recorded liability will be incurred to complete the groundwater remediation and monitoring. The recorded liability is based on assumptions in the remedial action plan as well as estimates for future remediation activities. Although the Company sold the Sarasota facility and related property in December 2011, the liability to remediate the site contamination remains the responsibility of the Company. Due to the ongoing site remediation, the Company is currently required to maintain a \$ 1,489 letter of credit for the benefit of the buyer.

The Company's Stoneridge Brazil subsidiary has civil, labor and other tax contingencies (excluding income tax) for which the likelihood of loss is deemed to be reasonably possible, but not probable, by the Company which is supported by legal advisors in Brazil. As a result, no provision has been recorded with respect to these contingencies, which amounted to R\$ 41,681 (\$ 8,609) and R\$ 47,820 (\$ 9,165) at December 31, 2023 and 2022, respectively. An unfavorable outcome on these contingencies could result in significant cost to the Company and adversely affect its results of operations and cash flows.

On August 12, 2020, the Brazilian Administrative Counsel for Economic Defense ("CADE") issued a ruling against Stoneridge Brazil for abuse of dominance and market foreclosure through its prior use of exclusivity provisions in agreements with its distributors. The CADE tribunal imposed a R\$ 7,995 (\$ 1,651) fine which is included in the reasonably possible contingencies noted above. The Company continues to challenge this ruling in Brazilian federal courts to reverse this decision by the CADE tribunal.

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(in thousands, except share and per share data, unless otherwise indicated)

12. Restructuring and Business Realignment

On May 19, 2020, the Company committed to the strategic exit of its Control Devices particulate matter sensor product line ("PM Sensor Exit"). The decision to exit the PM sensor product line was made after consideration of the decline in the market outlook for diesel passenger vehicles, the current and expected profitability of the product line and the Company's strategic focus on aligning resources with the greatest opportunities. In conjunction with the strategic exit of the PM sensor product line, the Company entered into an asset purchase agreement related to the sale of the PM sensor product line during the first quarter of 2021. Refer to Note 2 of the consolidated financial statements for additional details regarding this sale.

As a result of the PM Sensor Exit, the Company recognized expense of \$ 2,360 for the year ended December 31, 2021, for non-cash fixed asset charges, including impairment and accelerated depreciation of PM sensor related fixed assets, employee severance and termination costs and other related costs including supplier settlements. For the year ended December 31, 2021 restructuring related costs of \$ 1,510 , \$ 642 and \$ 208 were recognized in COGS, SG&A and D&D, respectively.

The expenses for the PM Sensor Exit that relate to the Control Devices reportable segment include the following:

	Accrual as of January 1,		2022 Charge		Utilization		Accrual as of December 31, 2022
	2022		to Expense		Cash	Non-Cash	
Employee termination benefits	\$ 35	\$ —	\$ —	\$ (35)	\$ —	\$ —	\$ —
Other related costs	—	—	—	—	—	—	—
Total	\$ 35	\$ —	\$ —	\$ (35)	\$ —	\$ —	\$ —

	Accrual as of January 1,		2021 Charge		Utilization		Accrual as of December 31, 2021
	2021		to Expense		Cash	Non-Cash	
Fixed asset impairment and accelerated depreciation	\$ —	\$ 188	\$ —	\$ —	\$ (188)	\$ —	\$ —
Employee termination benefits	—	139	(104)	—	—	—	35
Other related costs	—	2,033	(2,033)	—	—	—	—
Total	\$ —	\$ 2,360	\$ (2,137)	\$ (188)	\$ —	\$ 35	\$ 35

On January 10, 2019, the Company committed to a restructuring plan that resulted in the closure of the Canton, Massachusetts facility ("Canton Facility") on March 31, 2020 and the consolidation of manufacturing operations at that site into other Company locations ("Canton Restructuring"). The costs for the Canton Restructuring included employee severance and termination costs, contract terminations costs, professional fees and other related costs such as moving and set-up costs for equipment and costs to restore the engineering function previously located at the Canton facility.

As a result of the Canton Restructuring actions, the Company recognized expense of \$ 13 for the year ended December 31, 2021, for employee severance and termination costs and other restructuring related costs. For the year ended December 31, 2021 severance and other restructuring related costs of \$ 13 were recognized in D&D in the consolidated statement of operations. Refer to Note 2 to the consolidated financial statements for additional details regarding the sale of the Canton Facility.

The expenses for the Canton Restructuring that relate to the Control Devices reportable segment include the following:

	Accrual as of January 1,		2022 Charge		Utilization		Accrual as of December 31, 2022
	2022		to Expense		Cash	Non-Cash	
Employee termination benefits	\$ 93	\$ —	\$ (93)	\$ —	\$ —	\$ —	\$ —
Other related costs	—	—	—	—	—	—	—
Total	\$ 93	\$ —	\$ (93)	\$ —	\$ —	\$ —	\$ —

STONERIDGE, INC. AND SUBSIDIARIES
NOTES TO CONSOLIDATED FINANCIAL STATEMENTS

(in thousands, except share and per share data, unless otherwise indicated)

	Accrual as of January 1, 2021		2021 Charge to Expense		Utilization		Accrual as of December 31, 2021
					Cash	Non-Cash	
Employee termination benefits	\$	165	\$	—	\$ (72)	\$ —	\$ 93
Other related costs		—		13	(13)	—	—
Total	\$	165	\$	13	\$ (85)	\$ —	\$ 93

In the fourth quarter of 2018, the Company undertook restructuring actions for the Electronics segment affecting the European Aftermarket business and China operations. In the second quarter of 2020, the Company finalized plans to move its European Aftermarket sales activities in Dundee, Scotland to a new location which resulted in incurring contract termination costs as well as employee severance and termination costs. In addition, the Company announced a restructuring program to transfer the European production of its controls product line to China. As a result of these actions, the Company recognized expense of \$ 290 for the year ended December 31, 2021 for employee severance and termination costs and other related costs. Electronics segment restructuring costs recognized in COGS, SG&A and D&D in the consolidated statement of operations for the year ended December 31, 2021 were \$ 37 , \$ 210 and \$ 43 , respectively.

The expenses for the restructuring activities that relate to the Electronics reportable segment include the following:

	Accrual as of January 1, 2021		2021 Charge to Expense		Utilization		Accrual as of December 31, 2021
					Cash	Non-Cash	
Employee termination benefits	\$	227	\$	50	\$ (277)	\$ —	\$ —
Other related costs		—		240	(240)	—	—
Total	\$	227	\$	290	\$ (517)	\$ —	\$ —

In addition to the specific restructuring activities, the Company regularly evaluates the performance of its businesses and cost structures, including personnel, and makes necessary changes thereto in order to optimize its results. The Company also evaluates the required skill sets of its personnel and periodically makes strategic changes. As a consequence of these actions, the Company incurs severance related costs which are referred to as business realignment charges.

Business realignment charges by reportable segment were as follows:

Year ended December 31,	2023	2022	2021
Control Devices ^(A)	\$ 511	\$ —	\$ 192
Electronics ^(B)	2,862	—	3
Stoneridge Brazil ^(C)	—	98	59
Unallocated Corporate ^(D)	1,137	190	1,138
Total business realignment charges	\$ 4,510	\$ 288	\$ 1,392

(A) Severance costs for the year ended December 31, 2023 related to COGS and SG&A were \$ 369 and \$ 142 , respectively. Severance costs for the year ended December 31, 2021 related to SG&A were \$ 192 .

(B) Severance costs for the year ended December 31, 2023 related to COGS, SG&A and D&D were \$ 423 , \$ 2,057 and \$ 382 , respectively. Severance costs (benefit) for the year ended December 31, 2021 related to COGS, SG&A and D&D were \$ 1 , \$(7) and \$ 9 respectively.

(C) Severance costs for the year ended December 31, 2022 related to SG&A were \$ 98 . Severance costs for the year ended December 31, 2021 related to COGS and SG&A were \$ 7 and \$ 52 , respectively.

(D) Employee separation related costs for the year ended December 31, 2023 related to SG&A and D&D were \$ 1,122 and \$ 15 , respectively. Severance costs for the years ended December 31, 2022 and 2021 related to SG&A were \$ 190 and \$ 1,138 , respectively.

STONERIDGE, INC. AND SUBSIDIARIES**NOTES TO CONSOLIDATED FINANCIAL STATEMENTS**

(in thousands, except share and per share data, unless otherwise indicated)

Business realignment charges classified by statement of operations line item were as follows:

Year ended December 31,	2023	2022	2021
Cost of goods sold	\$ 792	\$ —	\$ 8
Selling, general and administrative	3,321	288	1,375
Design and development	397	—	9
Total business realignment charges	<u>\$ 4,510</u>	<u>\$ 288</u>	<u>\$ 1,392</u>

13. Segment Reporting

Operating segments are defined as components of an enterprise that are evaluated regularly by the Company's chief operating decision maker in deciding how to allocate resources and in assessing performance. The Company's chief operating decision maker is the chief executive officer.

The Company has three reportable segments, Control Devices, Electronics and Stoneridge Brazil, which also represent its operating segments. The Control Devices reportable segment produces actuators, sensors, switches and connectors. The Electronics reportable segment produces driver information systems, vision and safety systems, connectivity and compliance products and electronic control units. The Stoneridge Brazil reportable segment designs and manufactures vehicle tracking devices and monitoring services, vehicle security alarms and convenience accessories, in-vehicle audio and infotainment devices, driver information systems and telematics solutions.

The accounting policies of the Company's reportable segments are the same as those described in Note 2. The Company's management evaluates the performance of its reportable segments based primarily on revenues from external customers, capital expenditures and operating income. Inter-segment sales are eliminated upon consolidation.

The financial information presented below is for our three reportable operating segments and includes adjustments for unallocated corporate costs and intercompany eliminations, where applicable. Such costs and eliminations do not meet the requirements for being classified as an operating segment. Corporate costs include various support functions, such as accounting/finance, executive administration, human resources, information technology and legal.

STONERIDGE, INC. AND SUBSIDIARIES
NOTES TO CONSOLIDATED FINANCIAL STATEMENTS

(in thousands, except share and per share data, unless otherwise indicated)

A summary of financial information by reportable segment is as follows:

December 31,	2023	2022	2021
Net Sales:			
Control Devices	\$ 342,065	\$ 342,596	\$ 355,775
Inter-segment sales	3,195	2,719	3,502
Control Devices net sales	345,260	345,315	359,276
Electronics	576,539	505,097	357,910
Inter-segment sales	31,621	28,709	26,192
Electronics net sales	608,160	533,806	384,103
Stoneridge Brazil	57,214	52,230	56,777
Inter-segment sales	13	32	—
Stoneridge Brazil net sales	57,227	52,262	56,777
Eliminations	(34,829)	(31,460)	(29,694)
Total net sales	\$ 975,818	\$ 899,923	\$ 770,462
Operating Income (Loss):			
Control Devices	\$ 13,582	\$ 23,917	\$ 54,933
Electronics	27,309	5,128	(12,502)
Stoneridge Brazil	4,454	3,150	995
Unallocated Corporate ^(A)	(32,509)	(29,260)	(28,015)
Total operating income	\$ 12,836	\$ 2,935	\$ 15,411
Depreciation and Amortization:			
Control Devices	\$ 12,414	\$ 13,521	\$ 15,351
Electronics	14,035	13,913	12,487
Stoneridge Brazil	4,801	3,939	3,856
Unallocated Corporate	2,388	2,318	2,134
Total depreciation and amortization ^(B)	\$ 33,638	\$ 33,691	\$ 33,828
Interest Expense (Income), net:			
Control Devices	\$ 149	\$ 93	\$ 132
Electronics	1,771	1,009	462
Stoneridge Brazil	(1,693)	(1,282)	(1,353)
Unallocated Corporate	12,773	7,277	5,948
Total interest expense, net	\$ 13,000	\$ 7,097	\$ 5,189
Capital Expenditures:			
Control Devices	\$ 9,230	\$ 12,620	\$ 9,154
Electronics	18,313	10,479	9,735
Stoneridge Brazil	3,054	3,480	2,918
Unallocated Corporate ^(C)	1,229	653	1,142
Total capital expenditures	\$ 31,826	\$ 27,232	\$ 22,949

STONERIDGE, INC. AND SUBSIDIARIES
NOTES TO CONSOLIDATED FINANCIAL STATEMENTS

(in thousands, except share and per share data, unless otherwise indicated)

December 31,	2023	2022
Total Assets:		
Control Devices	\$ 159,612	\$ 174,535
Electronics	404,994	369,232
Stoneridge Brazil	66,318	60,861
Corporate ^(C)	419,469	419,469
Eliminations	(370,493)	(371,992)
Total assets	\$ 679,900	\$ 652,105

The following table presents net sales and long-term assets for the geographic areas in which the Company operates:

December 31,	2023	2022	2021
Net Sales:			
North America	\$ 495,541	\$ 444,928	\$ 386,944
South America	57,214	52,230	56,777
Europe and Other	423,063	402,765	326,741
Total net sales	\$ 975,818	\$ 899,923	\$ 770,462

December 31,	2023	2022
Long-term Assets:		
North America	\$ 92,419	\$ 92,149
South America	32,679	31,796
Europe and Other	125,412	118,609
Total long-term assets	\$ 250,510	\$ 242,554

(A) Unallocated Corporate expenses include, among other items, accounting/finance, human resources, information technology and legal costs as well as share-based compensation.

(B) These amounts represent depreciation and amortization on property, plant and equipment and certain intangible assets.

(C) Assets located at Corporate consist primarily of cash, intercompany receivables, fixed and leased assets for the headquarter building, information technology assets, equity investments and investments in subsidiaries.

SCHEDULE II - VALUATION AND QUALIFYING ACCOUNTS

The following schedule provides the activity for accounts receivable reserves and valuation allowance for deferred tax assets for the years ended December 31, 2023, 2022 and 2021 (in thousands):

	Balance at beginning of period	Charged to costs and expenses	Write-offs	Balance at end of period
Accounts receivable reserves:				
Year ended December 31, 2023	\$ 962	\$ 412	\$ (316)	\$ 1,058
Year ended December 31, 2022	\$ 1,443	\$ 1,255	\$ (1,736)	\$ 962
Year ended December 31, 2021	\$ 817	\$ 1,030	\$ (404)	\$ 1,443

	Balance at beginning of period	Net additions charged to income (expense)	Exchange rate fluctuations and other items	Balance at end of period
Valuation allowance for deferred tax assets:				
Year ended December 31, 2023	\$ 18,496	\$ 1,865	\$ 721	\$ 21,082
Year ended December 31, 2022	\$ 14,516	\$ 4,975	\$ (995)	\$ 18,496
Year ended December 31, 2021	\$ 10,237	\$ 4,768	\$ (489)	\$ 14,516

Item 9. Changes In and Disagreements With Accountants On Accounting and Financial Disclosure.

There have been no disagreements between the management of the Company and its Independent Registered Public Accounting Firm on any matter of accounting principles or practices of financial statement disclosures, or auditing scope or procedure.

Item 9A. Controls and Procedures.

Evaluation of Disclosure Controls and Procedures

As of December 31, 2023, an evaluation was performed under the supervision and with the participation of the Company's management, including the principal executive officer ("PEO") and principal financial officer ("PFO"), of the effectiveness of the design and operation of the Company's disclosure controls and procedures as defined in Rule 13a-15(e) and Rule 15d-15(e) of the Securities Exchange Act of 1934, as amended. Based on that evaluation, the Company's PEO and PFO, concluded that the Company's disclosure controls and procedures were effective as of December 31, 2023.

Management's Report on Internal Control Over Financial Reporting

Our management is responsible for establishing and maintaining adequate internal control over financial reporting, as such term is defined in Exchange Act Rules 13a-15(f) and 15d-15(f). In evaluating the Company's internal control over financial reporting, management has adopted the framework in *Internal Control-Integrated Framework* issued by the Committee of Sponsoring Organizations of the Treadway Commission (the "2013 Framework"). Under the supervision and with the participation of our management, including the PEO and PFO, we conducted an evaluation of the effectiveness of our internal control over financial reporting, as of December 31, 2023. Based on our evaluation under the 2013 Framework, our management has concluded that our internal control over financial reporting was effective as of December 31, 2023.

Because of 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.

Ernst & Young LLP, an independent registered public accounting firm, as auditor of the Company's financial statements, has issued an attestation report on the Company's internal control over financial reporting as of December 31, 2023. Ernst & Young's report is included herein.

Changes in Internal Control Over Financial Reporting

There were no changes to our internal controls over financial reporting during the quarter ended December 31, 2023 that has materially or is reasonably likely to materially affect internal control over financial reporting.

Report of Independent Registered Public Accounting Firm

To the Shareholders and the Board of Directors of Stoneridge, Inc.

Opinion on Internal Control over Financial Reporting

We have audited Stoneridge, Inc. and subsidiaries' internal control over financial reporting as of December 31, 2023, based on criteria established in *Internal Control — Integrated Framework* issued by the Committee of Sponsoring Organizations of the Treadway Commission (2013 framework) (the COSO criteria). In our opinion, Stoneridge, Inc. and subsidiaries (the Company) maintained, in all material respects, effective internal control over financial reporting as of December 31, 2023, based on the COSO criteria.

We also have audited, in accordance with the standards of the Public Company Accounting Oversight Board (United States) (PCAOB), the consolidated balance sheets of the Company as of December 31, 2023 and 2022, the related consolidated statements of operations, comprehensive income (loss), cash flows and shareholders' equity for each of the three years in the period ended December 31, 2023, and the related notes and financial statement schedule listed in the Index at Item 15 and our report dated March 1, 2024 expressed an unqualified opinion thereon.

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. Our responsibility is to express an opinion on the Company's internal control over financial reporting based on our audit. We are a public accounting firm registered with the PCAOB and are required to be independent with respect to the Company in accordance with the U.S. federal securities laws and the applicable rules and regulations of the Securities and Exchange Commission and the PCAOB.

We conducted our audit in accordance with the standards of the PCAOB. Those standards require that we plan and perform the audit to obtain reasonable assurance about whether effective internal control over financial reporting was maintained in all material respects.

Our audit included obtaining an understanding of internal control over financial reporting, assessing the risk that a material weakness exists, testing and evaluating the design and operating effectiveness of internal control based on the assessed risk, and performing such other procedures as we considered necessary in the circumstances. We believe that our audit provides a reasonable basis for our opinion.

Definition and Limitations of Internal Control Over Financial Reporting

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

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

/s/ Ernst & Young LLP

Detroit, Michigan
March 1, 2024

Item 9B. Other Information.

During the three months ended December 31, 2023, no director or officer of the Company adopted or terminated a "Rule 10b5-1 trading arrangement" or "non-Rule 10b5-1 trading arrangement," as each term is defined in Item 408(a) of Regulation S-K.

Item 9C. Disclosure Regarding Foreign Jurisdictions that Prevent Inspections.

Not Applicable.

PART III

Item 10. Directors, Executive Officers and Corporate Governance.

The information required by this Item 10 regarding our directors is incorporated by reference to the information under the sections and subsections entitled, "Proposal One: Election of Directors," "Section 16(a) Beneficial Ownership Reporting Compliance" and "Corporate Governance" contained in the Company's Proxy Statement in connection with its Annual Meeting of Shareholders to be held on May 14, 2024. The information required by this Item 10 regarding our executive officers appears as a Supplementary Item following Item 1 under Part I, hereof.

We have adopted a code of ethics that applies to our senior financial officers, including our principal executive officer, principal financial officer, and principal accounting officer. This code of ethics and our corporate governance policies are posted on our website at <https://investors.stoneridge.com/investors/corporate-governance/governance-documents/>. We will satisfy the disclosure requirement under Item 5.05 of Form 8-K regarding any material amendment to our code of ethics, and any waiver from a provision of our code of ethics that applies to our principal executive officer, principal financial officer, principal accounting officer, or persons performing similar functions, by posting such information on our website at the internet website address set forth above.

Item 11. Executive Compensation.

The information required by this Item 11 is incorporated by reference to the information under the sections and subsections "Compensation Committee," "Compensation Committee Interlocks and Insider Participation," "Compensation Committee Report" and "Executive Compensation" contained in the Company's Proxy Statement in connection with its Annual Meeting of Shareholders to be held on May 14, 2024.

Item 12. Security Ownership of Certain Beneficial Owners and Management and Related Stockholder Matters.

The information required by this Item 12 (other than the information required by Item 201(d) of Regulation S-K which is set forth below) is incorporated by reference to the information under the heading "Security Ownership of Certain Beneficial Owners and Management" contained in the Company's Proxy Statement in connection with its Annual Meeting of Shareholders to be held on May 14, 2024.

In May 2010, we adopted an Amended Directors' Restricted Share Plan and an Amended and Restated Long-Term Incentive Plan, as amended. In May 2013, we adopted an Amended Directors' Restricted Shares Plan and an Amended and Restated Long-Term Incentive Plan, as amended, to increase the number of shares available for issuance under the plans. In May 2016, we adopted the 2016 Long-Term Incentive Plan. In May 2018, we adopted the 2018 Amended and Restated Director's Restricted Shares Plan. In May 2022, we adopted the 2018 Amended and Restated Director's Restricted Shares Plan, as amended, to increase the number of shares available for issuance under the plan. Our shareholders approved each plan.

Equity compensation plan information as of December 31, 2023 is as follows:

	Number of securities remaining available for future issuance under equity compensation plans (A)
Equity compensation plans approved by shareholders	1,256,286
Equity compensation plans not approved by shareholders	—

(A) Excludes 753,436 share units issued to key employees pursuant to the Company's 2016 Long-Term Incentive Plan.

Item 13. Certain Relationships and Related Transactions, and Director Independence.

The information required by this Item 13 is incorporated by reference to the information under the subsections "Transactions with Related Persons", "Review and Approval of Transactions with Related Persons" and "Director Independence" contained in the Company's Proxy Statement in connection with its Annual Meeting of Shareholders to be held on May 14, 2024.

Item 14. Principal Accounting Fees and Services.

The information required by this Item 14 is incorporated by reference to the information under the subsections "Service Fees Paid to Independent Registered Accounting Firm" and "Pre-Approval Policies and Procedures" contained in the Company's Proxy Statement in connection with its Annual Meeting of Shareholders to be held on May 14, 2024.

PART IV

Item 15. Exhibits, Financial Statement Schedule.

(a) The following documents are filed as part of this Form 10-K.

	Page in Form 10-K
(1) Consolidated Financial Statements:	
Report of Independent Registered Public Accounting Firm	33
Consolidated Balance Sheets as of December 31, 2023 and 2022	35
Consolidated Statements of Operations for the Years Ended December 31, 2023, 2022 and 2021	36
Consolidated Statements of Comprehensive Income (Loss) for the Years Ended December 31, 2023, 2022 and 2021	37
Consolidated Statements of Cash Flows for the Years Ended December 31, 2023, 2022 and 2021	38
Consolidated Statements of Shareholders' Equity for the Years Ended December 31, 2023, 2022 and 2021	39
Notes to Consolidated Financial Statements	40
(2) Financial Statement Schedule:	
Schedule II – Valuation and Qualifying Accounts	69
(3) Exhibits:	

Exhibit Number	Exhibit
3.1	Second Amended and Restated Articles of Incorporation of the Company (incorporated by reference to Exhibit 3.1 to the Company's Annual Report on Form 10-K for the year ended December 31, 2022).
3.2	Amended and Restated Code of Regulations of the Company (incorporated by reference to Exhibit 3.1 to the Company's Quarterly Report on Form 10-Q for the quarter ended June 30, 2007).
4.1	Common Share Certificate (incorporated by reference to Exhibit 4.1 to the Company's Annual Report on Form 10-K for the year ended December 31, 1997).
4.2	Description of Stoneridge, Inc. Common Shares registered under Section 12 of the Securities Exchange Act of 1934, as amended (incorporated by reference to Exhibit 4.2 to the Company's Annual Report on Form 10-K for the year ended December 31, 2019).
10.1	Stoneridge, Inc. Deferred Compensation Plan (incorporated by reference to Exhibit 10.1 to the Company's Current Report on Form 8-K filed on June 2, 2017)*.
10.2	First Amendment to the Stoneridge, Inc. Deferred Compensation Plan (incorporated by reference to Exhibit 10.2 to the Company's Quarterly Report on Form 10-Q filed on October 26, 2018)*.
10.3	Stoneridge, Inc. Long-Term Cash Incentive Plan (incorporated by reference to Exhibit 10.3 to the Company's Quarterly Report on Form 10-Q for the quarter ended June 30, 2009)*.
10.4	Stoneridge, Inc. 2016 Long-Term Incentive Plan (incorporated by reference to Exhibit 99.2 to the Company's Current Report on Form 8-K filed on May 12, 2016)*.
10.5	First Amendment to the Stoneridge, Inc. 2016 Long-Term Incentive Plan (incorporated by reference to Exhibit 99.1 to the Company's Current Report on Form 8-K filed on May 20, 2020)*.
10.6	Stoneridge, Inc. Annual Incentive Plan (incorporated by reference to Exhibit 10.2 to the Company's Current Report on Form 8-K filed on May 12, 2021)*.
10.7	Stoneridge, Inc. 2018 Amended and Restated Directors' Restricted Shares Plan (incorporated by reference to Exhibit 99.1 to the Company's Current Report on Form 8-K filed on May 16, 2018)*.
10.8	Amendment No. 1 to the Stoneridge, Inc. 2018 Amended and Restated Directors' Restricted Shares Plan (incorporated by reference to Exhibit 10.1 to the Company's Current Report on Form 8-K filed on May 19, 2022)*.
10.9	Amended and Restated Officers' and Key Employees' Severance Plan of Stoneridge, Inc. (incorporated by reference to Exhibit 10.6 to the Company's Annual Report on Form 10-K for the year ended December 31, 2020)*.
10.10	Form of Change in Control Agreement (incorporated by reference to Exhibit 10.13 to the Company's Annual Report on Form 10-K for the year ended December 31, 2020)*.
10.11	Fourth Amended and Restated Credit Agreement (incorporated by reference to Exhibit 10.1 to the Company's Current Report on Form 8-K filed on June 7, 2019).
10.12	Waiver and Amendment No. 1 to the Fourth Amended and Restated Credit Agreement (incorporated by reference to Exhibit 10.1 to the Company's Current Report on Form 8-K filed on July 1, 2020).
10.13	Amendment No. 2 to the Fourth Amended and Restated Credit Agreement (incorporated by reference to Exhibit 10.22 to the Company's Annual Report on Form 10-K for the year ended December 31, 2021).

Exhibit Number	Exhibit
10.14	Amendment No. 3 to the Fourth Amended and Restated Credit Agreement (incorporated by reference to Exhibit 10.23 to the Company's Annual Report on Form 10-K for the year ended December 31, 2021).
10.15	Amendment No. 4 to the Fourth Amended and Restated Credit Agreement (incorporated by reference to Exhibit 10.23 to the Company's Annual Report on Form 10-K for the year ended December 31, 2022).
10.16	Fifth Amended and Restated Credit Agreement, dated November 2, 2023 (incorporated by reference to Exhibit 10.1 to the Company's Current Report on Form 8-K filed on November 2, 2023).
10.17	Consulting Services Agreement, dated January 30, 2023, by and between Stoneridge, Inc. and Jonathan DeGaynor (incorporated by reference to Exhibit 10.1 to the Company's Current Report on Form 8-K filed on January 31, 2023)*.
10.18	Form of Stoneridge, Inc. Directors' Restricted Shares Plan 2023 Grant Agreement (incorporated by reference to Exhibit 10.3 to the Company's Quarterly Report on Form 10-Q for the quarter ended March 31, 2023)*.
10.19	Form of Stoneridge, Inc. Long-Term Incentive Plan 2023 Performance Shares Grant Agreement (incorporated by reference to Exhibit 10.4 to the Company's Quarterly Report on Form 10-Q for the quarter ended March 31, 2023)*.
10.20	Form of Stoneridge, Inc. Long-Term Incentive Plan 2023 Restricted Share Units Agreement (incorporated by reference to Exhibit 10.5 to the Company's Quarterly Report on Form 10-Q for the quarter ended March 31, 2023)*.
10.21	Employment Agreement, dated April 13, 2023, between the Company and James Zizelman (incorporated by reference to Exhibit 10.1 to the Company's Current Report on Form 8-K filed on April 18, 2023)*.
10.22	Indemnification Agreement, dated April 13, 2023, between the Company and James Zizelman (incorporated by reference to Exhibit 10.2 to the Company's Current Report on Form 8-K filed on April 18, 2023).
10.23	Form of 2023 Phantom Share Grant Agreement (incorporated by reference to Exhibit 10.1 to the Company's Current Report on Form 8-K filed on June 22, 2023)*.
21.1	Principal Subsidiaries and Affiliates of the Company, filed herewith.
23.1	Consent of Independent Registered Public Accounting Firm, filed herewith.
31.1	Chief Executive Officer certification pursuant to Section 302 of the Sarbanes-Oxley Act of 2002, filed herewith.
31.2	Chief Financial Officer certification pursuant to Section 302 of the Sarbanes-Oxley Act of 2002, filed herewith.
32.1	Chief Executive Officer certification pursuant to 18 U.S.C. Section 1350, as adopted pursuant to Section 906 of the Sarbanes-Oxley Act of 2002, filed herewith.
32.2	Chief Financial Officer certification pursuant to 18 U.S.C. Section 1350, as adopted pursuant to Section 906 of the Sarbanes-Oxley Act of 2002, filed herewith.
97.1	Stoneridge, Inc. Compensation Recovery Policy, filed herewith.

Exhibit Number	Exhibit
101.INS	XBRL Instance Document - the instance document does not appear in the Interactive Data File because its XBRL tags are embedded within the Inline XBRL document
101.SCH	Inline XBRL Taxonomy Extension Schema Document
101.CAL	Inline XBRL Taxonomy Extension Calculation Linkbase Document
101.DEF	Inline XBRL Taxonomy Extension Definition Linkbase Document
101.LAB	Inline XBRL Taxonomy Extension Label Linkbase Document
101.PRE	Inline XBRL Taxonomy Extension Presentation Linkbase Document
104	Cover Page Interactive Data File – the cover page XBRL tags are embedded within the Inline XBRL document

* - Reflects management contract or compensatory plan or arrangement required to be filed as an exhibit pursuant to Item 15(b) of this Annual Report on Form 10-K.

(b) The exhibits listed are filed as part of or incorporated by reference into this report.

(c) Additional Financial Statement Schedules. None.

Item 16. Form 10-K Summary.

None.

SIGNATURES

Pursuant to the requirements of the 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.

STONERIDGE, INC.

Date: March 1, 2024

/s/ MATTHEW R. HORVATH

Matthew R. Horvath

Chief Financial Officer and Treasurer

(Principal Financial Officer)

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 and in the capacities and on the dates indicated.

Date: March 1, 2024

/s/ JAMES ZIZELMAN

James Zizelman

President, Chief Executive Officer and Director

(Principal Executive Officer)

Date: March 1, 2024

/s/ MATTHEW R. HORVATH

Matthew R. Horvath

Chief Financial Officer and Treasurer

(Principal Financial Officer)

Date: March 1, 2024

/s/ ROBERT J. HARTMAN JR.

Robert J. Hartman Jr.

Chief Accounting Officer

(Principal Accounting Officer)

Date: March 1, 2024

/s/ WILLIAM M. LASKY

William M. Lasky

Chairman of the Board of Directors

Date: March 1, 2024

/s/ IRA C. KAPLAN

Ira C. Kaplan

Director

Date: March 1, 2024

/s/ KIM KORTH

Kim Korth

Director

Date: March 1, 2024

/s/ GEORGE S. MAYES, JR.

George S. Mayes, Jr.

Director

Date: March 1, 2024

/s/ CARSTEN J. REINHARDT

Carsten J. Reinhardt

Director

Date: March 1, 2024

/s/ SHEILA RUTT

Sheila Rutt

Director

Date: March 1, 2024

/s/ PAUL J. SCHLATHER

Paul J. Schlather

Director

Date: March 1, 2024

/s/ FRANK S. SKLARSKY

Frank S. Sklarsky

Director

PRINCIPAL SUBSIDIARIES

Name of Subsidiary	Jurisdiction in Which Organized or Incorporated
<i>Consolidated Subsidiaries of Stoneridge, Inc.:</i>	
Exploitiemaatschappij Berghaaf B.V.	Netherlands
Orlaco GmbH	Germany
Orlaco Inc.	Delaware
Orlaco Products B.V.	Netherlands
PST Eletronica Ltda.	Brazil
PST Teletendimento Ltda.	Brazil
Positron Rastreadores Argentina S.A.	Brazil
SRI CS LLC	Michigan
SRI Delaware Holdings LLC	Delaware
SRI Holdings US LLC	Delaware
Stoneridge Fleet Solutions, Inc., F/K/A Stoneridge Aftermarket, Inc.	Ohio
Stoneridge Asia Holdings Ltd.	Mauritius
Stoneridge Asia Pacific Electronics (Suzhou) Co. Limited	China
Stoneridge B.V.	Netherlands
Stoneridge Control Devices, Inc.	Massachusetts
Stoneridge do Brasil Participacoes Ltda.	Brazil
Stoneridge Electronics AB	Sweden
Stoneridge Electronics AS	Estonia
Stoneridge Electronics, Inc.	Texas
Stoneridge Electronics Limited	Scotland, United Kingdom
Stoneridge Electronics S.r.l.	Italy
Stoneridge GmbH	Germany
Stoneridge Japan G.K.	Japan
Stoneridge Nordic AB	Sweden
TED de Mexico S. de R.L. de C.V.	Mexico
TED de Mexico Servicios S. de R.L. de C.V.	Mexico

CONSENT OF INDEPENDENT REGISTERED PUBLIC ACCOUNTING FIRM

We consent to the incorporation by reference in the following Registration Statements:

Registration	Description of Registration Statement
333-240206	Form S-8 – Stoneridge, Inc. 2016 Long-Term Incentive Plan, As Amended,
333-219648	Form S-8 – Stoneridge, Inc. Deferred Compensation Plan,
333-212867	Form S-8 – Stoneridge, Inc. 2016 Long-Term Incentive Plan,
333-226505	Form S-8 – Stoneridge, Inc. 2018 Amended and Restated Directors' Restricted Shares Plan, and
333-266534	Form S-8 – Stoneridge, Inc. 2018 Amended and Restated Directors' Restricted Shares Plan;

of our reports dated March 1, 2024, with respect to the consolidated financial statements and financial statement schedule of Stoneridge, Inc. and subsidiaries and the effectiveness of internal control over financial reporting of Stoneridge, Inc. and subsidiaries included in this Annual Report (Form 10-K) of Stoneridge, Inc. for the year ended December 31, 2023.

/s/ Ernst & Young LLP

Detroit, Michigan

March 1, 2024

CHIEF EXECUTIVE OFFICER CERTIFICATION PURSUANT TO SECTION 302 OF THE SARBANES–OXLEY ACT OF 2002

I, James Zizelman, certify that:

- (1) I have reviewed this Annual Report on Form 10-K of the Company;
- (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 Company as of, and for, the periods presented in this report;
- (4) The Company'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 Company and we 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 Company, 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 Company'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;
 - (d) Disclosed in this report any change in the Company's internal control over financial reporting that occurred during the Company's most recent quarter that has materially affected, or is reasonably likely to materially affect, the Company's internal control over financial reporting;
- (5) The Company's other certifying officer and I have disclosed, based on our most recent evaluation of internal control over financial reporting, to the Company's auditors and the audit committee of the Company's board of directors:
 - (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 Company'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 Company's internal control over financial reporting.

/s/ JAMES ZIZELMAN

James Zizelman, President and Chief Executive Officer

March 1, 2024

CHIEF FINANCIAL OFFICER CERTIFICATION PURSUANT TO SECTION 302 OF THE SARBANES–OXLEY ACT OF 2002

I, Matthew R. Horvath, certify that:

- (1) I have reviewed this Annual Report on Form 10-K of the Company;
- (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 Company as of, and for, the periods presented in this report;
- (4) The Company'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 Company and we 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 Company, 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 Company'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;
 - (d) Disclosed in this report any change in the Company's internal control over financial reporting that occurred during the Company's most recent quarter that has materially affected, or is reasonably likely to materially affect, the Company's internal control over financial reporting;
- (5) The Company's other certifying officer and I have disclosed, based on our most recent evaluation of internal control over financial reporting, to the Company's auditors and the audit committee of the Company's board of directors:
 - (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 Company'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 Company's internal control over financial reporting.

/s/ MATTHEW R. HORVATH

Matthew R. Horvath

Chief Financial Officer and Treasurer

March 1, 2024

CERTIFICATION PURSUANT TO 18 U.S.C. SECTION 1350, AS ADOPTED PURSUANT TO SECTION 906 OF THE SARBANES-OXLEY ACT OF 2002

I, James Zizelman, President and Chief Executive Officer, of Stoneridge, Inc. (the "Company"), certify, pursuant to 18 U.S.C. Section 1350, as adopted pursuant to Section 906 of the Sarbanes-Oxley Act of 2002, that:

- (1) the Annual Report on Form 10-K of the Company for the year ended December 31, 2023 (the "Report") which this certification accompanies fully complies with the requirements of Section 13(a) or 15(d) of the Securities Exchange Act of 1934 (15 U.S.C. 78m(a) or 78o(d)); and
- (2) the information contained in the Report fairly presents, in all material respects, the financial condition and results of operations of the Company.

/s/ JAMES ZIZELMAN

James Zizelman, President and Chief Executive Officer

March 1, 2024

A signed original of this written statement required by Section 906 of the Sarbanes-Oxley Act of 2002 has been provided to the Company and will be retained by the Company and furnished to the Securities and Exchange Commission or its staff upon request.

CERTIFICATION PURSUANT TO 18 U.S.C. SECTION 1350, AS ADOPTED PURSUANT TO SECTION 906 OF THE SARBANES-OXLEY ACT OF 2002

I, Matthew R. Horvath, Chief Financial Officer and Treasurer, of Stoneridge, Inc. (the "Company"), certify, pursuant to 18 U.S.C. Section 1350, as adopted pursuant to Section 906 of the Sarbanes-Oxley Act of 2002, that:

- (1) the Annual Report on Form 10-K of the Company for the year ended December 31, 2023 (the "Report") which this certification accompanies fully complies with the requirements of Section 13(a) or 15(d) of the Securities Exchange Act of 1934 (15 U.S.C. 78m(a) or 78o(d)); and
- (2) the information contained in the Report fairly presents, in all material respects, the financial condition and results of operations of the Company.

/s/ MATTHEW R. HORVATH

Matthew R. Horvath

Chief Financial Officer and Treasurer

March 1, 2024

A signed original of this written statement required by Section 906 of the Sarbanes-Oxley Act of 2002 has been provided to the Company and will be retained by the Company and furnished to the Securities and Exchange Commission or its staff upon request.



Stoneridge, Inc. Recovery Policy

Introduction

The Board of Directors (the "Board") of Stoneridge, Inc. (the "Company") deems it in the best interest of the Company and its shareholders to establish and maintain a culture that emphasizes integrity and accountability and that reinforces the Company's pay-for-performance compensation philosophy. The Board is adopting this Recovery Policy (the "Policy") providing for the recovery of certain Incentive-Based Compensation (defined below) paid to Company executive officers in the event of an Accounting Restatement (defined below). As of the Effective Date, this Policy supersedes and replaces the Company's existing Clawback Policy, adopted by the Board on December 8, 2015 (the "Prior Policy"), which shall continue to be applicable for the period prior to the Effective Date.

The Policy is designed to comply with, and shall be interpreted to be consistent with, Section 954 of the Dodd-Frank Act, Section 10D of the Securities Exchange Act of 1934, as amended (the "Exchange Act"), Rule 10D-1 promulgated under the Exchange Act ("Rule 10D-1") and Section 303A.14 of the New York Stock Exchange ("NYSE") Listed Company Manual. The Policy shall apply in the event of a certain restatements of the Company's financial statements, whereby any Incentive-Based Compensation paid would have been a lower amount if it had been calculated based on such restated financial statements regardless of whether (i) any misconduct or fraud occurred, or (ii) the executive officers covered by this Policy are responsible for the erroneous financial statements.

Administration

This Policy shall be administered by the Compensation Committee of the Board (the "Committee"). The Committee is authorized to interpret and construe this Policy and to make all determinations necessary, appropriate or advisable for the administration of this Policy. Any determinations made by the Committee shall be final and binding on all affected individuals and need not be uniform with respect to each individual covered by the Policy. In the administration of this Policy, the Committee is authorized and directed to consult with the full Board or such other committees of the Board, such as the Audit Committee or Compliance and Ethics Committee, as may be necessary or appropriate as to matters within the scope of such other committee's responsibility and authority. Subject to any limitation at applicable law, the Committee may authorize and empower any officer or employee of the Company to take actions appropriate to carry out the purpose and intent of this Policy (other than with respect to any recovery under this Policy involving such officer or employee).

Any members of the Committee, and any other members of the Board who assist in the administration of this Policy, shall not be personally liable for any action, determination or interpretation made with respect to this Policy and shall be fully indemnified by the Company to the fullest extent under applicable law and Company policy with respect to any such action, determination or interpretation.

Certain Defined Terms

Accounting Restatement. Accounting Restatement means a financial statement 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, or that would result in a material misstatement if the error were corrected in the current period or left uncorrected in the current period.

Applicable Period. Applicable Period means the three completed fiscal years immediately preceding the date on which the Company is required to prepare an Accounting Restatement, as well as any transition period (that results from a change in the Company's fiscal year) within or immediately following those three completed fiscal years (except that a transition period that comprises a period of at least nine months shall count as a completed fiscal year). The date on which the Company is required to prepare an Accounting Restatement is the earlier to occur of (i) the date the Board or the Board's Audit Committee concludes, or reasonably should have concluded, that the Company is required to prepare an Accounting Restatement, or (ii) the date a court, regulator or other legally authorized body directs the Company to prepare an Accounting Restatement, in each case regardless of if or when the restated financial statements are filed.

Erroneously Awarded Compensation. 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 (computed without regard to any taxes paid).

For purposes of this definition for any 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 the amount shall be based on a reasonable estimate of the effect of the Accounting Restatement on the Company's stock price or total shareholder return upon which the Incentive-Based Compensation was received. The Company shall maintain documentation of the determination of that reasonable estimate and provide such documentation to the New York Stock Exchange.

Financial Reporting Measures. Financial Reporting Measures are measures that are 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. Financial Reporting Measures may include, among other things: share price, total shareholder return, revenues, net income, earnings before interest, taxes, depreciation and amortization ("EBITDA"), operating income, liquidity measures (such as, working capital, operating cash flow, free cash flow), return measures (such as, return on invested capital or return on assets); earnings measures (such as, earnings per share); financial ratios; comparison with stock market indices or peer performance; and profitability of one or more reportable segments, or any of the foregoing as adjusted. A Financial Reporting Measure need not be presented within the financial statements or included in a filing with the Securities and Exchange Commission and may include both GAPP and non-GAPP measures.

Incentive-Based Compensation. 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 and shall generally be deemed to include all performance-based compensation including all cash incentive and equity compensation awarded to the Covered Executives, the amount, payment and/or vesting of which was calculated based wholly or in part on the application of objective performance criteria measured during any part of the period covered by the restatement. Incentive Based-Compensation does not include:

- any base salaries, except with respect to any salary increases earned wholly or in part based on the attainment of a Financial Reporting Measure performance goal;
- bonuses paid solely at the discretion of the Committee that are not paid from a bonus pool that is determined by a satisfying Financial Reporting Measure performance goal;
- bonuses paid solely upon satisfying one or more subjective standards and/or completion of specified employment period;
- non-equity incentive plan awards earned solely upon satisfying one or more strategic or operational measures; or
- equity awards that vest solely based on the passage of time and or attaining one or more non-Financial Reporting Measures.

Received. Incentive-Based Compensation is deemed received in the Company's 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.

Covered Executives

For the Applicable Period this Policy applies to the Company's current and former executive officers ("Covered Executives"), whether or not the executive officer is at fault, including the Company's current or former president, chief executive officer, principal financial officer, principal accounting officer (or if there is no such accounting officer, the controller), any vice-president of the Company 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 policymaking functions for the Company. Policy-making function is not intended to include policy-making functions that are not significant. Executive officers of the Company's subsidiaries are deemed executive officers of the Company if they perform such policy making functions for the Company. Executive officers for purposes of this Policy shall include the executive officers identified in the most recently filed Company's Annual Report on Form 10-K or Annual Proxy Statement, as applicable.

Incentive-Based Compensation Subject to this Policy

This Policy applies to Incentive-Based Compensation received by a Covered Executive (i) after beginning services as a Covered Executive; (ii) if that person served as a Covered Executive at any time during the performance period for such Incentive-Based Compensation, and (iii) while the Company had a listed class of securities on the NYSE.

Policy on Recovered of Erroneously Awarded Compensation

In the event the Company is required to prepare an Accounting Restatement, the Company shall promptly recover or recoup the amount of any Erroneously Awarded Compensation received by any Covered Executive during the Applicable Period. The Company's obligation to recover Erroneously Awarded Compensation is not dependent on if or when the restated financial statements are filed.

Means of Recoupment

The Committee will determine, in its sole discretion, the timing and method for promptly recouping Erroneously Awarded Compensation hereunder, which may include without limitation:

- requiring reimbursement of Erroneously Awarded Compensation previously paid;
- requiring reimbursement of any prior salary increase that was based on achievement of a Financial Reporting Measure that would have been a lower amount if had it had been calculated based on any restated financial statements;
- seeking recovery of any gain realized on the vesting, exercise, settlement, sale, transfer or other disposition of any equity-based awards;

- canceling prior cash or equity-based awards, whether vested or unvested or paid or unpaid;
- offsetting the recouped amount from any compensation otherwise owed by the Company to the Covered Executive;
- cancelling outstanding vested or unvested equity awards;
- cancelling or offsetting against any planned future cash or equity-based awards;
- forfeiture of deferred compensation, subject to compliance with Section 409A of the Internal Revenue Code and the regulations promulgated thereunder; or
- taking any other remedial and recovery action permitted by law, as determined by the Committee.

Subject to compliance with any applicable law, the Committee may affect recovery of Erroneously Awarded Compensation under this Policy from any amount otherwise payable to the Covered Executive, including amounts payable to such individual under any otherwise applicable Company plan or program, including base salary or bonuses. The Company is authorized and directed pursuant to this Policy to recoup Erroneously Awarded Compensation in compliance with this Policy unless the Committee has determined that recovery would be impracticable solely for the following limited reasons, and subject to the following procedural and disclosure requirements:

- the direct expense paid to a third party to assist in enforcing the 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 Committee must make a reasonable attempt to recover such Erroneously Awarded Compensation, document such reasonable attempt(s) to recover and provide that documentation to NYSE;
- recovery would violate home country law where that law was adopted prior to November 28, 2022. Before concluding that it would be impracticable to recover any amount of Erroneously Awarded Compensation based on violation of home country law, the Committee must obtain an opinion of home country counsel, acceptable to the NYSE, that recovery would result in such a violation, and must provide such opinion to the NYSE; or
- recovery would likely cause an otherwise tax-qualified retirement plan, under which benefits are broadly available to employees of the registrant, 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

Notwithstanding the terms of any indemnification or insurance policy or any contractual agreement with any Covered Executive that may be interpreted to the contrary, the Company shall not indemnify any Covered Executives against the loss of any Erroneously Awarded Compensation, including, but not limited to, any payment or reimbursement for the cost of third-party insurance purchased by any Covered Executives to fund potential Company recovery obligations under this Policy.

Amendment and Termination

The Board may amend or terminate this Policy from time to time in its discretion.

Other Recoupment Rights

Any employment agreement, equity award agreement or similar agreement entered into on or after the Effective Date (defined below) shall, as a condition to the grant of any benefit thereunder, require a Covered Executive to agree to abide by the terms of this Policy. Any right of recoupment under this Policy is in addition to, and not in lieu of, any other remedies or rights of recoupment that may be available to the Company pursuant to the terms of the Prior Policy or in any employment agreement, equity award agreement, or similar agreement and any other legal remedies available to the Company.

Effective Date

This Policy shall be effective on September 13, 2023 (the "Effective Date") and shall apply to Incentive-Based Compensation that is approved, awarded, granted to or received by Covered Executives on or after that date and includes compensation payable pursuant to executive compensation arrangements in existence as of the Effective Date.

Successors

This Policy shall be binding and enforceable against all Covered Executives and their beneficiaries, heirs, executors, administrators or other legal representatives.

Exhibit Filing Requirement

A copy of this Policy and any amendments thereto shall be posted on the Company's website and filed as an exhibit to the Company's annual report on Form 10-K.

Recovery Policy Acknowledgment

I, the undersigned, agree and acknowledge that I am fully bound by, and subject to, the terms and conditions of the Stoneridge, Inc. Recovery Policy (as may be amended, restated, supplemented or otherwise modified from time to time, the "Policy"). In the event of any inconsistency between the Policy and the terms of any employment agreement to which I am a party, or the terms of any compensation plan, program or agreement under which any compensation has been granted, awarded, earned or paid, the terms of the Policy shall govern. In the event it is determined by the Compensation Committee that any amounts granted, awarded, earned or paid to me must be forfeited or reimbursed to the Company per the Policy, I will promptly take any action necessary to effectuate such forfeiture and/or reimbursement.

Name

Signature

Date