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, 2020

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).

☒

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 ☐	Accelerated filer ☒	Non-accelerated filer ☐
Smaller reporting company ☐	Emerging growth company ☐	

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

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

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, 2020, the aggregate market value of the registrant's Common Shares held by non-affiliates of the registrant was approximately $532.3 million. The closing price of the Common Shares on June 30, 2020 as reported on the New York Stock Exchange was $20.66 per share. As of June 30, 2020, the number of Common Shares outstanding was 27,000,901.

The number of Common Shares outstanding as of February 19, 2021 was 27,005,257.

DOCUMENTS INCORPORATED BY REFERENCE

Definitive Proxy Statement for the Annual Meeting of Shareholders to be held on May 11, 2021, 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 impact of COVID-19, or other future pandemics, on the global economy, and on our customers, suppliers, employees, business and cash flows;
- 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, motorcycle or agricultural vehicle production;
- competitive market conditions and resulting effects on sales and pricing;
- the impact on changes in foreign currency exchange rates on sales, costs and results, particularly the Argentinian peso, Brazilian real, Chinese renminbi, euro, Mexican peso and Swedish krona;
- our ability to achieve cost reductions that offset or exceed customer-mandated selling price reductions;
- customer acceptance of new products;
- our ability to successfully launch/produce products for awarded business;
- adverse changes in laws, government regulations or market conditions, including tariffs, affecting our products 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 our control, such as the recent coronavirus outbreak;
- 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;
- 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 or market perceptions;
- 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 IA ("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 components, modules and systems for the automotive, commercial, off-highway, motorcycle and agricultural vehicle markets. Our products and systems are critical elements in the management of mechanical and electrical 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 26 locations in 12 countries and enables us to supply global and regional automotive, commercial, off-highway, motorcycle, 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 security and convenience. Our product offerings consist of actuators, sensors, switches and connectors, driver information systems, camera-based vision 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 for this trend.

Beginning with the divestiture of our wiring business in 2014, we accelerated a shift in our product portfolio towards smart products, or those products which 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, it was largely a commodity 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-based vision system, and the acquisition of 100 percent of our Stoneridge Brazil business. In 2019, the Company sold the Control Devices Non-core Products 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 percent of our sales in 2014 to almost 73% of our sales in 2020. 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"). The costs for the Canton Restructuring included employee severance and termination costs, contract termination 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. We recognized $3.0 million and $12.5 million of expense as a result of these actions during the years ended December 31, 2020 and 2019, respectively. During the third quarter of 2020, we leased the Canton facility to a third party and are evaluating the sale of the facility. The Company expects additional costs to be immaterial related to the Canton Restructuring.

On April 1, 2019, the Company entered into an Asset Purchase Agreement and sold product lines and assets related to certain Control Devices non-core switches and connectors (the "Non-core Products"). The Non-core Products were manufactured in Juarez, Mexico and Canton, Massachusetts, and include ball switches, ignition switches, rotary switches, courtesy lamps, toggle switches, headlamp switches and other related components. See Note 2 to the consolidated financial statement for additional details regarding the disposal of Non-core Products.

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. The estimated costs for the PM Sensor Exit include employee severance and termination costs, contract termination costs, professional fees and other related costs such as potential commercial and supplier settlements. Non-cash charges include impairment of fixed assets and accelerated depreciation associated with PM sensor production. We recognized $3.4 million of expense as a result of this initiative during the year ended December 31, 2020. The estimated range of additional cost of the plan to exit the PM sensor product line, that will impact the Control Devices segment, is approximately $2.8 million and $6.3 million and is related to employee severance and termination costs, contract terminations costs, other related costs such as potential commercial and supplier settlements and accelerated depreciation. The Company expects the exit from the PM sensor product line to be completed in the fourth quarter of 2021.

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 electrified powertrain applications that will drive future growth for the segment. Our Electronics segment is expected drive strong revenue growth through previously awarded new program launches including our first two launches for our MirrorEye® camera-based vision system in the OEM market, as well as our continued investment in current and future technologies. Our Stoneridge Brazil segment continues to integrate into our global Electronics 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 and 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 shift by wire products. Sensor products are employed in major vehicle systems such as the emissions, safety, powertrain, braking, climate control, steering and suspension 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, camera-based vision 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. Camera-based vision products provide enhanced vehicle visibility 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, camera-based vision systems are sold to the off-highway and commercial vehicle markets.

Stoneridge Brazil. Our Stoneridge Brazil segment, formerly referred to as “PST”, 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 and telematics solutions primarily for the automotive and motorcycle markets. This segment includes product lines such as vehicle monitoring and tracking devices, security alarms, convenience applications such as parking sensors and review view cameras, audio and infotainment 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, direct to OEMs and through mass merchandisers. 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 and mass merchandisers, 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:

Year ended December 31	2020	2019	2018
Automotive	**49 %**	41 %	41 %
Commercial vehicle	**30**	33	33
Off-highway and other	**14**	18	17
Aftermarket distributors, mass merchandisers and monitoring services	**7**	8	9

For further information related to our reportable segments and financial information about geographic areas, see Note 14 to the consolidated financial statements.

Production Materials

The principal production materials used in the Company's manufacturing process are molded plastic components and resins, copper, steel, precious metals and certain electrical components such as printed circuit boards, semiconductors, microprocessors, memory devices, resistors, capacitors, fuses, relays, infotainment devices and cameras. 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 of time 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 business, nor would the expiration or invalidity of any patent have a material adverse effect on our business or ability to compete.

Industry Cyclicality 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, motorcycle 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, motorcycle and agricultural vehicle production of our principal customers could adversely impact the Company. Our Control Devices and Electronics and segments are typically not affected by seasonality, however the demand for our Stoneridge Brazil segment consumer products is typically higher in the second half of the year, the fourth quarter in particular.

Customers

We have several customers which 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 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 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.

Backlog

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 usually includes 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. Our customers make no firm commitments regarding volume and may terminate these agreements or orders at any time. The Company's estimated sourced future sales may also be impacted by various assumptions, including new program vehicle production levels, customer price reductions, foreign currency exchange rates and program launch timing. The Company's customer agreements may be terminated by customers at any time and, accordingly, estimated sourced future sales information does not represent firm orders or firm commitments. The Company defines backlog as the estimated cumulative awarded sales for the next five years (or "estimated sourced future sales"). The Company's estimated sourced future sales were $3.0 billion as of December 31, 2020, compared to $3.2 billion as of December 31, 2019. Sales related to the disposal of the Control Devices Non-core Products business are excluded from our estimated sourced future sales as of December 31, 2019. There were no sales related to the disposal of the Control Devices Non-core Products business for the year ended December 31, 2020. Due to the planned exit of the Control Devices particulate matter ("PM") sensor products business, related sales are excluded from our estimated sourced future sales as of December 31, 2020.

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 and mass merchandiser 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 or below target price. We compete against the following companies:

Control Devices. Our primary competitors include Aisin Seiki, Dana Incorporated, EFI Automotive, Erich Jaeger, ETO: Gruppe, Ficosa Corporation, Futronic, GHSP, Johnson Electric, Kongsberg Automotive, Korea Fuel Tech Corporation (KFTC), Mitsubishi Electronics (MELCO), Nidec, Sensata and Sonceboz.

Electronics. Our primary competitors include Actia Group, Aptiv, Bosch, Continental, Delphi Technologies, Hella KGaA Hueck & Co., Magneti Marelli, Mekra Lang, Valeo, Visteon and ZF Frierichshafen.

Stoneridge Brazil. Our primary competitors include Autotrac, Bosch, CalAmp, Car System, Continental, Harman Automotive, Hinor, Ituran, Magneti Marelli, Maxtrack, Onix, Pioneer Corporation, Quelink, Sascar, Suntech, Taramps, Tury and Visteon.

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. We work closely with our customers to solve customer requests using innovative approaches. The majority 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.

While our engineering and product development departments are organized by market, our segments interact and collaborate on new products. The product development operations are complimented by technology groups in Barneveld, Netherlands; Campinas, Brazil; Juarez, Mexico; Lexington, Ohio; Novi, Michigan; Pune, India, Stockholm, Sweden and Suzhou, China.

We have invested, and will continue to invest heavily in technology to develop new products for our customers. 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, 2020, Stoneridge employed approximately 4,800 full time and temporary employees in 13 countries, with about 84% 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 “townhall” meetings and other communications
- Employee wellness programs
- Opportunities for community and charitable involvement *(reduced in 2020 due to COVID-19 pandemic)*
- 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.

We believe a diverse workforce and an inclusive work environment is required for us to achieve our full potential as an organization. We further recognize the importance of having a strong Diversity, Equity & Inclusion ("DEI") strategy. In 2020, we embarked on an initiative to reassess our DEI strategy, identify gaps between our ideal and current states, and develop goals and actions to realize measurable improvement. We look forward to continuing this work in 2021.

It is always a top priority, but in 2020 employee health and safety was of paramount importance due to the COVID-19 global pandemic. Where feasible, employees began working from home in March 2020 through the remainder of the year and into early 2021. For jobs that could not be done remotely, extensive safety measures were implemented, including temperature and health screenings, distanced workstations, plexiglass barriers, enhanced cleaning and disinfection protocols, required face coverings, contact tracing when needed, published Safe Workplace Guidelines, and employee training. Our safety measures are aligned with the recommendations of US and global health organizations, and have continued into 2021.

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. In 2021, our Human Capital focus will continue to be on employee engagement, employee and leadership development, communications, and employee health and safety.

Joint Ventures

We form joint ventures in various global markets in order to achieve several strategic objectives including (i) diversifying our business by expanding in high-growth regions, (ii) employing complementary design processes, growth technologies and intellectual capital, and (iii) realizing cost savings from combined sourcing.

We have a 49% noncontrolling equity interest in Minda Stoneridge Instruments Ltd. ("MSIL"). Based in India, MSIL manufactures electromechanical/electronic instrumentation equipment and sensors primarily for the automotive, motorcycle and commercial vehicle markets. We leverage our investment in MSIL by sharing our knowledge and expertise in electrical components and systems and expanding MSIL's product offering through the joint development of our products designed for the market in India.

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
Jonathan B. DeGaynor	54	President, Chief Executive Officer and Director
Robert R. Krakowiak	50	Executive Vice President, Chief Financial Officer and Treasurer
Susan Benedict	54	Chief Human Resources Officer and Assistant General Counsel
Laurent Borne	46	President of the Electronics Division and Chief Technology Officer
Thomas M. Dono, Jr.	48	Chief Legal Officer and Secretary
Caetano R. Ferraiolo	53	President of the PST Electronics Division
Robert J. Hartman Jr.	54	Chief Accounting Officer
Kevin Heigel	61	Vice President of Operations
Daniel M. Kusiak	51	Chief Procurement Officer
James Zizelman	60	President of the Control Devices Division

Jonathan B. DeGaynor, President, Chief Executive Officer and Director. Mr. DeGaynor was appointed as President and Chief Executive Officer in March 2015. He has served as a director since May 2015. Prior to joining Stoneridge, Mr. DeGaynor served as the Vice President of Strategic Planning and Innovation of Guardian Industries Corp. ("Guardian"), from October 2014 until March 2015. Mr. DeGaynor served as Vice President of Business Development, Managing Director Asia for SRG Global, Inc., a Guardian company, from 2008 through September 2014. Mr. DeGaynor served as Chief Operating Officer, International for Autocam Corporation from 2005 to 2008. Prior to that, Mr. DeGaynor held positions of increasing responsibility with Delphi Corporation from 1993 to 2005.

Robert R. Krakowiak, Executive Vice President, Chief Financial Officer and Treasurer. Mr. Krakowiak was appointed as Executive Vice President in October 2018 and Chief Financial Officer and Treasurer in August 2016. Prior to joining Stoneridge, Mr. Krakowiak served as Vice President, Treasurer and Investor Relations at Visteon Corporation from 2012 until August 2016. Prior to that, Mr. Krakowiak held the following positions at Owens Corning: from 2009 until 2012, Vice President of Finance (Composite Solutions Business); from 2008 until 2009, Vice President–Corporate Financial Planning and Analysis; from 2006 until 2008, Vice President and Controller (Roofing and Asphalt); and from 2005 until 2006, Assistant Treasurer.

Susan Benedict, Chief Human Resources Officer and Assistant General Counsel. Ms. Benedict was appointed chief human resources officer and assistant general counsel – labor and employment (CHRO) 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.

Laurent Borne, President of the Electronics Division and Chief Technology Officer. Mr. Borne was appointed as President of the Electronics Division in January 2019. Mr. Borne joined the Company in August 2018 and has been serving as the Company's Chief Technology Officer and will continue to serve in this role. Prior to joining Stoneridge, Mr. Borne served as Vice President of Product Development at Whirlpool Corporation from 2014 until August 2018.

Thomas M. Dono, Jr., Chief Legal Officer and Secretary. Mr. Dono was appointed as Chief Legal Officer and Secretary in January 2018. Prior to joining Stoneridge, Mr. Dono served as Executive Vice President, General Counsel and Corporate Secretary at Metaldyne Performance Group, Inc. from July 2016 to April 2017. Prior to that, Mr. Dono served as Senior Vice President, Legal Affairs, General Counsel and Corporate Secretary at Key Safety Systems, Inc. from May 2009 to July 2016.

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.

Kevin Heigel, Vice President of Operations. Mr. Heigel was appointed Vice President of Operations in January 2020. Prior to that Mr. Heigel had been employed at ALPHA Performance Group, LLC as its Co-Founder and Managing Director from 2009 until December 2019. Prior to that Mr. Heigel was at served in various roles at Delphi last serving as Managing Director, Delphi Electrical Centers from 2006 to 2009.

Daniel M. Kusiak, Chief Procurement Officer. Mr. Kusiak was appointed as Chief Procurement Officer in October 2018. Prior to that, Mr. Kusiak served as Vice President of Global Procurement since he joined Stoneridge in 2015. Prior to that, he served as head of Strategic Business Initiatives at Sypris Technologies, Inc. from 2013. Prior to that, Kusiak was employed at Meritor, Inc. where he held positions of increasing responsibility in the purchasing function over a 10-year tenure.

James Zizelman, President of the Control Devices Division. Mr. Zizelman was appointed to President of the Control Devices Division in April 2020. Until his employment with the Company, 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.

Available Information

We make available, free of charge through our website (www.stoneridge.com), our Annual Report 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 and Nominating and Corporate Governance 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.

Risks Related to the Coronavirus (COVID-19) Pandemic

Pandemics or disease outbreaks, such as COVID-19, have disrupted, and may continue to disrupt our business, which could adversely affect our results of operation and financial condition.

Pandemics or disease outbreaks, such as COVID-19, have disrupted, and may continue to disrupt, the global economy. In late 2019, a novel strain of the coronavirus (COVID-19) was reported to have been detected in Wuhan, China and on March 11, 2020 it was declared by the World Health Organization to be a global pandemic. The COVID-19 pandemic has negatively impacted the global economy, disrupting the financial markets and increasing volatility, and has impeded global supply chains, restricted manufacturing operations and resulted in significantly reduced economic activity and higher unemployment rates. It has disrupted, and may continue to disrupt for an indefinite period of time, the global vehicle industry and customer sales, production volumes and purchases of automotive, commercial, off-highway, motorcycle and agricultural vehicles by end-consumers. International, federal, state and local public health and governmental authorities have taken and may continue to take actions to contain the outbreak and spread of COVID-19 throughout most regions of the world, including travel bans, quarantines, "work-from-home" orders and similar mandates that have caused many businesses to modify normal operations. During 2020 we took actions to enhance our financial flexibility and minimize the impact on our business, such as the ramping down of certain production facilities in response to customer plant closures and changes in vehicle production schedules, imposing certain travel restrictions, obtaining a waiver on our existing 2019 Credit Facility through June 2021 and actively managing costs, capital spending and working capital to further strengthen our liquidity. Despite these measures, the ultimate impact to our business continues to remain highly uncertain and we have experienced, and may continue to experience, delays in the production and distribution of our products, supply chain disruptions impacting the availability of production materials and the loss or delay of customers’ sales.

COVID-19 continues to spread in most regions of the world and the extent to which our financial performance will be adversely affected will depend on future developments, which are highly uncertain and cannot be predicted, including, but not limited to, the duration and spread of the pandemic, its severity, the effectiveness of actions to contain the virus or treat its impact and how quickly and to what extent normal economic and operating conditions can resume. Our business may also be affected by the ultimate impacts of the pandemic on economic activity and whether recessionary conditions will persist or reoccur, consumer demand and vehicle production schedules and the ability of our supply chain to deliver in a timely and cost-effective manner. In addition, if a significant portion of our workforce or our customers’ workforce are affected by COVID-19, either directly or due to government closures or otherwise, associated work stoppages or facility closures could halt or further delay production in our facilities, including our manufacturing facilities in Juarez, Mexico and Manaus, Brazil which are currently producing at limited capacity due to governmental decrees. Our full year 2020 results of operations and financial condition were adversely affected by COVID-19, and the full extent of the effect of COVID-19 on our customers, our supply chain and our business, in either scope or duration, cannot be assessed at this time.

Uncertain Economic and Market Conditions

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

The demand for products is largely dependent on the domestic and foreign production of automotive, commercial, off-highway, motorcycle 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, motorcycle 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 2020, approximately 93% of our net sales were derived from automotive, commercial, off-highway, motorcycle and agricultural vehicle markets while approximately 7% were derived from aftermarket distributors, mass merchandisers and monitoring services markets.

Due to the overall global economic conditions in 2020, largely as a result of COVID-19 pandemic, the automotive, commercial, off-highway, motorcycle and agricultural vehicle markets experienced a decline in global customer sales and production volumes. As a result, we have experienced and may continue to experience reductions in orders from our customers in certain regions. An economic downturn or other adverse industry conditions that result in a decline in automotive, commercial, off-highway, motorcycle 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.

Our business is very competitive and increased competition could reduce our sales and profitability.

The markets for our products are highly competitive. We compete based on technological innovation, price, quality, performance, service and delivery. Many of our competitors are more diversified and have greater financial and other resources than we do. In addition, with respect to certain products, some of our competitors are divisions of our OEM customers. We cannot assure that our business will not be adversely affected by competition or that we will be able to maintain our profitability if the competitive environment changes.

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 2020, our top five customers were Ford Motor Company, Volvo, American Axle, Daimler and FCA Group which comprised 11%, 8%, 6%, 5% and 5% of our net sales, respectively. In 2020, our top ten customers accounted for 56% 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 bankruptcy.

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 management information 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, to develop new products and to 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, 2020, there was $136.0 million in borrowings outstanding on our revolving credit facility, as amended, (the "2019 Credit Facility"). In addition, we are permitted under our 2019 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 any 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 2019 Credit Facility may limit our ability to pursue our business strategies.

Our 2019 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.

During 2020 we amended the 2019 Credit Facility. As amended the 2019 Credit Facility provides for certain covenant relief restrictions during the Covenant Relief Period (the period ending on the date that the Company delivers a compliance certificate for the quarter ending June 30, 2021 in form and substance satisfactory to the administrative agent). During the Covenant Relief Period:

- the maximum net leverage ratio is suspended;
- the calculation of the minimum interest coverage ratio will exclude second quarter 2020 financial results effective for the quarters ended September 30, 2020 through March 31, 2021;
- the minimum interest coverage ratio of 3.50 is reduced to 2.75 and 3.25 for the quarters ended December 31, 2020 and March 31, 2021, respectively;
- the Company's liquidity may not be less than $150,000;
- the Company's aggregate amount of cash and cash equivalents cannot exceed $130,000;
- there are certain restrictions on Restricted Payments (as defined); and
- a Permitted Acquisition (as defined) may be not consummated unless otherwise approved in writing by the required lenders.

Following the Covenant Relief Period, the agreement governing our 2019 Credit Facility requires us to maintain a maximum leverage ratio of 3.50 to 1.00, and a minimum interest coverage ratio of 3.50 to 1.00 and places a maximum annual limit on capital expenditures. 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 2019 Credit Facility could result in an event of default. If an event of default occurs, the lenders under the 2019 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 2019 Credit Facility lenders could pursue foreclosure and other remedies against us and our assets.

Our annual effective tax rate could be volatile and materially change as a result of changes in the mix of earnings and other factors including changes in the recognition and/or release of valuation allowances against deferred tax assets.

Our overall effective tax rate is computed by dividing our total tax expense (benefit) by our total earnings (loss) before tax. However, tax expense and benefits are not recognized on a global basis, but rather on a jurisdictional or legal entity basis. Losses in certain jurisdictions may not provide a current financial statement tax benefit as a result of the need to maintain a valuation allowance against the associated deferred tax asset. Also, management periodically evaluates the realizability of our deferred tax assets which may result in the recognition and/or release of valuation allowances. As a result, changes in the mix of earnings between jurisdictions and changes in the recognition and/or release of valuation allowances, among other factors, could have a significant effect on our overall effective tax rate.

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 and other supplies, and substantially all such materials we require are purchased from outside sources. The availability and prices of raw materials 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 and memory chips. 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 adverse impacts of the COVID-19 pandemic led to a significant vehicle production slowdown in the first half of 2020, which was followed by increased consumer demand and vehicle production schedules in the second half of 2020. This surge in demand led to a worldwide semiconductor supply shortage at the end of 2020 and into early 2021, as semiconductor suppliers have been unable to rapidly reallocate production lines to serve the transportation industry. In addition, we have experienced longer lead-times, higher costs and delays in procuring other component parts and raw materials. As a result, we are currently experiencing supply chain disruptions. We are assessing the potential supply chain impacts, which may directly or indirectly impact various suppliers, and correspondingly, OEM production. We are working closely with our suppliers and customers to minimize any potential adverse impacts, and we continue to closely monitor the availability of semiconductor microchips and other component parts and raw materials, customer vehicle production schedules and any other supply chain inefficiencies that may arise, due to this or any other issue. However, any direct or indirect supply chain disruptions may have an adverse impact on our financial condition, results of operations or cash flows.

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. 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 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 operational revenues, 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 2020 were derived from sales outside of North America. At December 31, 2020, significant concentrations of net assets outside of North America included $221.3 million in Europe and Other and $30.3 million in South America. Non-current assets outside of North America accounted for approximately 62% of our non-current assets as of December 31, 2020. International sales and operations are subject to significant risks, including, among others:

- political and economic instability;
- restrictive trade policies;
- economic conditions in local markets;
- currency exchange rates and controls;
- labor 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.

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 new United States-Mexico-Canada Agreement and the U.S. trade relationship 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 continue 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.

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 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. Third parties have asserted and may assert or prosecute infringement claims against us 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. Any such claims and resulting litigation could require us to enter into licensing agreements (if available on acceptable terms or at all), pay damages and cease making or selling certain products and could result in a loss of our intellectual property protection. 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. Recently, the Company has seen an increase in customer requests for indemnification in connection with third party patent claims related to connectivity-enabled products. These claims are being made by patent-holders seeking royalties and who may enter into litigation based on patent infringement allegations. 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 information are critical to our business operations.

Also, we continually expand and 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 successfully, or if the systems do not perform in a satisfactory manner once implementation 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 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 in flux. 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.

Item 1B. Unresolved Staff Comments.

None.

Item 2. Properties.

At December 31, 2020, the Company and its joint venture owned or leased ten manufacturing facilities, which together contain approximately 1.1 million square feet of manufacturing space. Of these manufacturing facilities, four are used by our Control Devices reportable segment, five are used by our Electronics reportable segment, one is used by our Stoneridge Brazil reportable segment and three are used by our joint venture, MSIL. The following table provides information regarding our facilities:

Location	Owned/ Leased	Use	Square Footage
Control Devices			
Lexington, Ohio	Owned	Manufacturing/Engineering	219,612
Juarez, Mexico (A)	Owned	Manufacturing/Engineering	235,035
Suzhou, China (A)	Leased	Manufacturing/Engineering/Sales Office	145,033
Canton, Massachusetts(B)	Owned	Leased to Third Party	132,560
El Paso, Texas (A)	Leased	Warehouse	57,000
Lexington, Ohio	Leased	Warehouse	15,000
Novi, Michigan	Leased	Engineering	6,398
Lexington, Ohio	Leased	Warehouse	2,700
Electronics			
Tallinn, Estonia (C)	Leased	Manufacturing/Engineering	85,911
Orebro, Sweden	Leased	Manufacturing	77,472
Barneveld, Netherlands	Owned	Manufacturing/Engineering	62,700
Stockholm, Sweden	Leased	Engineering/Division Office	41,248
Jasper, Georgia	Leased	Sales Office/Warehouse	12,250
Bayonne, France	Leased	Sales Office/Warehouse	9,655
Dundee, Scotland	Leased	Sales Office/Engineering	4,683
Ottobrunn, Germany	Leased	Sales Office	1,119
Stoneridge Brazil			
Manaus, Brazil	Owned	Manufacturing	102,247
Campinas, Brazil	Owned	Engineering/Division Office	45,467
Campinas, Brazil	Leased	Sales Office	9,246
Buenos Aires, Argentina	Leased	Sales Office	2,906
Serra, Brazil	Leased	Sales Office	172
Corporate and Other			
Novi, Michigan (C)	Leased	Headquarters/Division Office	37,713
Stuttgart, Germany	Leased	Sales Office/Engineering	2,000
Joint Venture			
Pune, India	Owned	Manufacturing/Engineering/Sales Office	86,817
Pune, India	Leased	Manufacturing/Engineering	71,000
Chennai, India	Leased	Manufacturing	25,844

(A) This facility is also used in the Electronics reportable segment.
(B) This facility was closed in March 31, 2020 as a result of a restructuring plan and the consolidation of operations at this site into other Company locations. Refer to Notes 7 and 13 to the consolidated financial statements.
(C) 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 19, 2021, we had 27,005,257 Common Shares, without par value, outstanding which were owned by approximately 160 shareholders of record. This does not include persons whose stock is in nominee or "street name" accounts held by banks, brokers and other nominees.

The following table presents information with respect to repurchases of Common Shares made by us during the three months ended December 31, 2020. There were no 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, 2020.

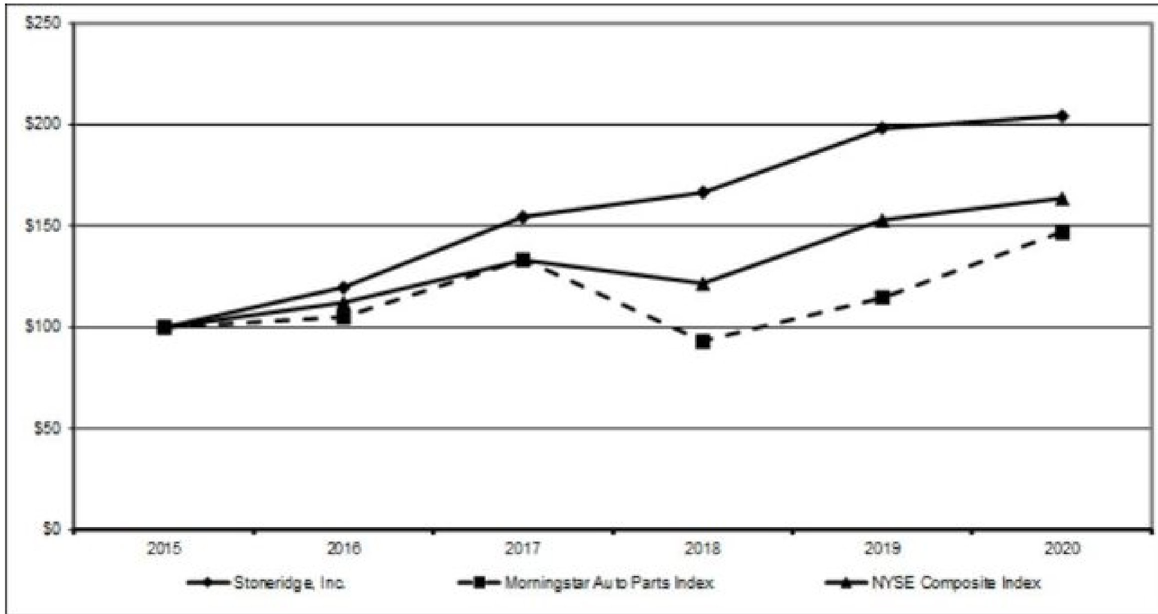
Period	Total number of shares purchased	Average price paid per share	Total number of shares purchased as part of publicly announced plans or programs	Maximum number of shares that may yet be purchased under the plans or programs
10/1/20-10/31/20	-	$ -	N/A	N/A
11/1/20-11/30/20	-	-	N/A	N/A
12/1/20-12/31/20	-	-	N/A	N/A
Total	-			

Other than the repurchase of Common Shares in March 2020 and May 2019 and the repurchase of Common Shares of 80,427 and 136,644, respectively, to satisfy employee tax withholdings associated with the delivery of Common Shares earned by employees pursuant to equity-base 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, 2020 or 2019. Refer to Note 2 of the consolidated financial statements for additional details regarding Common Share repurchases.

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 Morningstar Auto Parts Industry Group Index and the NYSE Composite Index based on the respective market price of each investment as of December 31, 2015, 2016, 2017, 2018, 2019 and 2020 assuming in each case an initial investment of $100 on December 31, 2015, and reinvestment of dividends.



	2015	2016	2017	2018	2019	2020
Stoneridge, Inc.	$ 100	$ 120	$ 154	$ 167	$ 198	**$ 204**
Morningstar Auto Parts Index	$ 100	$ 105	$ 133	$ 93	$ 115	**$ 147**
NYSE Composite Index	$ 100	$ 112	$ 133	$ 122	$ 153	**$ 164**

Item 6. Selected Financial Data.

The following table sets forth selected historical financial data and should be read in conjunction with the consolidated financial statements and notes related thereto and other financial information included elsewhere herein. The selected historical data was derived from our consolidated financial statements.

Year ended December 31, (in thousands, except per share data)	2020	2019 (A)	2018	2017	2016
Statement of Operations Data:					
Net sales:					
Control Devices	**$ 342,576**	$ 431,560	$ 441,297	$ 447,528	$ 408,132
Electronics (B)	**257,767**	335,195	344,727	282,383	205,256
Stoneridge Brazil	**47,663**	67,534	80,175	94,533	82,589
Total net sales	**$ 648,006**	$ 834,289	$ 866,199	$ 824,444	$ 695,977
Gross profit	**$ 154,196**	$ 213,733	$ 256,631	$ 248,140	$ 195,439
Operating (loss) income:					
Control Devices	**$ 22,072**	$ 73,327	$ 64,191	$ 72,555	$ 61,815
Electronics (B)	**(3,672)**	25,006	28,236	18,119	14,798
Stoneridge Brazil	**3,766**	6,539	4,989	2,661	(3,462)
Unallocated Corporate (F)	**(29,830)**	(33,591)	(30,412)	(35,965)	(29,069)
Total operating (loss) income	**$ (7,664)**	$ 71,281	$ 67,004	$ 57,370	$ 44,082
Equity in earnings of investees	**$ 1,536**	$ 1,578	$ 2,038	$ 1,636	$ 1,233
(Loss) income before income taxes from continuing operations (B)	**$ (10,724)**	$ 68,393	$ 65,058	$ 52,582	$ 39,185
Net (loss) income (B) (C) (D) (E)	**(7,950)**	60,291	53,848	45,049	75,574
Net loss attributable to noncontrolling interest (E)	**-**	-	-	(130)	(1,887)
Net (loss) income attributable to Stoneridge, Inc. (B) (C) (D) (E)	**$ (7,950)**	$ 60,291	$ 53,848	$ 45,179	$ 77,461
Basic (loss) earnings per share attributable to Stoneridge, Inc.	**$ (0.29)**	$ 2.17	$ 1.90	$ 1.61	$ 2.79
Diluted (loss) earnings per share attributable to Stoneridge, Inc.	**$ (0.29)**	$ 2.13	$ 1.85	$ 1.57	$ 2.74
Other Continuing Operations Data:					
Design and development	**$ 49,386**	$ 52,198	$ 51,074	$ 48,877	$ 40,212
Capital expenditures	**$ 27,660**	$ 35,824	$ 29,027	$ 32,170	$ 24,476
Depreciation and amortization (G)	**$ 33,236**	$ 30,859	$ 29,191	$ 27,930	$ 23,258
Balance Sheet Data (as of December 31):					
Working capital	**$ 188,616**	$ 192,670	$ 172,870	$ 167,245	$ 128,184
Total assets	**$ 621,408**	$ 602,209	$ 559,519	$ 559,037	$ 394,529
Long-term debt, net of current portion	**$ 136,000**	$ 126,454	$ 96,983	$ 124,852	$ 75,060
Shareholders' equity	**$ 296,634**	$ 289,904	$ 283,266	$ 244,072	$ 192,077

(A) The amounts for 2019 include the effect of the disposal of Non-core Products which is disclosed in Note 2 to the Company's consolidated financial statements. The Company recognized a gain on disposal of Non-core Products, net of $33,599 which is included within our Control Devices segment.

(B) The amounts for 2020, 2019, 2018 and 2017 include the Orlaco business as of the acquisition date which is included within our Electronics operating segment and is disclosed in Note 2 to the Company's consolidated financial statements.

(C) The amounts for 2017 include the impact of the Tax Legislation, a net tax benefit of $(9,062), consisting of an increase in tax expense of $6,207 due to the one-time deemed repatriation tax, offset by the favorable impact of the reduced tax rate on the Company's net deferred tax liabilities and other deferred tax adjustments of $(15,269) related to certain earnings included in the one-time transition tax.

(D) The Company recorded a release of a valuation allowance associated with its U.S. federal, certain state and foreign deferred tax assets of $48.5 million for the year ended December 31, 2016.

(E) The Company recorded a full valuation allowance on Stoneridge Brazil's net deferred tax assets of $1,237 for the year ended December 31, 2016 of which $322 was attributable to noncontrolling interest.

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

(G) These amounts represent depreciation and amortization on fixed and certain finite-lived intangible assets.

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 components, modules and systems primarily for the automotive, commercial, off-highway, motorcycle 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.

Impact of COVID-19 on Our Business

The coronavirus pandemic ("COVID-19") has had a negative impact on the global economy in 2020, disrupting financial markets and increasing volatility, and has impeded global supply chains, restricted manufacturing operations and resulted in significantly reduced economic activity and higher unemployment rates. It has disrupted, and likely will continue to disrupt, the global vehicle industry and customer sales, production volumes and purchases of automotive, commercial, off-highway, motorcycle and agricultural vehicles by end-consumers. COVID-19 began to impact our operations in the first quarter of 2020 as government authorities imposed mandatory closures, work-from-home orders, social distancing protocols, and other restrictions. These actions materially affected our ability to adequately staff and maintain our operations and supply chain and significantly impacted our financial results in the first half of 2020. The adverse conditions caused by COVID-19 initially reduced demand for our products and increased operating costs, which resulted in lower overall margins. Similar to our customers, we instituted several changes to our manufacturing operations to reduce the spread of COVID-19 and keep our employees safe. In the second half of 2020, as a result of recovery across our global end-markets, we experienced significant sales growth compared to the second quarter 2020. Although our end-markets showed strong recovery in the second half of 2020, during the fourth quarter of 2020, certain European, North American and South American countries began to initiate new governmental restrictions in response to renewed pandemic impacts and concerns, and many of these restrictions have continued into the first quarter of 2021. As a result, COVID-19 may continue to adversely impact demand for our products, financial condition and results of operations in the near term.

The adverse impacts of the COVID-19 pandemic led to a significant vehicle production slowdown in the first half of 2020, which was followed by increased consumer demand and vehicle production schedules in the second half of 2020. This surge in demand led to a worldwide semiconductor supply shortage at the end of 2020 and into early 2021, as semiconductor suppliers have been unable to rapidly reallocate production lines to serve the transportation industry. In addition, we have experienced longer lead-times, higher costs and delays in procuring other component parts and raw materials. As a result, we are currently experiencing supply chain disruptions. We are assessing the potential supply chain impacts, which may directly or indirectly impact various suppliers, and correspondingly, OEM production. We are working closely with our suppliers and customers to minimize any potential adverse impacts, and we continue to closely monitor the availability of semiconductor microchips and other component parts and raw materials, customer vehicle production schedules and any other supply chain inefficiencies that may arise, due to this or any other issue. However, any direct or indirect supply chain disruptions may have an adverse impact on our financial condition, results of operations or cash flows.

We continue to actively manage our cash and working capital to preserve adequate liquidity and ensure that our business can continue to operate during these uncertain times. Beginning in the first quarter and into the second quarter of 2020, we undertook several actions to reduce costs and spending across our organization. This included reducing hiring activities, temporarily reducing our workforce in facilities impacted by volume reductions or shutdowns and limiting discretionary spending. Due to the adverse financial impact of COVID-19 resulting from significantly reduced production during the second quarter of 2020, we amended our existing credit facility to waive several financial covenants, including our net debt leverage compliance ratio, until the second quarter of 2021. As of December 31, 2020, our cash and cash equivalents balance was $73.9 million while undrawn commitments on our credit facility were $262.3 million.

We will also continue to actively monitor the impact of COVID-19 on our business and served-markets and may take further actions that alter our business operations as may be required by federal, state or local authorities or that we determine are in the best interests of our employees, customers, suppliers and shareholders.

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, camera-based vision systems, connectivity and compliance products and electronic control units.

Stoneridge Brazil (formerly referred to as "PST"). 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 and telematics solutions.

Overview

The Company had net loss of $8.0 million, or $(0.29) per diluted share, for the year ended December 31, 2020.

Net income in 2020 decreased by $68.3 million, or $(2.42) per diluted share, from $60.3 million, or $2.13 per diluted share, for the year ended December 31, 2019 primarily due to the COVID-19 pandemic, the 2019 gain on disposal of Control Devices' Non-core Products of $33.6 million, or $0.98 per diluted share, and the recovery of Brazilian indirect taxes of $6.5 million, or $0.20 per diluted share. This decrease in net income was partially offset by a favorable fair value adjustment, net for earn-out consideration of $5.5 million, or $0.20 per diluted share, at Stoneridge Brazil and a $4.3 million decrease in restructuring costs during 2020.

In 2020, our net sales decreased by $186.3 million, or 22.3%, while our operating income decreased $79.5 million.

Our Control Devices segment net sales decreased by 20.6% primarily as a result of COVID-19 and 2019 sales of $41.6 million under the contract manufacturing agreement pursuant to the disposal of the Non-core Products. Including the impact of COVID-19, Control Devices experienced decreased sales volume in our North American automotive, North American commercial vehicle, agricultural and other markets. These decreases were partially offset by increased sales volume in our European and China automotive markets. Segment gross margin decreased due to lower sales from COVID-19, the adverse impact of the disposal of Non-core Products in the second quarter of 2019 and COVID-19 related incremental operating costs for employee safety protocols. Segment operating income decreased 69.9% relative to 2019 due to the 2019 gain on disposal of Non-Core Products, lower sales primarily related to COVID-19 and impact from the disposal of Non-core Products that occurred in the second quarter of 2019.

Our Electronics segment net sales decreased by 23.1% primarily as a result of COVID-19 including a decrease in sales volume in our European, North American and China commercial vehicle markets as well as European off-highway vehicle products. These decreases were partially offset by a favorable foreign currency translation. Segment gross margin decreased primarily due to lower sales as a result of the of COVID-19 pandemic and from the adverse leverage of fixed costs and COVID-19 related incremental operating costs for employee safety protocols. Operating income for the segment decreased compared to 2019 due to lower sales as a result of COVID-19 resulting in lower gross margin. Electronics SG&A cost reductions were offset by business realignment and restructuring expenses.

Our Stoneridge Brazil segment net sales decreased by 29.4% due to unfavorable foreign currency translation and the effects of COVID-19 causing lower volumes for our aftermarket, mass retail and OES channels mostly in the second quarter of 2020. Segment gross margin was consistent with the prior year as lower sales levels were offset with favorable product mix of a greater percentage of monitoring service fees. Operating income decreased 42.4% compared to 2019 primarily from the 2019 recovery of Brazilian indirect taxes of $6.5 million, lower sales volumes and margin offset by a favorable fair value adjustment, net for earn-out consideration of $5.5 million recognized in 2020.

In 2020, SG&A expenses were favorably impacted due to lower incentive compensation costs, professional service fees and travel related expenses. Additionally, a favorable fair value adjustment, net for earn-out consideration of $5.5 million at Stoneridge Brazil offset by the 2019 recovery of Brazilian indirect taxes of $6.5 million and higher 2020 business realignment and restructuring costs of $3.1 million.

At December 31, 2020 and 2019, we had cash and cash equivalents of $73.9 million and $69.4 million, respectively. The 2020 increase in borrowings under the 2019 Credit Facility were to maintain a high level of liquidity to ensure adequate available capital across our global locations due to adverse economic conditions caused by COVID-19. At December 31, 2020 and 2019, we had $136.0 million and $126.0 million, respectively, in borrowings outstanding on the 2019 Credit Facility.

Outlook

While the Company believes that focusing on products that address industry megatrends will have a positive impact on both our top-line growth and underlying margins, beginning in the first quarter of 2020 and continuing through the fourth quarter, COVID-19 has caused worldwide adverse economic conditions and uncertainty in our served markets.

The North American automotive market is expected to increase from 13.0 million units in 2020 to 16.2 million units in 2021 as the market recovers from adverse economic conditions caused by COVID-19 in 2020. The Company expects sales volumes in our Control Devices segment to increase from 2020 based on the current 2021 production forecasts and ramp up of certain program launches, however, global supply chain shortages, such as the global semiconductor supply shortage, could potentially have an adverse impact on our sales volumes in the first half of 2021.

For 2021, we expect an increase in our Electronics' segment sales in 2021 compared to 2020 primarily due to the increase in production volume forecasts in our European and North American commercial markets and new program launches in 2021, including the first two launches of our MirrorEye camera based vision system in OEM markets as well as the continued roll out of MirrorEye in the retrofit markets.

Our 2020 Stoneridge Brazil segment revenues declined compared to the prior year due to the adverse economic conditions caused by COVID-19 and lower volumes in our Brazilian served markets for our audio and alarm products. In January 2021, the International Monetary Fund ("IMF") forecasted the Brazil gross domestic product to grow 3.6% in 2021 and 2.6% in 2022. We expect our served market channels to remain relatively flat based on current market conditions. Our financial performance in our Stoneridge Brazil segment is also subject to uncertainty from movements in the Brazilian Real and Argentina Peso foreign currencies.

Global transportation production has been impacted by supply chain disruptions, in the first quarter of 2021, primarily in our automotive passenger vehicle end-market. Based on the current market conditions, we expect production reductions to be limited in the first half of 2021 and expect most production to be to be made up in the second half of year due to current market demand. We do not expect a significant revenue impact in 2021, however, we do expect that increased material costs, due to material spot buys and increased expediting and premium freight costs, to have an adverse impact on gross margin, particularly in the first half of 2021.

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 Brazilian real, Argentine peso and Mexican peso in 2020 and the Swedish krona, euro, Brazilian real and Argentine peso in 2019, unfavorably impacting our material costs and reported results. In 2020, the U.S. Dollar weakened against the Swedish krona and euro which favorably impacted our material costs and reported results.

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. The estimated costs for the PM Sensor Exit include employee severance and termination costs, contract termination costs, professional fees and other related costs such as potential commercial and supplier settlements. Non-cash charges include impairment of fixed assets and accelerated depreciation associated with PM sensor production. We recognized $3.4 million of expense as a result of this initiative during the year ended December 31, 2020. The estimated range of additional cost of the plan to exit the PM sensor product line, that will impact the Control Devices segment, is approximately $2.8 million and $6.3 million and is related to employee severance and termination costs, contract terminations costs, other related costs such as commercial and supplier settlements and accelerated depreciation. The estimated range of additional cost increased since the third quarter of 2020 due to customer and supplier negotiations. The Company expects the exit from the PM sensor product line to be completed in the fourth quarter of 2021.

In January 2019, we committed to a restructuring plan that resulted in the closure of our 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"). The costs for the Canton Restructuring included employee severance and termination costs, contract termination 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. We recognized $3.0 million and $12.5 million of expense as a result of these actions during the years ended December 31, 2020 and 2019, respectively. During the third quarter of 2020, we leased the Canton facility to a third party and are evaluating the sale of the facility. We expect additional costs to be immaterial related to the Canton Restructuring.

In the fourth quarter of 2018, we undertook restructuring actions for our Electronics segment affecting our 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. For the years ended December 31, 2020 and 2019, we recognized expense of $2.4 million and $0.6 million, respectively, as a result of these actions for related costs and non-cash fixed asset charges for accelerated depreciation. The Company expects to incur approximately $0.2 million of additional restructuring costs related to employee severance and other related costs for these actions through the second quarter of 2021.

On April 1, 2019, the Company entered into an Asset Purchase Agreement by and among the Company, the Company's wholly owned subsidiary, Stoneridge Control Devices, Inc. ("SCD"), and Standard Motor Products, Inc. ("SMP"). On the same day pursuant to the APA, in exchange for $40.0 million (subject to a post-closing inventory adjustment which was a payment to SMP of $1.6 million) and the assumption of certain liabilities, the Company and SCD sold to SMP product lines and assets related to certain non-core switches and connectors (the "Non-core Products"). On April 1, 2019, the Company and SMP also entered into certain ancillary agreements, including a transition services agreement, a contract manufacturing 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. The products related to the Non-core Products were manufactured in Juarez, Mexico and Canton, Massachusetts, and included ball switches, ignition switches, rotary switches, courtesy lamps, toggle switches, headlamp switches and other related components. On April 1, 2019, the Company's Control Devices segment recognized net sales and costs of goods sold of $4.2 million and $2.8 million, respectively, for the one-time sale of finished goods inventory and a gain on disposal of $33.9 million for the sale of fixed assets, intellectual property and customer lists associated with the Non-core Products less transaction costs. On June 17, 2020, the Company and SMP terminated the transition services agreement and the contract manufacturing agreement.

On October 26, 2018 the Company announced a Board of Directors approved share repurchase program authorizing Stoneridge to repurchase up to $50.0 million of our Common Shares. Thereafter, on May 7, 2019, we announced that the Company had entered into an accelerated share repurchase agreement with Citibank N.A. to repurchase an aggregate of $50.0 million of our Common Shares. Pursuant to the accelerated share repurchase agreement in the second quarter of 2019 we made an upfront payment of $50.0 million and received an initial delivery of 1,349,528 Common Shares which became treasury shares. On February 25, 2020, Citibank N.A. terminated early its commitment pursuant to the accelerated share repurchase agreement and delivered to the Company, 364,604 Common Shares representing the final settlement of the Company's repurchase program which became treasury shares.

On February 24, 2020, the Board of Directors authorized a new repurchase program of $50.0 million for the repurchase of outstanding Common Shares over an 18 month period. The repurchases may be made from time to time in either open market transactions or in privately negotiated transactions. Repurchases may also be made under rule 10b-18, which permit Common Shares to be repurchased through pre-determined criteria. The timing, volume and nature of common share repurchases will be at the discretion of management, dependent on market conditions, other priorities of cash investment, applicable securities laws and other factors. This Common Share repurchase program authorization does not obligate the Company to acquire any particular amount of its Common Shares, and it may be suspended or discontinued at any time. For the quarter ended March 31, 2020, under the new 2020 repurchase program, the Company repurchased 242,634 Common Shares for $5.0 million, which became treasury shares, in accordance with this repurchase program authorization. In April 2020, the Company announced that it was temporarily suspending the previously announced share repurchase program in response to uncertainty surrounding the duration and magnitude of the impact of COVID-19.

In March 2017, the Supreme Court of Brazil issued a decision concluding that a certain state value added tax should not be included in the calculation of federal gross receipts taxes. The decision reduced Stoneridge Brazil's gross receipts tax prospectively and, potentially, retrospectively. In April 2019, the Company received judicial notification that the Superior Judicial Court of Brazil rendered a favorable decision on Stoneridge Brazil's case granting the Company the right to recover, through offset of federal tax liabilities, amounts collected by the government from June 2010 to February 2017.

Based on the Company's determination that these tax credits will be used prior to expiration, we recorded a pre-tax benefit of $6.5 million as a reduction to SG&A expense which is inclusive of related interest income of $2.4 million, net of applicable professional fees of $1.0 million in the second quarter of 2019. The Company received administrative approval in January 2020 and is now offsetting eligible federal taxes with these tax credits. The Brazilian tax authorities have sought clarification before the Supreme Court of Brazil (in a leading case involving another taxpayer) of certain matters that could affect the rights of Brazilian taxpayers regarding these credits. The timing for a decision is uncertain due to the COVID-19 pandemic. If the Brazilian tax authorities challenge our rights to these credits, we may become subject to new litigation that could impact the amount ultimately realized by Stoneridge Brazil.

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. On May 4, 2020, the Company began business realignment actions that resulted in the reduction of our global salaried workforce by approximately 5.0%. These actions were made to better align our resources and cost structure with our current business opportunities and market outlook as well as respond to COVID-19. One-time separation costs of $4.0 million associated with these and other realignment actions were incurred during the year ended December 31, 2020.

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, 2020 Compared To Year Ended December 31, 2019

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

Year ended December 31,	**2020**		**2019**		**Dollar increase / (decrease)**
Net sales	**$ 648,006**	**100.0 %**	$ 834,289	100.0 %	$ (186,283)
Costs and expenses:					
Cost of goods sold	**493,810**	**76.2**	620,556	74.4	(126,746)
Selling, general and administrative	**112,474**	**17.4**	123,853	14.8	(11,379)
Gain on disposal of non-core products, net	**-**	**-**	(33,599)	(4.0)	33,599
Design and development	**49,386**	**7.6**	52,198	6.3	(2,812)
Operating (loss) income	**(7,664)**	**(1.2)**	71,281	8.5	(78,945)
Interest expense, net	**6,124**	**0.9**	4,324	0.5	1,800
Equity in earnings of investee	**(1,536)**	**(0.2)**	(1,578)	(0.2)	(42)
Other (income) expense, net	**(1,528)**	**(0.2)**	142	-	1,670
(Loss) income before income taxes	**(10,724)**	**(1.7)**	68,393	8.2	(79,117)
(Benefit) provision for income taxes	**(2,774)**	**(0.4)**	8,102	1.0	(10,876)
Net (loss) income	**$ (7,950)**	**(1.3)%**	$ 60,291	7.2 %	$ (68,241)

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

Year ended December 31,	**2020**		**2019**		**Dollar decrease**	**Percent decrease**
Control Devices	**$ 342,576**	**52.9 %**	$ 431,560	51.7 %	$ (88,984)	(20.6)%
Electronics	**257,767**	**39.7**	335,195	40.2	(77,428)	(23.1)%
Stoneridge Brazil	**47,663**	**7.4**	67,534	8.1	(19,871)	(29.4)%
Total net sales	**$ 648,006**	**100.0 %**	$ 834,289	100.0 %	$ (186,283)	(22.3)%

Our Control Devices segment net sales decreased primarily as a result of COVID-19 and 2019 sales of $41.6 million under the contract manufacturing agreement pursuant to the 2019 disposal of the Non-core Products. Including the impact of COVID-19, Control Devices experienced decreased sales volume in our North American automotive, North American commercial vehicle, agricultural and other markets of $61.5 million, $17.4 million, $9.6 million and $14.5 million, respectively. These decreases were offset by increased sales volume in our European and China automotive markets of $7.2 million and $6.6 million, respectively.

Our Electronics segment net sales decreased primarily as a result of COVID-19 including a decrease in sales volume in our European, North American and China commercial vehicle markets of $47.2 million, $23.4 million and $1.0 million, respectively. In addition, the Electronics segment net sales decreased due to a decrease in sales volume in our European off-highway vehicle products of $17.1 million. These decreases were offset by a favorable foreign currency translation of $11.4 million.

Our Stoneridge Brazil segment net sales decreased due to unfavorable foreign currency translation of $19.5 million and the effects of COVID-19 causing lower volumes for our aftermarket, mass retail and OES channels mostly in the second quarter of 2020.

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

Year ended December 31,		2020		2019	Dollar decrease	Percent decrease
North America	**$ 330,528**	**51.0 %**	$ 457,633	54.8 %	$ (127,105)	(27.8)%
South America	**47,663**	**7.4**	67,534	8.1	(19,871)	(29.4)%
Europe and Other	**269,815**	**41.6**	309,122	37.1	(39,307)	(12.7)%
Total net sales	**$ 648,006**	**100.0 %**	$ 834,289	100.0 %	$ (186,283)	(22.3)%

The decrease in North American net sales was primarily attributable to the impact of COVID-19 and 2019 sales of Non-core Products under the contract manufacturing agreement of $41.6 million. Including the impact of COVID-19, sales volume has decreased in our North American automotive, commercial vehicle, agricultural and other markets by $60.8 million, $40.8 million, $9.6 million and $14.5 million, respectively. The decrease in net sales in South America was primarily due to unfavorable foreign currency translation of $19.5 million and lower volumes for our aftermarket, mass retail and OES channels mostly in the second quarter of 2020 primarily due to COVID-19. The decrease in net sales in Europe and Other was primarily due to a decrease in our European commercial vehicle and off-highway markets of $47.2 million and $17.1 million, respectively, primarily impacted by COVID-19. Europe and Other sales were favorably impacted due to increased sales volume in our European automotive and China automotive of $6.7 million and $6.6 million, respectively, as well as favorable foreign currency translation of $11.6 million.

Cost of Goods Sold and Gross Margin. Cost of goods sold decreased compared to 2019 and our gross margin decreased to 23.8% in 2020 compared to 25.6% in 2019. Our material cost as a percentage of net sales decreased by 0.3% to 52.8% in 2020 compared to 53.1% in 2019. Overhead as a percentage of net sales increased by 2.1% to 18.0% for 2020 compared to 15.9% for 2019 primarily due to adverse fixed cost leverage on lower sales levels including COVID-19 related incremental operating costs.

Our Control Devices segment gross margin decreased due to lower sales from COVID-19, the impact of the disposal of Non-core Products in the second quarter of 2019, as well as adverse fixed cost leverage on lower sales levels including our Canton facility which ceased production in accordance with our Canton restructuring plan in December 2019 and COVID-19 related incremental operating costs for employee safety protocols.

Our Electronics segment gross margin decreased primarily due to lower sales as a result of the of COVID-19 pandemic and higher overhead costs from the adverse leverage of fixed costs and COVID-19 related incremental operating costs for employee safety protocols.

Our Stoneridge Brazil segment gross margin decreased due to lower sales volumes partially offset by lower material costs due to favorable product mix from a greater percentage of monitoring service fees.

Selling, General and Administrative ("SG&A"). SG&A expenses decreased by $11.4 million compared to 2019 due to a favorable fair value adjustment, net for earn-out consideration of $5.5 million at Stoneridge Brazil, lower incentive compensation costs, professional service fees and travel related expenses offset by the 2019 recovery of Brazilian indirect taxes of $6.5 million and higher 2020 business realignment and restructuring costs of $3.1 million.

Gain on Disposal of Non-core Products, net. The gain on disposal in 2019 relates to the disposal of Control Devices' Non-core Products.

Design and Development ("D&D"). D&D costs decreased by $2.8 million mostly due to lower restructuring and business realignment expenses at Control Devices of $2.3 million and lower spending at Control Devices due to the pace of the restoration of the engineering function previously located at the Canton facility.

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

Year ended December 31,	2020	2019	Dollar increase / (decrease)	Percent increase / (decrease)
Control Devices	**$ 22,072**	$ 73,327	$ (51,255)	(69.9)%
Electronics	**(3,672)**	25,006	(28,678)	NM
Stoneridge Brazil	**3,766**	6,539	(2,773)	(42.4)%
Unallocated corporate	**(29,830)**	(33,591)	3,761	11.2 %
Operating (loss) income	**$ (7,664)**	$ 71,281	$ (78,945)	NM

Our Control Devices segment operating income decreased due to the 2019 gain on disposal of Non-core Products, lower sales primarily related to COVID-19 as well as lower sales from the disposal of Non-core Products from the second quarter of 2019. Adverse leverage of fixed costs from lower sales volumes and COVID-19 related incremental operating costs offset by lower restructuring costs also affected operating income.

Our Electronics segment operating income decreased primarily due to lower sales as a result of COVID-19 resulting in lower gross margin. Electronics SG&A cost reductions were offset by business realignment and restructuring expenses.

Our Stoneridge Brazil segment operating income decreased primarily from the 2019 recovery of Brazilian indirect taxes of $6.5 million, lower sales volumes and margin offset by a favorable fair value adjustment, net for earn-out consideration of $5.5 million recognized in 2020.

Our unallocated corporate operating loss decreased primarily from lower incentive compensation, professional fees and travel related expenses.

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

Year ended December 31,	2020	2019	Dollar decrease	Percent decrease
North America	**$ (22,179)**	$ 32,694	$ (54,873)	NM
South America	**3,766**	6,539	(2,773)	(42.4)%
Europe and Other	**10,749**	32,048	(21,299)	(66.5)%
Operating (loss) income	**$ (7,664)**	$ 71,281	$ (78,945)	NM

Our North American operating results decreased due to lower sales in our automotive, commercial vehicle, agriculture and off-highway markets, adverse leverage of fixed costs and COVID-19 related incremental operating costs for employee safety protocols. The decrease in operating income in South America was primarily due to the 2019 recovery of indirect Brazilian taxes and lower sales volumes offset by the favorable fair value adjustment, net for earn-out consideration. Our operating results in Europe and Other decreased primarily due to lower sales in our commercial vehicle and off-highway markets, adverse leverage of fixed costs and COIVD-19 related incremental operating costs for employee safety protocols.

Interest Expense, net. Interest expense, net increased by $1.8 million compared to 2019 due to an increase in outstanding debt balances.

Equity in Earnings of Investee. Equity earnings for MSIL were $1.5 million and $1.6 million for the years ended December 31, 2020 and 2019, respectively. The decrease in MSIL earnings was due to lower sales volume from the COVID-19 pandemic.

Other (Income) Expense, net. We record certain foreign currency transaction and forward currency hedge contract (gains) losses as a component of other income, net on the consolidated statement of operations. Other income, net increased by $1.7 million to $1.5 million in 2020 compared to other expense, net of $0.1 million in 2019 primarily due to higher foreign currency transaction gains in our Electronics, Control Devices and Stoneridge Brazil segments.

(Benefit) Provision for Income Taxes. In 2020, income tax benefit of $(2.8) million was attributable to the mix of earnings and losses 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 25.9% is slightly greater than the statutory tax rate primarily due to non-deductible expenses and tax losses for which no benefit is recognized due to valuation allowances in certain jurisdictions offset by the impact of certain incentives.

In 2019, income tax expense of $8.1 million was attributable to the mix of earnings amount jurisdictions and the sale of Non-core-Products on April 1, 2019. The effective tax rate of 11.8% is lower than the statutory tax rate primarily due to certain tax incentives offset by non-deductible expenses and tax losses for which no benefit is recognized due to valuation allowances in certain jurisdictions.

Year Ended December 31, 2019 Compared To Year Ended December 31, 2018

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

Year ended December 31,	**2019**		**2018**		**Dollar increase / (decrease)**
Net sales	$ 834,289	100.0 %	$ 866,199	100.0 %	$ (31,910)
Costs and expenses:					
Cost of goods sold	620,556	74.4	609,568	70.4	10,988
Selling, general and administrative	123,853	14.8	138,553	16.0	(14,700)
Gain on disposal of Non-core Products, net	(33,599)	(4.0)	-	-	(33,599)
Design and development	52,198	6.3	51,074	5.9	1,124
Operating income	71,281	8.5	67,004	7.7	4,277
Interest expense, net	4,324	0.5	4,720	0.5	(396)
Equity in earnings of investee	(1,578)	(0.2)	(2,038)	(0.2)	460
Other expense (income), net	142	-	(736)	(0.1)	878
Income before income taxes	68,393	8.2	65,058	7.5	3,335
Provision for income taxes	8,102	1.0	11,210	1.3	(3,108)
Net income	$ 60,291	7.2 %	$ 53,848	6.2 %	$ 6,443

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

Year ended December 31,	**2019**		**2018**		**Dollar decrease**	**Percent decrease**
Control Devices	$ 431,560	51.7 %	$ 441,297	50.9 %	$ (9,737)	(2.2)%
Electronics	335,195	40.2	344,727	39.8	(9,532)	(2.8)%
Stoneridge Brazil	67,534	8.1	80,175	9.3	(12,641)	(15.8)%
Total net sales	$ 834,289	100.0 %	$ 866,199	100.0 %	$ (31,910)	(3.7)%

Our Control Devices segment net sales decreased primarily as a result of decreased sales volume in the North American automotive market of $28.0 million due to certain program volume reductions related to the legacy shift-by-wire programs, the disposal of Non-core Products and the impact of a fourth quarter labor strike at a major customer. In addition, Control Devices experienced decreased sales volume in our North American commercial vehicle and agriculture markets of $3.0 million and $1.7 million, respectively. These decreases were partially offset by sales volume increases in our China automotive, European automotive and European commercial vehicle markets of $15.3 million, $4.5 million and $3.2 million, respectively, as well as the one-time sale of Non-core Product inventory of $4.2 million.

Our Electronics segment net sales decreased primarily due to a decrease in sales volume in our European commercial vehicle market of $14.8 million and unfavorable foreign currency translation of $7.4 million. This decrease was offset by an increase in sales volume in our North American and China commercial vehicle markets of $7.1 million and $1.7 million, respectively and increased sales of European and North American off-highway vehicle products of $3.6 million and $1.2 million, respectively.

Our Stoneridge Brazil segment net sales decreased due to lower volumes for our Argentina aftermarket channel, audio and alarm products, tracking devices and monitoring service revenues. This decrease was offset by higher volumes for our OEM and factory authorized dealer installer products.

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

Year ended December 31,		2019		2018	Dollar increase / (decrease)	Percent increase / (decrease)
North America	$ 457,633	54.8 %	$ 480,869	55.5 %	$ (23,236)	(4.8)%
South America	67,534	8.1	80,175	9.3	(12,641)	(15.8)%
Europe and Other	309,122	37.1	305,155	35.1	3,967	1.3 %
Total net sales	$ 834,289	100.0 %	$ 866,199	100.0 %	$ (31,910)	(3.7)%

The decrease in North American net sales was primarily attributable to a decrease in sales volume in our North American automotive market of $28.0 million resulting from certain program volume reductions related to the legacy shift-by-wire programs, the disposal of Non-core Products and the impact of the labor strike at a major customer that occurred in the second half of 2019. In addition, we experienced decreased sales volume in our agriculture market of $1.8 million. These decreases were partially offset by increased sales volume in our North American commercial vehicle and off-highway markets of $3.3 million and $1.2 million, respectively as well as the one-time sale of Non-core Product inventory of $4.2 million. The decrease in net sales in South America was primarily due to lower volumes for our Argentina aftermarket channel, audio and alarm products, tracking devices and monitoring service revenues. This decrease was offset by higher volumes for our OEM and factory authorized dealer installer products. The increase in net sales in Europe and Other was primarily due to an increase in sales volume in our China automotive, European automotive, European off-highway and China commercial vehicle markets of $15.3 million, $4.2 million, $3.6 million and $1.7 million, respectively. This increase was offset by a decrease in sales volume of our European commercial vehicle market of $11.6 million. In addition, Europe and Other sales were unfavorably impacted by foreign currency translation of $8.0 million.

Cost of Goods Sold and Gross Margin. Cost of goods sold increased compared to 2018 and our gross margin decreased to 25.6% in 2019 compared to 29.6% in 2018. Our material cost as a percentage of net sales increased by 1.6% to 53.1% in 2019 compared to 51.5% in 2018. Direct material costs in our Control Devices segment were negatively impacted by adverse product mix primarily from the impact of Non-core Product sales pursuant to the contract manufacturing agreement at an average margin of 5.5% and higher tariffs while our Electronics and Stoneridge Brazil segments were negatively impacted by adverse product mix and higher costs for electronic components. Overhead as a percentage of net sales increased by 2.0% to 15.9% in 2019 compared to 13.9% in 2018 primarily due to the Canton Restructuring costs of $7.6 million in our Control Devices segment.

Our Control Devices segment gross margin decreased due to lower sales and higher direct material costs as a percentage of sales, adversely affected by tariffs, Canton Restructuring costs of $7.6 million and the unfavorable impact of Non-Core Product sales pursuant to the contract manufacturing agreement at an average margin of 5.5%.

Our Electronics segment gross margin decreased primarily due to lower sales, unfavorable product mix and higher costs for electronic components.

Our Stoneridge Brazil segment gross margin decreased due to a reduction in sales volume and adverse sales mix.

Selling, General and Administrative ("SG&A"). SG&A expenses decreased by $14.7 million compared to 2018 primarily due to a decrease in Stoneridge Brazil SG&A costs from the recovery of Brazilian indirect taxes of $6.5 million and lower selling costs. Electronics SG&A expense decreased due to lower restructuring expenses of $2.1 million, a reduction in expense related to the fair value adjustment for the Orlaco earn-out consideration of $0.4 million and lower wages. Control Devices SG&A costs decreased due to transitional service cost reimbursement associated with the disposal of its Non-core Products and lower wages offset by Canton Restructuring costs of $1.5 million and higher business realignment costs of $0.6 million. Unallocated corporate SG&A costs increased primarily due to higher business realignment costs of $1.0 million, accelerated share-based compensation expense of $0.7 million associated with a retirement and higher wages offset by lower incentive compensation.

Gain on Disposal of Non-core Products, net. The gain on disposal in 2019 relates to the disposal of Control Devices' Non-core Products.

Design and Development ("D&D"). D&D costs increased by $1.1 million compared to the prior year due to higher D&D costs in our Control Devices segment due to Canton Restructuring costs of $3.4 million and in our unallocated corporate segment for the establishment of the chief technology office. This increase was offset by lower D&D costs in our Electronics and Control Devices segments from the capitalization of software development costs of $2.2 million and $1.4 million, respectively.

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

Year ended December 31,	2019	2018	Dollar increase / (decrease)	Percent increase / (decrease)
Control Devices	$ 73,326	$ 64,191	$ 9,135	14.2 %
Electronics	25,007	28,236	(3,229)	(11.4)%
Stoneridge Brazil	6,539	4,989	1,550	31.1 %
Unallocated corporate	(33,591)	(30,412)	(3,179)	(10.5)%
Operating income	$ 71,281	$ 67,004	$ 4,277	6.4 %

Our Control Devices segment operating income increased primarily due to the gain on disposal of Non-core Products and the favorable impact to D&D from the capitalization of software development costs offset by Canton Restructuring of $12.5 million and lower sales and margin including the adverse impact of tariffs,

Our Electronics segment operating income decreased primarily due to lower sales, unfavorable mix and higher costs for electronic components partially offset by a decrease in SG&A expense from lower restructuring costs and lower wages, and from lower D&D costs due to capitalization of software development costs.

Our Stoneridge Brazil segment operating income increased primarily due to the recovery of Brazilian indirect taxes, lower selling costs offsetting the impact of lower sales and gross margin.

Our unallocated corporate operating loss increased primarily due to higher SG&A costs from increase in business realignment costs of $1.0 million, accelerated share-based compensation expense associated with a retirement of eligible employees of $0.7 million, higher wages offset by lower incentive compensation. In addition, D&D expenses increased for the establishment of the chief technology office.

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

Year ended December 31,	2019	2018	Dollar increase / (decrease)	Percent increase / (decrease)
North America	$ 32,694	$ 33,219	$ (525)	(1.6) %
South America	6,539	4,989	1,550	31.1 %
Europe and Other	32,048	28,796	3,252	11.3%
Operating income	$ 71,281	$ 67,004	$ 4,277	6.4 %

Our North American operating results decreased primarily due lower sales in our automotive market, Canton Restructuring costs as well as higher SG&A and D&D costs offset by the gain on disposal of Non-core Products and higher sales volume in the North American commercial vehicle and off-highway markets. The increase in operating income in South America was primarily due to lower SG&A from the recovery of Brazilian indirect taxes and lower selling costs and lower overhead costs offsetting lower sales. Our operating results in Europe and Other increased slightly primarily due to lower SG&A and D&D costs offset by lower gross margin from adverse product mix.

Interest Expense, net. Interest expense, net decreased by $0.4 million compared to the prior year primarily due to lower interest expense at our Stoneridge Brazil segment from lower outstanding debt offset by the write-off of deferred financing fees as a result of refinancing the 2019 Credit Facility.

Equity in Earnings of Investee. Equity earnings for MSIL were $1.6 million and $2.0 million for the years ended December 31, 2019 and 2018, respectively. The decrease compared to the prior period is primarily due to lower gross margin from lower sales volumes in served markets as well as unfavorable changes in foreign currency exchange rates.

Other Expense (Income), net. We record certain foreign currency transaction and forward currency hedge contract (gains) losses as a component of other expense (income), net on the consolidated statement of operations. Other expense (income), net decreased by $0.8 million to other expense (income), net of $0.1 million in 2019 compared to other expense (income), net of ($0.7) million in 2018 primarily due to lower foreign currency transaction gains in our Electronics segment.

Provision for Income Taxes. We recognized income tax expense of $8.1 million and $11.2 million for federal, state and foreign income taxes for 2019 and 2018, respectively. The decrease in tax expense for the year ended December 31, 2019 compared to the same period for 2018 was primarily due to the impact of certain tax incentives, which did not impact 2018. The effective tax rate decreased to 11.8% in 2019 from 17.2% in 2018 primarily due to the impact of certain tax incentives, which did not impact 2018.

Liquidity and Capital Resources

Summary of Cash Flows for the years ended December 31, 2020 and 2019 (in thousands):

Years ended December 31,	**2020**	**2019**	**Dollar increase / (decrease)**
Net cash provided by (used for):			
Operating activities	**$ 28,641**	$ 24,505	$ 4,136
Investing activities	**(33,885)**	(6,299)	(27,586)
Financing activities	**6,513**	(28,258)	34,771
Effect of exchange rate changes on cash and cash equivalents	**3,247**	(1,637)	4,884
Net change in cash and cash equivalents	**$ 4,516**	$ (11,689)	$ 16,205

Cash provided by operating activities increased compared to 2019 primarily due to a reduction in cash used to fund working capital levels and the 2019 payment of Orlaco earn-out consideration of $5.1 million offset by lower net income and the payment of dividends to former noncontrolling interest holders of Stoneridge Brazil of $6.0 million. Our receivable terms and collections rates have remained consistent between periods presented.

Net cash used for investing activities increased compared to 2019 due to proceeds from the 2019 sale of Control Devices Non-core Products offset by lower capital expenditures.

Net cash provided by (used for) financing activities increased compared to the prior year primarily due to lower Common Share repurchases of $45.0 million offset by higher Credit Facility borrowings, net of $20.0 million and the 2019 cash payment for Orlaco earn-out consideration.

Summary of Cash Flows for the years ended December 31, 2019 and 2018 (in thousands):

Years ended December 31,	**2019**	**2018**	**Dollar Increase / (decrease)**
Net cash provided by (used for):			
Operating activities	$ 24,505	$ 80,772	$ (56,267)
Investing activities	(6,299)	(27,950)	21,651
Financing activities	(28,258)	(33,870)	5,612
Effect of exchange rate changes on cash and cash equivalents	(1,637)	(3,863)	2,226
Net change in cash and cash equivalents	$ (11,689)	$ 15,089	$ (26,778)

Cash provided by operating activities decreased compared to 2018 primarily due to the lower net income excluding the gain on disposal related to Control Devices' Non-core Products and a higher use of cash to fund working capital levels. This decrease includes a portion of the cash payment of the Orlaco earn-out consideration obligation of $5.0 million paid during 2019. The higher working capital levels mostly relate to higher inventory levels from bank builds attributable to the Canton Restructuring activities and the disposal of Non-core Products as well as the delay of a product launch in our Electronics segment. Our receivable terms have remained consistent between 2019 and 2018 however we have experienced a timing related decline in 2019 year-end collection rates.

Net cash provided by investing activities increased compared to 2018 due to the cash proceeds received from the disposal of Control Devices' Non-core Products offset by higher capital expenditures, 2019 capitalized software development costs, 2019 investments in the Autotech Fund II and insurance proceeds received in 2018.

Net cash used for financing activities increased compared to the prior year primarily due to the repurchase of Common Shares during the second quarter of 2019 and the cash payment of Orlaco earn-out consideration offset by higher net Credit Facility borrowings.

Summary of Future Cash Flows

The following table summarizes our future cash outflows resulting from financial contracts and commitments, as of December 31, 2020 (in thousands):

	Total	**Less than 1 year**	**2-3 years**	**4-5 years**	**After 5 years**
Credit Facility	**$ 136,000**	**$ -**	**$ -**	**$ 136,000**	**$ -**
Debt	**7,673**	**7,673**	**-**	**-**	**-**
Interest payments(A)	**13,516**	**4,097**	**7,752**	**1,667**	**-**
Operating leases	**23,721**	**4,873**	**7,489**	**5,652**	**5,707**
Total contractual obligations(B)	**$ 180,910**	**$ 16,643**	**$ 15,241**	**$ 143,319**	**$ 5,707**

(A) Includes estimated payments under the Company's 2019 Credit Facility and other debt obligations using the most current interest rate and principal balance information available at December 31, 2020, 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 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 $3.6 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 2019 Credit Facility provides sufficient liquidity to meet our future growth and operating needs.

As outlined in Note 5 to our consolidated financial statements, the 2019 Credit Facility increased our borrowing capacity by $100.0 million and permits borrowing up to a maximum level of $400.0 million. This variable rate facility provides the flexibility to refinance other outstanding debt or finance acquisitions through June 2024. The 2019 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 2019 Credit Facility also contains affirmative and negative covenants and events of default that are customary for credit arrangements of this type including covenants which place restrictions and/or limitations on the Company's ability to borrow money, make capital expenditures and pay dividends. The 2019 Credit Facility had an outstanding balance of $136.0 million at December 31, 2020.

Due to the expected impact of the COVID-19 pandemic on the Company's end-markets and the resulting expected financial impacts on the Company, on June 26, 2020, the Company entered into a Waiver and Amendment No. 1 to the Fourth Amended and Restated Credit Agreement ("Amendment No. 1"). Amendment No. 1 provides for certain covenant relief and restrictions during the "Covenant Relief Period" (the period ending on the date that the Company delivers a compliance certificate for the quarter ending June 30, 2021). During the Covenant Relief Period:

- the maximum net leverage ratio is suspended;
- the calculation of the minimum interest coverage ratio will exclude second quarter 2020 financial results effective for the quarters ended September 30, 2020 through March 31, 2021;
- the minimum interest coverage ratio of 3.50 is reduced to 2.75 and 3.25 for the quarters ended December 31, 2020 and March 31, 2021, respectively;
- the Company's liquidity may not be less than $150,000;
- the Company's aggregate amount of cash and cash equivalents cannot exceed $130,000;
- there are certain restrictions on Restricted Payments (as defined); and
- a Permitted Acquisition (as defined) may be not consummated unless otherwise approved in writing by the required lenders.

Amendment No. 1 increases the leverage based LIBOR pricing grid through the maturity date and also provides for a LIBOR floor of 50 basis points on outstanding borrowings excluding any Specified Hedge Borrowings (as defined) which remain subject to a LIBOR floor of 0 basis points.

The Company was in compliance with all covenants at December 31, 2020. The Company has not experienced a violation which would limit the Company's ability to borrow under the 2019 Credit Facility, as amended 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 2019 Credit Facility may be limited as a result of lower than expected financial performance due to the adverse impact of COVID-19 on the Company's markets and general global demand. The Company expects to make additional repayments on the Credit Facility when cash exceeds the amount needed for operations.

Stoneridge Brazil maintains short-term loans used for working capital purposes. At December 31, 2020, there was $1.6 million of Stoneridge Brazil debt outstanding. Principal repayments of $1.6 million on Stoneridge Brazil debt at December 31, 2020 are due in 2021.

In December 2019, Stoneridge Brazil established an overdraft credit line which allowed overdrafts on Stoneridge Brazil's bank account up to a maximum level of Brazilian real 5.0 million, or $1.2 million, at December 31, 2019. There was no balance outstanding on the overdraft credit line as of December 31, 2019, and the overdraft credit line was terminated during the year ended December 31, 2020.

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 $2.4 million and $2.1 million, at December 31, 2020 and December 31, 2019, respectively. At December 31, 2020, there was 13.1 million Swedish krona, or $1.6 million outstanding on this overdraft credit line. At December 31, 2019, there was no balance outstanding on this overdraft credit line. During the year ended December 31, 2020, the subsidiary borrowed 312.9 million Swedish krona, or $38.1 million, and repaid 299.8 million Swedish krona, or $36.5 million.

The Company’s wholly-owned subsidiary located in Suzhou, China, has two credit lines which allow up to a maximum borrowing level of 50.0 million Chinese yuan, or $7.7 million at December 31, 2020 and 40.0 million Chinese yuan, or $5.7 million at December 31, 2019. At December 31, 2020 and December 31, 2019 there was $4.5 million and $2.2 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 allows up to a maximum borrowing level of 15.0 million Chinese yuan, or $2.3 million and $2.2 million at December 31, 2020 and December 31, 2019, respectively. At December 31, 2020 there was $0.4 million utilized on the Suzhou bank acceptance draft line and at December 31, 2019 there was approximately $0.2 million utilized on the Suzhou bank acceptance draft line of credit.

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 estimated costs for the PM Sensor Exit include employee severance and termination costs, contract termination costs, professional fees and other related costs such as potential commercial and supplier settlements. Non-cash charges include impairment of fixed assets and accelerated depreciation associated with PM sensor production. We recognized $3.4 million of expense as a result of this initiative during 2020. The estimated range of additional cost of the plan to exit the PM sensor product line, that will impact the Control Devices segment, is approximately $2.8 million to $6.3 million and is related to employee severance and termination costs, contract terminations costs, other related costs such as potential commercial and supplier settlements and accelerated depreciation. The Company expects the exit from the PM sensor product line to be completed in the third quarter of 2021.

In January 2019, the Company committed to a restructuring plan that resulted in the closure of its Canton Facility as of March 31, 2020 and the consolidation of manufacturing operations at that site into other Company locations (“Canton Restructuring”). The estimated costs for the Canton Restructuring included employee severance and termination costs, contract termination 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. We recognized $3.0 million and $12.5 million of expense as a result of these actions during the years ended December 31, 2020 and 2019, respectively. During the third quarter of 2020, we leased the Canton facility to a third party and are evaluating the sale of the facility. We expect additional costs to be immaterial related to the Canton Restructuring.

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. For the years ended December 31, 2020 and 2019, we recognized expense of $2.4 million and $0.6 million, respectively, as a result of these actions for related costs and non-cash fixed asset charges for accelerated depreciation fixed assets. The Company expects to incur approximately $0.2 million of additional restructuring costs related to employee severance and other related costs for these actions through the second quarter of 2021.

On October 26, 2018 the Company announced a Board of Directors approved repurchase program authorizing Stoneridge to repurchase up to $50.0 million of our Common Shares. Thereafter, on May 7, 2019, we announced that the Company had entered into an accelerated share repurchase agreement with Citibank N.A. to repurchase an aggregate of $50.0 million of our Common Shares. Pursuant to the accelerated share repurchase agreement in the second quarter of 2019 we made an upfront payment of $50.0 million and received an initial delivery of 1,349,528 Common Shares which became treasury shares. On February 25, 2020, Citibank N.A. terminated early its commitment pursuant to the accelerated share repurchase agreement and delivered to the Company, 364,604 Common Shares representing the final settlement of the Company’s repurchase program which became treasury shares.

On February 24, 2020, the Board of Directors authorized a new repurchase program for $50.0 million of outstanding Common Shares over an 18 month period. The repurchases may be made from time to time in either open market transactions or in privately negotiated transactions. Repurchases may also be made under rule 10b-18, which permit Common Shares to be repurchased through pre-determined criteria. The timing, volume and nature of repurchases of Common Shares will be at the discretion of management, dependent on market conditions, other priorities of cash investment, applicable securities laws and other factors. This Common Share repurchase program authorization does not obligate the Company to acquire any particular amount of its Common Shares, and it may be suspended or discontinued at any time. For the quarter ended March 31, 2020, the Company repurchased 242,634 Common Shares for $5.0 million in accordance with this repurchase program authorization. In April 2020, the Company announced that was temporarily suspending the previously announced share repurchase program in response to uncertainty surrounding the duration and magnitude of the impact of COVID-19.

In January 2020, Stoneridge Brazil paid dividends to former noncontrolling interest holders of Brazilian real (“R$”) 24.2 million ($6.0 million) as of December 31, 2019. The dividends payable balance included R$3.7 million ($1.0 million) in monetary correction for the year ended December 31, 2019 based on the Brazilian National Extended Consumer Price inflation index. The dividend payable related to Stoneridge Brazil was recorded within other current liabilities on the consolidated balance sheet as of December 31, 2019.

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. As of December 31, 2020, the Company’s cumulative investment in the Autotech Fund II was $3.6 million. The Company contributed $1.6 million to the Autotech Fund II during both years ended December 31, 2020 and 2019, 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 5 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, 2020, we had a cash and cash equivalents balance of approximately $73.9 million, of which 88.4% was held in foreign locations. The Company has approximately $262.3 million of undrawn commitments under the 2019 Credit Facility as of December 31, 2020, which results in total undrawn commitments and cash balances of more than $336.2 million. However, despite the June 26, 2020 amendment, it is possible that future borrowing flexibility under our 2019 Credit Facility may be limited as a result of our financial performance due the adverse impact of COVID-19 on the Company’s markets and general global demand.

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 not typically materially affected by seasonality, however the demand for our Stoneridge Brazil segment consumer products is generally higher in the second half of the year, the fourth quarter in particular.

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.

Off-balance Sheet Arrangements

At December 31, 2020 we do not have any off-balance sheet arrangements that have, or are, in the opinion of management, reasonably likely to have, a current or future material effect on our financial condition or results of operations.

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.

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 holding 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.

Goodwill. Goodwill is tested for impairment at least annually and whenever events or changes in circumstances indicate that the carrying value may not be recoverable. 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.

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.

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 2025, 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. 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 Tax Cuts and Jobs Act of 2017 created a provision known as Global Intangible Low-Taxed Income (“GILTI”) that imposes a tax on certain earnings of foreign subsidiaries. The Company has made an accounting policy election to reflect GILTI taxes, if any, as a current period tax expense when incurred.

Recently Adopted Accounting Standards

In December 2019, the Financial Accounting Standards Board (“FASB”) issued Accounting Standards Update (“ASU”) 2019-12, “Income Taxes (Topic 740): Simplifying the Accounting for Income Taxes.” The amendments in this update remove certain exceptions of Topic 740 including: exception to the incremental approach for intraperiod tax allocation when there is a loss from continuing operations and income or gain from other items; exception to the requirement to recognize a deferred tax liability for equity method investments when a foreign subsidiary becomes an equity method investment; exception to the ability not to recognize a deferred tax liability for a foreign subsidiary when a foreign equity method investment becomes a subsidiary; exception to the general methodology for calculating income taxes in an interim period when a year-to-date loss exceeds the anticipated loss for the year. There are also additional areas of guidance in regards to: franchise and other taxes partially based on income and the interim recognition of enactment of tax laws and rate changes. The provisions of this ASU are effective for years beginning after December 15, 2020, with early adoption permitted. The Company adopted this standard prospectively as of January 1, 2020 using the modified retrospective basis. The impact of the adoption was a reduction to deferred tax liabilities and an increase to retained earnings of $13.8 million on the consolidated balance sheet as of December 31, 2020. The adoption of this standard did not have an impact on the Company’s consolidated results of operations and cash flows.

In August 2018, the FASB issued ASU 2018-15, “Intangibles—Goodwill and Other—Internal-Use Software (Subtopic 350-40): Customer’s Accounting for Implementation Costs Incurred in a Cloud Computing Arrangement That Is a Service Contract.” The guidance in ASU 2018-15 clarifies the accounting for implementation costs in cloud computing arrangements. ASU 2018-15 is effective for fiscal years, and interim periods within those years, beginning after December 15, 2019. The Company adopted this standard prospectively as of January 1, 2020 and it did not have a material impact on the Company’s consolidated financial statements.

In August 2018, the FASB issued ASU 2018-13, “Fair Value Measurement (Topic 820) – Disclosure Framework – Changes to the Disclosure Requirements for Fair Value Measurement.” The guidance in ASU 2018-13 changes disclosure requirements related to fair value measurements as part of the disclosure framework project. The disclosure framework project aims to improve the effectiveness of disclosures in the notes to the financial statements by focusing on requirements that clearly communicate the most important information to users of the financial statements. This guidance is effective for fiscal years beginning after December 15, 2019, with early adoption permitted. The Company adopted this standard as of January 1, 2020 and it did not have a material impact on the Company’s consolidated financial statements.

In June 2016, the FASB issued ASU 2016-13, “Financial Instruments - Credit Losses (Topic 326) Measurement of Credit Losses on Financial Instruments”, which requires measurement and recognition of expected credit losses for financial assets held and requires enhanced disclosures regarding significant estimates and judgments used in estimating credit losses. ASU 2016-13 is effective for public business entities for annual periods beginning after December 15, 2019. The guidance allows for various methods for measuring expected credit losses. The Company has elected to apply a historical loss rate based on historical write-offs by region, adjusted for current economic conditions and forecasts about future economic conditions that are reasonable and supportable. The Company adopted this standard as of January 1, 2020 and it did not have a material impact on the Company’s consolidated financial statements.

Recently Issued Accounting Standards Not Yet Adopted as of December 31, 2020

In March 2020, the FASB issued 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, 2022. As of December 31, 2020, the Company has not yet had contracts modified due to rate reform.

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, 2020, approximately 94.7% of our outstanding debt was floating-rate and 5.3% was fixed-rate. We estimate that a 1.0% change in the interest costs of our floating-rate debt outstanding as of December 31, 2020 would change interest expense on an annual basis by approximately $1.4 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, 2020 by approximately $0.9 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, 2020 and 2019, the related consolidated statements of operations, comprehensive income, cash flows and shareholders' equity for each of the three years in the period ended December 31, 2020, 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, 2020 and 2019, and the results of its operations and its cash flows for each of the three years in the period ended December 31, 2020, 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, 2020, 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 February 24, 2021 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 Matters

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

	Product warranty and recall reserves
Description of the Matter	The Company's reserves for product warranty and recall totaled $12.7 million at December 31, 2020. 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 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 a legal confirmation letter 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.

	Valuation of earn-out consideration
Description of the Matter	As discussed in Notes 4 and 10 of the consolidated financial statements, in 2017 the Company acquired the remaining 26% noncontrolling interest in Stoneridge Brazil for $1.5 million in cash along with earn-out consideration. The Company will be required to pay additional earn-out consideration, which is not capped, based on Stoneridge Brazil's financial performance in either 2020 or 2021. The estimated fair value of the Stoneridge Brazil earn-out consideration, which approximated $5.8 million as of December 31, 2020, is based on discounted cash flows utilizing forecasted earnings before taxes, interest, depreciation, and amortization. Auditing management's estimate of the fair value of the earn-out consideration was complex and highly judgmental due to the significant estimation required. In particular, the fair value estimate was sensitive to significant assumptions such as forecasted sales, expected operating income, and the discount rate.
How we addressed the matter in our audit	We obtained an understanding, evaluated the design and tested the operating effectiveness of controls over the Company's process for measuring the Stoneridge Brazil earn-out consideration. This included testing management review controls over projected financial information over the Stoneridge Brazil business and other key inputs to the calculation. To test the estimated fair value of the Company's earn-out consideration, we performed audit procedures that included, among others, testing the significant assumptions discussed above and the underlying data used by the Company in its calculation. We compared the significant assumptions used by management to current industry and economic trends, changes to the company's customer base or product mix and other relevant factors. We assessed the historical accuracy of management's estimates and performed sensitivity analyses of significant assumptions to evaluate the changes in the fair value of the calculated earn-out consideration that would result from changes in the assumptions. We also involved a valuation specialist to assist in our evaluation of the significant assumptions in the Company's calculation, including the discount rate used in the fair value estimate.

/s/Ernst & Young LLP

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

Detroit, MI
February 24, 2021

STONERIDGE, INC. AND SUBSIDIARIES
CONSOLIDATED BALANCE SHEETS

December 31, (in thousands)	2020	2019
ASSETS		
Current assets:		
Cash and cash equivalents	**$ 73,919**	$ 69,403
Accounts receivable, less reserves of $817 and $1,289, respectively	**136,745**	138,564
Inventories, net	**90,548**	93,449
Prepaid expenses and other current assets	**33,452**	29,850
Total current assets	**334,664**	331,266
Long-term assets:		
Property, plant and equipment, net	**119,324**	122,483
Intangible assets, net	**55,394**	58,122
Goodwill	**39,104**	35,874
Operating lease right-of-use asset	**18,944**	22,027
Investments and other long-term assets, net	**53,978**	32,437
Total long-term assets	**286,744**	270,943
Total assets	**$ 621,408**	$ 602,209
LIABILITIES AND SHAREHOLDERS' EQUITY		
Current liabilities:		
Current portion of debt	**$ 7,673**	$ 2,672
Accounts payable	**86,103**	80,701
Accrued expenses and other current liabilities	**52,272**	55,223
Total current liabilities	**146,048**	138,596
Long-term liabilities:		
Revolving credit facility	**136,000**	126,000
Long-term debt, net	**-**	454
Deferred income taxes	**12,935**	12,530
Operating lease long-term liability	**15,434**	17,971
Other long-term liabilities	**14,357**	16,754
Total long-term liabilities	**178,726**	173,709
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 27,006 and 27,408 shares outstanding at December 31, 2020 and 2019, respectively, with no stated value	**-**	-
Additional paid-in capital	**234,409**	225,607
Common Shares held in treasury, 1,960 and 1,558 shares at December 31, 2020 and 2019, respectively, at cost	**(60,482)**	(50,773)
Retained earnings	**212,342**	206,542
Accumulated other comprehensive loss	**(89,635)**	(91,472)
Total shareholders' equity	**296,634**	289,904
Total liabilities and shareholders' equity	**$ 621,408**	$ 602,209

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)	2020	2019	2018
Net sales	**$ 648,006**	$ 834,289	$ 866,199
Costs and expenses:			
Cost of goods sold	**493,810**	620,556	609,568
Selling, general and administrative	**112,474**	123,853	138,553
Gain on disposal of Non-core Products, net	**-**	(33,599)	-
Design and development	**49,386**	52,198	51,074
Operating (loss) income	**(7,664)**	71,281	67,004
Interest expense, net	**6,124**	4,324	4,720
Equity in earnings of investee	**(1,536)**	(1,578)	(2,038)
Other (income) expense, net	**(1,528)**	142	(736)
(Loss) income before income taxes	**(10,724)**	68,393	65,058
(Benefit) provision for income taxes	**(2,774)**	8,102	11,210
Net (loss) income	**$ (7,950)**	$ 60,291	$ 53,848
(Loss) earnings per share:			
Basic	**$ (0.29)**	$ 2.17	$ 1.90
Diluted	**$ (0.29)**	$ 2.13	$ 1.85
Weighted-average shares outstanding:			
Basic	**27,025**	27,792	28,402
Diluted	**27,025**	28,270	29,080

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

STONERIDGE, INC. AND SUBSIDIARIES
CONSOLIDATED STATEMENTS OF COMPREHENSIVE INCOME

Year ended December 31, (in thousands)	2020	2019	2018
Net (loss) income	**$ (7,950)**	$ 60,291	$ 53,848
Other comprehensive income (loss), net of tax:			
Foreign currency translation	**2,677**	(5,428)	(16,627)
Unrealized (loss) gain on derivatives [1]	**(840)**	(292)	435
Other comprehensive income (loss), net of tax	**1,837**	(5,720)	(16,192)
Comprehensive (loss) income	**$ (6,113)**	$ 54,571	$ 37,656

(1) Net of tax (benefit) expense of $(223), $(78) and $156 for the years ended December 31, 2020, 2019 and 2018, 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)	2020	2019	2018
OPERATING ACTIVITIES:			
Net (loss) income	**$ (7,950)**	$ 60,291	$ 53,848
Adjustments to reconcile net income to net cash provided by (used for) operating activities:			
Depreciation	**27,309**	24,904	22,786
Amortization, including accretion and write-off of deferred financing costs	**5,926**	6,579	6,731
Deferred income taxes	**(7,953)**	5,586	2,552
Earnings of equity method investee	**(1,536)**	(1,578)	(2,038)
Loss (gain) on sale of fixed assets	**185**	(98)	333
Share-based compensation expense	**5,888**	6,191	5,632
Excess tax benefit related to share-based compensation expense	**(46)**	(1,289)	(1,584)
Gain on disposal of Non-core Products, net	**-**	(33,599)	-
Property, plant and equipment impairment charge	**2,349**	-	-
Intangible impairment charge	**-**	-	202
Change in fair value of earn-out contingent consideration	**(3,196)**	2,308	213
Changes in operating assets and liabilities:			
Accounts receivable, net	**4,164**	(1,353)	(3,575)
Inventories, net	**4,000**	(15,653)	(10,002)
Prepaid expenses and other assets	**1,342**	(8,898)	2,291
Accounts payable	**3,642**	(6,980)	11,054
Accrued expenses and other liabilities	**(5,483)**	(11,906)	(7,671)
Net cash provided by operating activities	**28,641**	24,505	80,772
INVESTING ACTIVITIES:			
Capital expenditures, including intangibles	**(32,462)**	(39,467)	(29,027)
Proceeds from sale of fixed assets	**127**	382	111
Insurance proceeds for fixed assets	**-**	-	1,403
Proceeds from disposal of Non-core Products	**-**	34,386	-
Investment in venture capital fund	**(1,550)**	(1,600)	(437)
Net cash used for investing activities	**(33,885)**	(6,299)	(27,950)
FINANCING ACTIVITIES:			
Revolving credit facility borrowings	**71,500**	112,000	27,500
Revolving credit facility payments	**(61,500)**	(82,000)	(52,500)
Proceeds from issuance of debt	**41,104**	2,208	415
Repayments of debt	**(36,749)**	(1,587)	(5,071)
Earn-out consideration cash payment	**-**	(3,394)	-
Other financing costs	**(1,074)**	(1,366)	-
Common Share repurchase program	**(4,995)**	(50,000)	-
Repurchase of Common Shares to satisfy employee tax withholding	**(1,773)**	(4,119)	(4,214)
Net cash provided by (used for) financing activities	**6,513**	(28,258)	(33,870)
Effect of exchange rate changes on cash and cash equivalents	**3,247**	(1,637)	(3,863)
Net change in cash and cash equivalents	**4,516**	(11,689)	15,089
Cash and cash equivalents at beginning of period	**69,403**	81,092	66,003
Cash and cash equivalents at end of period	**$ 73,919**	$ 69,403	$ 81,092
Supplemental disclosure of cash flow information:			
Cash paid for interest	**$ 5,620**	$ 4,401	$ 4,997
Cash (received) paid for income taxes, net	**$ (254)**	$ 12,222	$ 13,213
Supplemental disclosure of non-cash activity:			
Adoption of ASU 2019-12 (Note 2)	**$ 13,750**	$ -	$ -

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

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

(in thousands)	Number of Common Shares outstanding	Number of treasury shares	Additional paid-in capital	Common Shares held in treasury	Retained earnings	Accumulated other comprehensive loss	Total shareholders' equity
BALANCE DECEMBER 31, 2017	28,180	786	$ 228,486	$ (7,118)	$ 92,264	$ (69,560)	$ 244,072
Net income	—	—	—	—	53,848	—	53,848
Unrealized gain on derivatives, net	—	—	—	—	—	435	435
Currency translation adjustments	—	—	—	—	—	(16,627)	(16,627)
Issuance of Common Shares	461	(461)	—	—	—	—	—
Repurchased Common Shares for treasury, net	(153)	153	—	(1,762)	—	—	(1,762)
Share-based compensation, net	—	—	3,161	—	—	—	3,161
Cumulative effect of an accounting change	—	—	—	—	139	—	139
BALANCE DECEMBER 31, 2018	28,488	478	$ 231,647	$ (8,880)	$ 146,251	$ (85,752)	$ 283,266
Net income	—	—	—	—	60,291	—	60,291
Unrealized loss on derivatives, net	—	—	—	—	—	(292)	(292)
Currency translation adjustments	—	—	—	—	—	(5,428)	(5,428)
Issuance of Common Shares	407	(407)	—	—	—	—	—
Repurchased Common Shares for treasury, net	(137)	137	—	(1,893)	—	—	(1,893)
Common Share repurchase program	(1,350)	1,350	(10,000)	(40,000)	—	—	(50,000)
Share-based compensation, net	—	—	3,960	—	—	—	3,960
BALANCE DECEMBER 31, 2019	27,408	1,558	$ 225,607	$ (50,773)	$ 206,542	$ (91,472)	$ 289,904
Net loss	**—**	**—**	**—**	**—**	**(7,950)**	**—**	**(7,950)**
Unrealized loss on derivatives, net	**—**	**—**	**—**	**—**	**—**	**(840)**	**(840)**
Currency translation adjustments	**—**	**—**	**—**	**—**	**—**	**2,677**	**2,677**
Issuance of Common Shares	**285**	**(285)**	**—**	**—**	**—**	**—**	**—**
Repurchased Common Shares for treasury, net	**(80)**	**80**	**—**	**5,286**	**—**	**—**	**5,286**
Common Share repurchase program	**(607)**	**607**	**10,000**	**(14,995)**	**—**	**—**	**(4,995)**
Share-based compensation, net	**—**	**—**	**(1,198)**	**—**	**—**	**—**	**(1,198)**
Adoption of ASU 2019-12 (Note 2)	**—**	**—**	**—**	**—**	**13,750**	**—**	**13,750**
BALANCE DECEMBER 31, 2020	**27,006**	**1,960**	**$ 234,409**	**$ (60,482)**	**$ 212,342**	**$ (89,635)**	**$ 296,634**

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 components, modules and systems for the automotive, commercial, off-highway, motorcycle 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.

The Company’s investment in Minda Stoneridge Instruments Ltd. (“MSIL”) for the years ended December 31, 2020, 2019 and 2018 has been determined to be an unconsolidated entity, and therefore is accounted for under the equity method of accounting based on the Company’s 49% ownership in MSIL.

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, motorcycle and agricultural vehicle markets. The Company’s largest customers are Ford Motor Company and Volvo, primarily related to the Control Devices and Electronics reportable segments and accounted for the following percentages of consolidated net sales:

Year ended December 31	2020	2019	2018
Ford Motor Company	**11 %**	11 %	12 %
Volvo	**8 %**	8 %	8 %

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

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

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	2020	2019
Raw materials	**$ 67,775**	$ 66,357
Work-in-progress	**7,005**	5,582
Finished goods	**15,768**	21,510
Total inventories, net	**$ 90,548**	$ 93,449

Inventory valued using the FIFO method was $82,308 and $82,910 at December 31, 2020 and 2019, respectively. Inventory valued using the average cost method was $8,240 and $10,539 at December 31, 2020 and 2019, 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 $14,259 and $7,666 at December 31, 2020 and 2019, respectively. At December 31, 2020 and 2019, $14,259 and $7,544, respectively, were recorded as a component of prepaid expenses and other current assets on the consolidated balance sheets while the remaining amounts were recorded as a component of investments and other long-term assets, net.

STONERIDGE, INC. AND SUBSIDIARIES
NOTES TO CONSOLIDATED FINANCIAL STATEMENTS
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Disposal of Non-Core Products

On April 1, 2019, the Company entered into an Asset Purchase Agreement by and among the Company, the Company's wholly owned subsidiary, Stoneridge Control Devices, Inc. ("SCD"), and Standard Motor Products, Inc. ("SMP"). On the same day pursuant to the APA, in exchange for $40,000 (subject to a post-closing inventory adjustment which was a payment to SMP of $1,573) and the assumption of certain liabilities, the Company and SCD sold to SMP, product lines and assets related to certain non-core switches and connectors (the "Non-core Products"). On April 1, 2019, the Company and SMP also entered into certain ancillary agreements, including a transition services agreement, a contract manufacturing agreement and a supply agreement, pursuant to which the Company provided and was compensated for certain manufacturing, transitional, and administrative and support services to SMP on a short-term basis. The products related to the Non-core Products were manufactured in Juarez, Mexico and Canton, Massachusetts, and include ball switches, ignition switches, rotary switches, courtesy lamps, toggle switches, headlamp switches and other related components.

On April 1, 2019, the Company's Control Devices segment recognized net sales and costs of goods sold ("COGS") of $4,160 and $2,775, respectively, for the one-time sale of Non-core Product finished goods inventory and a gain on disposal of $33,921,net for the sale of fixed assets, intellectual property and customer lists associated with the Non-core Products less transaction costs. The Company recognized transaction costs associated with the disposal of Control Devices' Non-core Products of $322 within selling, general and administrative ("SG&A") expenses for the year ended December 31, 2019.

The Company received $21 and $1,824 for services provided pursuant to the transition services agreement which were recognized as a reduction in SG&A for the years ended December 31, 2020 and 2019, respectively. Pursuant to the contract manufacturing agreement, the Company recognized sales and operating income for the production of Non-core Products of $26,304 and $1,458 for the year ended December 31, 2019, respectively. The Company also received $745 for reimbursement of retention and facility costs from SMP pursuant to the contract manufacturing agreement which was recognized as a reduction to SG&A for the year ended December 31, 2019.

There were no Non-core Product net sales for the year ended December 31, 2020. Non-core Products net sales and operating income, including sales to SMP pursuant to the contract manufacturing agreement, were $41,560 and $4,831 for the year ended December 31, 2019, respectively, and $44,537 and $9,086 for the year ended December 31, 2018, respectively.

On June 17, 2020, the Company and SMP terminated the transition services agreement and the contract manufacturing agreement.

Acquisitions

Orlaco

On January 31, 2017, Stoneridge B.V., an indirect wholly-owned subsidiary of Stoneridge, Inc., acquired Exploitatiemaatschappij Berghaaf B.V. ("Orlaco"). Orlaco designs, manufactures and sells camera-based vision systems, monitors and related products primarily to the heavy off-road machinery, commercial vehicle, lifting crane and warehousing and logistics industries. Stoneridge and Orlaco jointly developed the MirrorEye camera monitor system, which is a vision-based system solution to improve the safety and fuel economy of commercial vehicles. The MirrorEye camera monitor system integrates Orlaco's vision processing technology and Stoneridge's driver information capabilities as well as the combined software capabilities of both businesses. The acquisition of Orlaco enhanced the Stoneridge's Electronics segment global technical capabilities in vision systems and facilitated entry into new markets.

The aggregate consideration for the Orlaco acquisition was €74,939 ($79,675), which included customary estimated adjustments to the purchase price. The Company paid €67,439 ($71,701) in cash. The purchase price was subject to certain customary adjustments set forth in the purchase agreement. The Company was required to pay an additional amount up to €7,500 as contingent consideration ("earn-out consideration") if certain performance targets are achieved during the first two years. See Note 10 for additional details on the Orlaco contingent consideration.

The Company's statement of operations included $369 of expense for the fair value adjustment for earn-out consideration in SG&A expenses for the years ended December 31, 2018.

STONERIDGE, INC. AND SUBSIDIARIES
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The Orlaco earn-out consideration reached the capped amount of €7,500 as of the quarter ended March 31, 2018 due to actual performance exceeding forecasted performance and remained at the capped amount until it was paid in March 2019.

The earn-out consideration obligation related to Orlaco of $8,474 was paid in March 2019 and recorded in the consolidated statement of cash flows within operating and financing activities in the amounts of $5,080 and $3,394, respectively, for the year ended December 31, 2019.

Property, Plant and Equipment

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

December 31	2020	2019
Land and land improvements	**$ 4,447**	$ 4,550
Buildings and improvements	**39,784**	39,263
Machinery and equipment	**253,563**	226,076
Office furniture and fixtures	**9,993**	9,708
Tooling	**40,967**	76,933
Information technology	**28,491**	32,410
Vehicles	**654**	614
Leasehold improvements	**5,198**	4,588
Construction in progress	**19,744**	17,312
Total property, plant, and equipment	**402,841**	411,454
Less: accumulated depreciation	**(283,517)**	(288,971)
Property, plant and equipment, net	**$ 119,324**	$ 122,483

Depreciation is provided using the straight-line method over the estimated useful lives of the assets. Depreciation expense for the years ended December 31, 2020, 2019 and 2018 was $27,309, $24,904 and $22,786, 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.

On May 19, 2020, the Company committed to the strategic exit of its Control Devices particulate matter ("PM") sensor product line. As a result of the strategic exit of the PM sensor product line the Company determined an impairment indicator existed and performed a recoverability test of the related long-lived assets. The Company identified that there are two asset groups comprised of PM sensor fixed assets at the Company's Lexington, Ohio and Tallinn, Estonia facilities. As a result of the recoverability test performed, the Company determined that the undiscounted cash flows did not exceed the carrying value of the PM sensor fixed assets at the Company's Tallinn, Estonia facility. As such, an impairment loss of $2,326 was recorded based on the difference between the fair value and the carrying value of the assets. The Company used the income approach to determine the fair value of the PM sensor fixed assets at the Tallinn, Estonia facility. During the year ended December 31, 2020, the impairment loss of $2,326 was recorded on the Company's consolidated statement of operations within SG&A expense.

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 $39,104 and $35,874 at December 31, 2020 and 2019, 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
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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, 2020, 2019 or 2018.

Goodwill and changes in the carrying amount of goodwill for the Electronics segment for the years ended December 31, 2020 and 2019 were as follows:

Balance at January 1, 2020	**$**	**35,874**
Currency translation		**3,230**
Balance at December 31, 2020	**$**	**39,104**

Balance at January 1, 2019	$	36,717
Currency translation		(843)
Balance at December 31, 2019	$	35,874

The Company's cumulative goodwill impairment loss since inception was $300,083 at December 31, 2020 and 2019, 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, 2020 and 2019 consisted of the following:

As of December 31, 2020	**Acquisition cost**	**Accumulated amortization**	**Net**
Customer lists	**$ 48,339**	**$ (18,530)**	**$ 29,809**
Tradenames	**17,201**	**(6,290)**	**10,911**
Technology	**13,799**	**(8,079)**	**5,720**
Capitalized software development	**8,954**	**-**	**8,954**
Total	**$ 88,293**	**$ (32,899)**	**$ 55,394**

As of December 31, 2019	**Acquisition cost**	**Accumulated amortization**	**Net**
Customer lists	$ 50,750	$ (17,466)	$ 33,284
Tradenames	20,041	(6,687)	13,354
Technology	15,231	(7,353)	7,878
Capitalized software development	3,606	-	3,606
Total	$ 89,628	$ (31,506)	$ 58,122

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

Other intangible assets, net at December 31, 2020 for customer lists, tradenames, technology and capitalized software development include $23,004, $4,678, $2,759 and $6,330, respectively, related to the Electronics segment. Customer lists, tradenames and technology of $6,804, $6,234 and $2,863, respectively, related to the Stoneridge Brazil segment at December 31, 2020. Capitalized software development and technology of $2,623 and $98 respectively, related to the Control Devices segment at December 31, 2020.

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 will be amortized using the straight-line method over estimated useful lives generally ranging from three to seven years.

The Company recognized $5,399, $5,955 and $6,406 of amortization expense related to intangible assets in 2020, 2019 and 2018, respectively. Amortization expense is included as a component of SG&A on the consolidated statements of operations. Annual amortization expense for intangible assets is estimated to be approximately $5,200 for the years 2021 and 2022 and approximately $4,300 for the year 2023 through 2025. The weighted-average remaining amortization period is approximately 10 years.

For the year ended December 31, 2018, the Company recognized $202 of intangible impairment charge related to the Electronics segment customer lists as a result of the European Aftermarket restructuring as discussed in Note 13. There were no intangible impairment charges for the years ended December 31, 2020 or 2019.

Accrued Expenses and Other Current Liabilities

Accrued expenses and other current liabilities consist of the following:

As of December 31	2020	2019
Compensation related liabilities	**$ 21,852**	$ 19,566
Product warranty and recall obligations	**9,044**	7,685
Other (A)	**21,376**	27,972
Total accrued expenses and other current liabilities	**$ 52,272**	$ 55,223

(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. 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 Tax Cuts and Jobs Act of 2017 ("Tax Legislation") created a provision known as Global Intangible Low-Taxed Income ("GILTI") that imposes a tax on certain earnings of foreign subsidiaries. The Company has made an accounting policy election to reflect GILTI taxes, if any, as a current period tax expense when incurred.

STONERIDGE, INC. AND SUBSIDIARIES
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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 (income) expense, net. These foreign currency transaction (gains) losses, including the impact of hedging activities, were $(997), $372 and $(487) for the years ended December 31, 2020, 2019 and 2018, respectively.

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 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 holding the Company responsible for their product warranties. 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 $3,647 and $3,111 of a long-term liability at December 31, 2020 and 2019, respectively, which is included as a component of other long-term liabilities on the consolidated balance sheets.

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

Year ended December 31	2020	2019
Product warranty and recall at beginning of period	**$ 10,796**	$ 10,494
Accruals for warranties established during period	**5,898**	7,131
Aggregate changes in pre-existing liabilities due to claim developments	**1,794**	1,037
Settlements made during the period	**(6,297)**	(7,600)
Foreign currency translation	**500**	(266)
Product warranty and recall at end of period	**$ 12,691**	$ 10,796

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 $49,386, $52,198 and $51,074 for the years ended December 31, 2020, 2019 and 2018, respectively, or 7.6%, 6.3% and 5.9% of net sales for these respective periods.

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 $19,302, $15,096 and $16,540 for the years ended December 31, 2020, 2019 and 2018, respectively.

Share-Based Compensation

At December 31, 2020, the Company had two types of 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 $5,888, $6,191 and $5,632 for the years ended December 31, 2020, 2019 and 2018, respectively. The 2020 and 2019 amounts included accelerated expense associated with the retirement of eligible employees and the 2018 amount included the forfeiture of certain grants associated with employee resignations. There was no share-based compensation expense capitalized in inventory during 2020, 2019 or 2018. 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, interest rate swap agreement 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 372,937 for the year ended December 31, 2020 were excluded from diluted loss per share because the effect would have been anti-dilutive.

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

	2020	2019	2018
Basic weighted-average Common Shares outstanding	**27,024,571**	27,791,799	28,402,227
Effect of dilutive shares	**-**	478,296	677,599
Diluted weighted-average Common Shares outstanding	**27,024,571**	28,270,095	29,079,826

There were 752,784, 566,337 and 628,220 performance-based right to receive Common Shares outstanding at December 31, 2020, 2019 and 2018. 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 finance cost amortization and debt discount accretion, for the years ended December 31, 2020, 2019 and 2018 was $506, $624 and $326, respectively, and is included as a component of interest expense, net in the consolidated statements of operations. In 2019, the Company capitalized $1,366 of deferred financing costs as a result of entering into the 2019 Credit Facility. In connection with the 2019 Credit Facility, the Company wrote off a portion of the previously recorded deferred financing costs of $275 in interest expense, net during the year ended December 31, 2019. In 2020, the Company capitalized an additional $1,079 of deferred financing costs as a result of entering into Amendment No. 1 to the 2019 Credit Facility. See Note 5 to the consolidated financial statements for additional details regarding the 2019 Credit Facility and related deferred financing costs.The Company has elected to continue to present deferred financing costs related to the Credit Facility within long-term assets in the Company’s consolidated balance sheets. Deferred financing costs, net, were $2,187 and $1,625, as of December 31, 2020 and 2019, respectively.

Equity and Changes in Accumulated Other Comprehensive Loss by Component

Common Share Repurchase

On October 26, 2018, the Company’s Board of Directors authorized the Company to repurchase up to $50,000 of Common Shares. Thereafter, on May 7, 2019, the Company entered into a Master Confirmation (the “Master Confirmation”) and a Supplemental Confirmation, together with the Master Confirmation, the Accelerated Share Repurchase Agreement (“ASR Agreement”), with Citibank N.A. (the “Bank”) to purchase Company Common Shares for a payment of $50,000 (the “Prepayment Amount”). Under the terms of the ASR Agreement, on May 7, 2019, the Company paid the Prepayment Amount to the Bank and received on May 8, 2019 an initial delivery of 1,349,528 Company Common Shares, which is approximately 80% of the total number of Company Common Shares expected to be repurchased under the ASR Agreement based on the closing price of the Company’s Common Shares on May 7, 2019. These Common Shares became treasury shares and were recorded as a $40,000 reduction to shareholder’s equity. The remaining $10,000 of the Prepayment Amount was recorded as a reduction to shareholders’ equity as an unsettled forward contract indexed to our Common Shares. The Company excluded the potential share impact of the remaining shares from the computation of diluted earnings per share as these Common Shares are anti-dilutive for year ended December 31, 2019.

On February 25, 2020, the Bank notified the Company that it terminated early its commitment pursuant the ASR Agreement and would deliver 364,604 Common Shares on February 27, 2020 based on the volume weighted average price of our Common Shares during the term set forth in the ASR Agreement. The Bank’s notice of early termination and the subsequent delivery of Common Shares represents the final settlement of the Company’s share repurchase program pursuant to the accelerated share repurchase agreement. These Common Shares became treasury shares and were recorded as a $10,000 reduction to shareholders’ equity as Common Shares held in treasury with the offset of $10,000 to additional paid-in capital.

On February 24, 2020, the Company’s Board of Directors authorized a new repurchase program of $50,000 for the repurchase of the Company’s outstanding Common Shares over the next 18 months. The repurchases may be made from time to time in either open market transactions or in privately negotiated transactions. Repurchases may also be made under Rule 10b-18 plans, which permit Common Shares to be repurchased through pre-determined criteria.

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On March 3, 2020, under the new repurchase program the Company entered into a 10b-18 Agreement Letter (the "10b-18 Agreement"), with the Bank to purchase Company Common Shares, under purchasing conditions of Rule 10b-18 promulgated under the Securities Exchange Act of 1934, as amended ("Rule 10b-18"), for up to $5,000. Under the terms of the 10b-18 Agreement, commencing March 3, 2020 and ending March 6, 2020, the Company received delivery of a total of 242,634 Company Common Shares for the amount of $4,995. These Common Shares became treasury shares and were recorded as a $4,995 reduction to shareholders' equity as Common Shares held in treasury. In April 2020, the Company announced that it was temporarily suspending the share repurchase program in response to uncertainty surrounding the duration and magnitude of the impact of COVID-19.

Accumulated Other Comprehensive Loss

Changes in accumulated other comprehensive loss for the years ended December 31, 2020 and 2019 were as follows:

	Foreign currency translation	Unrealized gain (loss) on derivatives	Total
Balance at January 1, 2020	**$ (91,472)**	**$ -**	**$ (91,472)**
Other comprehensive income (loss) before reclassifications	**2,677**	**(2,366)**	**311**
Amounts reclassified from accumulated other comprehensive loss	**-**	**1,526**	**1,526**
Net other comprehensive income (loss), net of tax	**2,677**	**(840)**	**1,837**
Balance at December 31, 2020	**$ (88,795)**	**$ (840)**	**$ (89,635)**
Balance at January 1, 2019	$ (86,044)	$ 292	$ (85,752)
Other comprehensive (loss) income before reclassifications	(5,428)	355	(5,073)
Amounts reclassified from accumulated other comprehensive loss	-	(647)	(647)
Net other comprehensive loss, net of tax	(5,428)	(292)	(5,720)
Balance at December 31, 2019	$ (91,472)	$ -	$ (91,472)

Recently Adopted Accounting Standards

In December 2019, the FASB issued ASU 2019-12, "Income Taxes (Topic 740): Simplifying the Accounting for Income Taxes." The amendments in this update remove certain exceptions of Topic 740 including: exception to the incremental approach for intraperiod tax allocation when there is a loss from continuing operations and income or gain from other items; exception to the requirement to recognize a deferred tax liability for equity method investments when a foreign subsidiary becomes an equity method investment; exception to the ability not to recognize a deferred tax liability for a foreign subsidiary when a foreign equity method investment becomes a subsidiary; exception to the general methodology for calculating income taxes in an interim period when a year-to-date loss exceeds the anticipated loss for the year. There are also additional areas of guidance in regards to: franchise and other taxes partially based on income and the interim recognition of enactment of tax laws and rate changes. The provisions of this ASU are effective for years beginning after December 15, 2020, with early adoption permitted. The Company adopted this standard prospectively as of January 1, 2020 using the modified retrospective basis. The impact of the adoption was a reduction to deferred tax liabilities and an increase to retained earnings of $13,750 on the consolidated balance sheet as of December 31, 2020. The adoption of this standard did not have an impact on the Company's consolidated results of operations and cash flows.

In August 2018, the Financial Accounting Standards Board ("FASB") issued Accounting Standards Update ("ASU") 2018-15, "Intangibles—Goodwill and Other—Internal-Use Software (Subtopic 350-40): Customer's Accounting for Implementation Costs Incurred in a Cloud Computing Arrangement That Is a Service Contract." The guidance in ASU 2018-15 clarifies the accounting for implementation costs in cloud computing arrangements. ASU 2018-15 is effective for fiscal years, and interim periods within those years, beginning after December 15, 2019. The Company adopted this standard prospectively as of January 1, 2020 and it did not have a material impact on the Company's consolidated financial statements.

In August 2018, the FASB issued ASU 2018-13, "Fair Value Measurement (Topic 820) – Disclosure Framework – Changes to the Disclosure Requirements for Fair Value Measurement." The guidance in ASU 2018-13 changes disclosure requirements related to fair value measurements as part of the disclosure framework project. The disclosure framework project aims to improve the effectiveness of disclosures in the notes to the financial statements by focusing on requirements that clearly communicate the most important information to users of the financial statements. This guidance is effective for fiscal years beginning after December 15, 2019, with early adoption permitted. The Company adopted this standard as of January 1, 2020 and it did not have a material impact on the Company's consolidated financial statements.

In June 2016, the FASB issued ASU 2016-13, "Financial Instruments - Credit Losses (Topic 326) Measurement of Credit Losses on Financial Instruments", which requires measurement and recognition of expected credit losses for financial assets held and requires enhanced disclosures regarding significant estimates and judgments used in estimating credit losses. ASU 2016-13 is effective for public business entities for annual periods beginning after December 15, 2019. The guidance allows for various methods for measuring expected credit losses. The Company has elected to apply a historical loss rate based on historical write-offs by region, adjusted for current economic conditions and forecasts about future economic conditions that are reasonable and supportable. The Company adopted this standard as of January 1, 2020 and it did not have a material impact on the Company's consolidated financial statements.

Recently Issued Accounting Standards Not Yet Adopted as of December 31, 2020

In March 2020, the FASB issued 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, 2022. As of December 31, 2020, the Company has not yet had contracts modified due to rate reform.

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 continue to be 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.

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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, European, and Asia Pacific regions. To a lesser extent, we also sell these products to the commercial vehicle and agricultural markets in the North American, European 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, camera-based vision systems, connectivity and compliance products and electronic control units. These products are sold principally to the commercial vehicle market primarily through our OEM and aftermarket channels in the European and North American regions, and to a lesser extent, the Asia Pacific region. The camera-based vision systems and related products are sold principally to the off-highway vehicle market in the European and North American regions.

Stoneridge Brazil. Our Stoneridge Brazil segment (also referred to as "PST" in prior filings) 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 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, directly to OEMs and through mass merchandisers. 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, 2020, 2019 and 2018:

	Control Devices			Electronics			Stoneridge Brazil			Consolidated		
Year ended December 31	**2020**	**2019**	**2018**	**2020**	**2019**	**2018**	**2020**	**2019**	**2018**	**2020**	**2019**	**2018**
Net Sales:												
North America	**$ 261,967**	$ 365,010	$ 395,148	**$ 68,561**	$ 92,623	$ 85,363	**$ -**	$ -	$ -	**$ 330,528**	$ 457,633	$ 480,511
South America	**-**	-	-	**-**	-	-	**47,663**	67,534	80,175	**47,663**	67,534	80,175
Europe	**29,679**	22,467	14,727	**184,579**	236,994	255,400	**-**	-	-	**214,258**	259,461	270,127
Asia Pacific	**50,930**	44,083	31,422	**4,627**	5,578	3,964	**-**	-	-	**55,557**	49,661	35,386
Total net sales	**$ 342,576**	$ 431,560	$ 441,297	**$ 257,767**	$ 335,195	$ 344,727	**$ 47,663**	$ 67,534	$ 80,175	**$ 648,006**	$ 834,289	$ 866,199

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

Performance Obligations

For OEM and Tier 1 supplier customers, the Company typically enters into contracts with its customers 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 suppliers are specifically customized to the specific customer, with the exception of off-highway products 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.

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Our aftermarket products are focused on meeting the demand for repair and replacement parts, compliance parts and accessories and are sold primarily to aftermarket distributors and mass retailers 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 and rebates and is 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, 2020 or 2019.

4. Investments

Minda Stoneridge Instruments Ltd.

The Company has a 49% equity interest in MSIL, a company based in India that manufactures electronics, instrumentation equipment and sensors primarily for the motorcycle, commercial vehicle and automotive markets. The investment is accounted for under the equity method of accounting. The Company's investment in MSIL, recorded as a component of investments and other long-term assets, net on the consolidated balance sheets, was $13,547 and $12,701 as of December 31, 2020 and 2019, respectively. Equity in earnings of MSIL included in the consolidated statements of operations were $1,477, $1,578 and $2,038 for the years ended December 31, 2020, 2019 and 2018, respectively.

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 will be required to pay additional earn-out consideration, which is not capped, based on Stoneridge Brazil's financial performance in either 2020 or 2021. See Note 10 for the fair value and foreign currency adjustments of the earn-out consideration for the current and prior periods.

Stoneridge Brazil had dividends payable to former noncontrolling interest holders of Brazilian real ("R$") 24,154 ($6,010) as of December 31, 2019. The dividends payable balance included monetary correction of R$3,703 ($921) as of December 31, 2019, based on the Brazilian National Extended Consumer Price inflation index ("IPCA"). The dividend payable related to Stoneridge Brazil was recorded within other current liabilities on the consolidated balance sheet as of December 31, 2019. These dividends were paid in January 2020.

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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 contributed $1,550 and $1,600 to the Autotech Ventures fund during the years ended December 31, 2020 and 2019, respectively. The Company has a 6.7% interest in Autotech Fund II. The Company recognized earnings (loss) of $59 and $(211) during the years ended December 31, 2020 and 2019, respectively. The Autotech Fund II investment recorded in investments and other long-term assets, net in the consolidated balance sheet was $3,436 and $1,827 as of December 31, 2020 and 2019, respectively.

5. Debt

Year ended December 31	2020	2019	Interest rates at December 31, 2020	Maturity
Revolving Credit Facility				
Credit Facility	**$ 136,000**	$ 126,000	**2.85%**	**June 2024**
Debt				
Stoneridge Brazil short-term obligations	**1,561**	-	**5.64% - 8.80%**	**June 2021 - November 2021**
Stoneridge Brazil long-term notes	**-**	972		
Sweden short-term credit line	**1,591**	-	**2.60%**	**January 2021**
Suzhou short-term credit line	**4,521**	2,154	**3.85% - 5.00%**	**September 2021**
Total debt	**7,673**	3,126		
Less: current portion	**(7,673)**	(2,672)		
Total long-term debt, net	**$ -**	$ 454		

Revolving Credit Facility

On June 5, 2019, the Company entered into the Fourth Amended and Restated Credit Agreement (the "2019 Credit Facility"). The 2019 Credit Facility provides for a $400,000 senior secured revolving credit facility and it replaced and superseded the Third Amended and Restated Credit Agreement that provided for a $300,000 revolving credit facility. The 2019 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 and includes a letter of credit subfacility, swing line subfacility and multicurrency subfacility. The 2019 Credit Facility has a termination date of June 5, 2024. In 2019, the Company capitalized $1,366 of deferred financing costs as a result of entering into the 2019 Credit Facility. In connection with the 2019 Credit Facility, the Company wrote off a portion of the previously recorded deferred financing costs of $275 in interest expense, net during the year ended December 31, 2019. Borrowings under the 2019 Credit Facility bear interest at either the Base Rate or the LIBOR rate, at the Company's option, plus the applicable margin as set forth in the 2019 Credit Facility. The 2019 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 2019 Credit Facility contains customary affirmative covenants and representations. The 2019 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) creation or ownership of certain subsidiaries, partnerships and joint ventures, (vii) continuation of or change in business, (viii) restricted payments, (ix) prepayment of subordinated and junior lien indebtedness, (x) restrictions in agreements on dividends, intercompany loans and granting liens on the collateral, (xi) loans and investments, (xii) sale and leaseback transactions, (xiii) changes in organizational documents and fiscal year and (xiv) transactions with respect to bonding subsidiaries. The 2019 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, (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.

Due to the expected impact of the COVID-19 pandemic on the Company's end-markets and the resulting expected financial impacts to the Company, on June 26, 2020, the Company entered into a Waiver and Amendment No. 1 to the Fourth Amended and Restated Credit Agreement ("Amendment No. 1"). Amendment No. 1 provides for certain covenant relief and restrictions during the "Covenant Relief Period" (the period ending on the date that the Company delivers a compliance certificate for the quarter ending June 30, 2021 in form and substance satisfactory to the administrative agent). During the Covenant Relief Period:

- the maximum net leverage ratio is suspended;
- the calculation of the minimum interest coverage ratio will exclude second quarter 2020 financial results effective for the quarters ended September 30, 2020 through March 31, 2021;
- the minimum interest coverage ratio of 3.50 is reduced to 2.75 and 3.25 for the quarters ended December 31, 2020 and March 31, 2021, respectively;
- the Company's liquidity may not be less than $150,000;
- the Company's aggregate amount of cash and cash equivalents cannot exceed $130,000;
- there are certain restrictions on Restricted Payments (as defined); and
- a Permitted Acquisition (as defined) may be not consummated unless otherwise approved in writing by the required lenders.

Amendment No. 1 changes the leverage based LIBOR pricing grid through the maturity date and also provides for a LIBOR floor of 50 basis points on outstanding borrowings excluding any Specified Hedge Borrowings (as defined) which remain subject to a LIBOR floor of 0 basis points. As of December 31, 2020, Specified Hedge Borrowings were $50,000.

The Company capitalized an additional $1,079 of deferred financing costs as a result of entering into Amendment No. 1.

Borrowings outstanding on the 2019 Credit Facility, were $136,000 and $126,000 at December 31, 2020 and 2019, respectively.

The Company was in compliance with all credit facility covenants at December 31, 2020 and 2019.

The Company also had outstanding letters of credit of $1,720 and $1,768 at December 31, 2020 and 2019, respectively.

Debt

Stoneridge Brazil maintains short-term notes used for working capital purposes which have fixed or variable interest rates. The weighted-average interest rate of Stoneridge Brazil short-term debt at December 31, 2020 was 6.79%. Depending on the specific note, interest is payable either monthly or annually. Principal repayments of $1,561 on Stoneridge Brazil debt at December 31, 2020 are due in 2021.

In December 2019, Stoneridge Brazil established an overdraft credit line which allowed overdrafts on Stoneridge Brazil's bank account up to a maximum level of R$5,000, or $1,244, at December 31, 2019. There was no balance outstanding on the overdraft credit line as of December 31, 2019. During the year ended December 31, 2020, the subsidiary borrowed and repaid R$7,150, or $1,306, prior to terminating the overdraft credit line.

The Company's wholly-owned subsidiary located in Sweden, 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 $2,435 and $2,136 at December 31, 2020 and 2019, respectively. At December 31, 2020 there was 13,072 Swedish krona, or $1,591, outstanding on this overdraft credit line. At December 31, 2019, there was no balance outstanding on this overdraft credit line. During the year ended December 31, 2020, the subsidiary borrowed 312,921 Swedish krona, or $38,092, and repaid 299,849 Swedish krona, or $36,501.

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The Company's wholly-owned subsidiary located in Suzhou, China, has two credit lines (the "Suzhou credit line") which allow up to a maximum borrowing level of 50,000 Chinese yuan, or $7,663 at December 31, 2020, and 40,000 Chinese yuan, or $5,746 at December 31, 2019. At December 31, 2020 and 2019 there was $4,521 and $2,154, respectively, in borrowings outstanding on the Suzhou credit line with weighted-average interest rates of 4.32% and 4.80%, 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. This bank acceptance draft line of credit allows up to a maximum borrowing level of 15,000 Chinese yuan, or $2,299 and $2,154, at December 31, 2020 and 2019, respectively. There was $414 and $150 utilized on the Suzhou bank acceptance draft line of credit at December 31, 2020 and 2019, respectively.

At December 31, 2020, the future maturities of the Credit Facility and debt were as follows:

Year ended December 31		
2021	**$**	**7,673**
2022		**-**
2023		**-**
2024		**136,000**
2025		**-**
Total	**$**	**143,673**

6. Income Taxes

The income tax (benefit) 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 (benefit) provision for income taxes consist of the following:

Year ended December 31		**2020**		**2019**		**2018**
(Loss) income before income taxes:						
Domestic	**$**	**(25,403)**	$	30,464	$	32,907
Foreign		**14,679**		37,929		32,151
Total (loss) income before income taxes	**$**	**(10,724)**	$	68,393	$	65,058
Provision for income taxes:						
Current:						
Federal	**$**	**(3)**	$	(4,384)	$	2,370
State and foreign		**5,182**		6,900		6,288
Total current expense	**$**	**5,179**	$	2,516	$	8,658
Deferred:						
Federal	**$**	**(8,512)**	$	6,780	$	3,788
State and foreign		**559**		(1,194)		(1,236)
Total deferred (benefit) provision		**(7,953)**		5,586		2,552
Total income tax (benefit) provision	**$**	**(2,774)**	$	8,102	$	11,210

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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	2020	2019	2018
Statutory U.S. federal income tax (benefit) provision	$ **(2,252)**	$ 14,363	$ 13,662
State income taxes, net of federal tax benefit	**(647)**	152	95
Tax credits and incentives	**(2,791)**	(6,297)	(5,159)
Foreign tax rate differential	**90**	1,347	710
Impact of change in enacted tax law	**1,108**	993	(848)
Change in valuation allowance	**2,174**	(138)	(1,922)
U.S. tax on foreign earnings	**(433)**	(3,373)	664
Compensation and benefits	**362**	(469)	839
Other [A]	**(385)**	1,524	3,169
(Benefit) provision for income taxes	$ **(2,774)**	$ 8,102	$ 11,210

[A] The amount for 2018 includes the impact of reducing tax attributes due to legal entity consolidation which is completely offset with change in valuation allowance.

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

As of December 31	2020	2019
Deferred tax assets:		
Inventories	$ **1,858**	$ 2,254
Employee compensation and benefits	**2,306**	2,105
Accrued liabilities and reserves	**3,649**	3,211
Property, plant and equipment	**943**	552
Tax loss carryforwards	**12,307**	7,536
Tax credit carryforwards	**22,949**	15,448
Lease liability	**4,199**	4,768
Other	**897**	582
Gross deferred tax assets	**49,108**	36,456
Less: Valuation allowance	**(10,237)**	(8,586)
Deferred tax assets less valuation allowance	**38,871**	27,870
Deferred tax liabilities:		
Property, plant and equipment	**(2,400)**	(2,071)
Intangible assets	**(13,630)**	(14,846)
Outside basis difference in foreign subsidiary	**-**	(13,750)
Right-of-use-assets	**(4,076)**	(4,695)
Other	**(4,793)**	(375)
Gross deferred tax liabilities	**(24,899)**	(35,737)
Net deferred tax assets (liabilities)	$ **13,972**	$ (7,867)

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

Year ended December 31	2020	2019
Long-term deferred tax assets	$ **26,907**	$ 4,663
Long-term deferred tax liabilities	**(12,935)**	(12,530)
Net deferred tax assets (liabilities)	$ **13,972**	$ (7,867)

The Company adopted ASU 2019-12,Income Taxes: Simplifying the Accounting for Income Taxes. As a result, the Company reversed a deferred tax liability of $13,750 related to its Stoneridge Brazil subsidiary that was previously a foreign equity method investment. The impact of adoption was recognized in retained earnings.

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, 2020, the aggregate undistributed earnings of our foreign subsidiaries amounted to $52,715.

Based on the Company's review of both positive and negative evidence regarding the realizability of deferred tax assets at December 31, 2020, 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.

The Company generated federal net operating loss of $15,801 in 2020. The Company has net operating loss carry forwards of $74,474 and $30,991 for state and foreign tax jurisdictions, respectively. Federal net operating loss carryover is indefinite and be carried back for 5 years. The state net operating losses expire from 2024-2040 or have indefinite lives and the foreign net operating losses expire from 2021-2025 or have indefinite lives. The Company has general business and foreign tax credit carry forwards of $19,810, $1,792 and $1,348 for U.S. federal, state and foreign jurisdictions, respectively. The U.S. federal general business credits, if unused, begin to expire in 2025, and the state and foreign tax credits expire at various times.

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

	2020	2019	2018
Balance as of January 1	**$ 3,449**	$ 3,481	$ 3,645
Tax positions related to the current year:			
Additions	**-**	-	-
Tax positions related to the prior years:			
Reductions	**-**	(32)	(165)
Expirations of statutes of limitation	**-**	-	1
Balance as of December 31	**$ 3,449**	$ 3,449	$ 3,481

At December 31, 2020, the Company has classified $3,449 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 $3,449 at December 31, 2020 and 2019.

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, 2020, 2019 and 2018, the Company recognized approximately $0, $(5) and $(13) of gross interest and penalties, respectively.

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	2017-2020
Argentina	2015-2020
Brazil	2014-2020
China	2017-2020
France	2017-2020
Germany	2016-2020
Italy	2015-2020
Mexico	2015-2020
Netherlands	2017-2020
Spain	2016-2020
Sweden	2015-2020
United Kingdom	2019-2020

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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.

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 payments in profit or loss 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 design and development ("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.

As a result of the Company's election to apply the modified retrospective transition method at the effective date of the standard, information prior to January 1, 2019 has not been restated and continues to be reported under the accounting standards in effect for the period (ASC Topic 840).

The components of lease expense are as follows:

Year ended December 31		2020		2019
Operating lease cost	$	**5,330**	$	5,740
Short-term lease cost		**665**		529
Variable lease cost		**614**		363
Total lease cost	$	**6,609**	$	6,632

Balance sheet information related to leases is as follows:

As of December 31		2020		2019
Assets:				
Operating lease right-of-use assets	$	**18,944**	$	22,027
Liabilities:				
Operating lease current liability, included in other current liabilities	$	**4,271**	$	4,556
Operating lease long-term liability		**15,434**		17,971
Total leased liabilities	$	**19,705**	$	22,527

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Maturities of operating lease liabilities are as follows:

As of December 31		2020
2021	$	4,873
2022		3,862
2023		3,627
2024		3,208
2025		2,444
Thereafter		5,707
Total future minimum lease payments	$	23,721
Less: imputed interest		(4,016)
Total lease liabilities	$	19,705

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

As of December 31	2020	2019
Weighted-average remaining lease term (in years)	6.33	6.71
Weighted-average discount rate	5.77 %	5.75 %

Other information:

Year ended December 31		2020		2019
Operating cash flows:				
Cash paid related to operating lease obligations	$	5,550	$	5,558
Non-cash activity:				
Right-of-use assets obtained in exchange for operating lease obligations	$	822	$	6,065

Lessor

The Company, as lessor, has 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 13, the Company ceased operations at this facility in March 2020. The Company recognizes lease income on a straight-line basis over the lease term, and the leased asset is included in property, plant and equipment, net in the consolidated balance sheet and depreciated to its estimated residual value over the remaining useful life of the assets. The carrying value of the leased facility is comprised of land of $1,225 and building and building improvements of $9,635, with accumulated depreciation of $7,637 as of December 31, 2020. The lease includes two optional extension terms of five years each. The Company recognized, in its Control Devices segment, operating and variable lease income from leases in our consolidated statements of operations of $674 and $199, respectively for the year ended December 31, 2020.

Maturities of future minimum lease payments to be received are as follows:

As of December 31		2020
2021	$	1,544
2022		1,582
2023		1,622
2024		1,662
2025		1,704
Thereafter		3,083
Total future minimum lease payments to be received	$	11,197

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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, 2020, the Company has granted 1,868,930 share units, of which 735,361 were time-based with cliff vesting using the straight-line method and 1,133,569 were performance-based. There are 1,326,299 shares available to be granted under the 2016 Plan at December 31, 2020.

In 2020, 2019 and 2018, pursuant to the 2016 Plan, the Company granted time-based share units and performance-based performance shares. 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.

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:

	2020	**2019**	**2018**
Total shareholder return	**45 %**	45 %	55 %
Earnings per share	**36 %**	36 %	45 %
Return on invested capital	**18 %**	18 %	- %

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. Under the 2018 Director Share Plan, the Company has cumulatively issued 718,467 restricted Common Shares. As such, there are 131,533 restricted Common Shares available to be issued on December 31, 2020. 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, 2020, 2019 and 2018 was $17.78, $30.01 and $24.69, 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, 2020 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 December 31, 2019	361,834	$ 25.84	566,336	$ 28.97
Granted	**306,161**	**$ 17.78**	**409,686**	**$ 17.10**
Vested	**(128,144)**	**$ 22.13**	**(145,569)**	**$ 22.08**
Forfeited or cancelled	**(37,123)**	**$ 25.37**	**(77,670)**	**$ 24.37**
Non-vested as of December 31, 2020	**502,728**	**$ 21.89**	**752,783**	**$ 24.32**

A summary of the status of the Company's non-vested share units and performance shares as of December 31, 2019 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 December 31, 2018	419,996	$ 19.64	628,220	$ 21.41
Granted	184,645	$ 30.01	250,858	$ 34.17
Vested	(196,404)	$ 17.08	(236,902)	$ 14.92
Forfeited or cancelled	(46,403)	$ 23.70	(75,840)	$ 27.42
Non-vested as of December 31, 2019	361,834	$ 25.84	566,336	$ 28.97

As of December 31, 2020, total unrecognized compensation cost related to non-vested time-based share units granted was $4,297. That cost is expected to be recognized over a weighted-average period of 1.40 years.

For the years ended December 31, 2020, 2019 and 2018, the total fair value of awards vested was $5,288, $12,376 and $12,577, respectively.

As of December 31, 2020, total unrecognized compensation cost related to non-vested performance shares granted was $628 for shares probable to vest. That cost is expected to be recognized over a weighted-average period of 1.45 years dependent upon the achievement of performance conditions. 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 benefit realized from the vesting of share units and performance shares of the share-based payment arrangements was $46, $1,289 and $1,584 for the years ended December 31, 2020, 2019 and 2018, 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, 2020, 2019 and 2018, expenses related to these plans amounted to $3,812, $4,260 and $3,520, respectively.

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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 2019 Credit Facility and the maturity of the remaining outstanding debt.

Derivative Instruments and Hedging Activities

On December 31, 2020, 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 2020 and 2019. 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 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. The Company hedged the euro and Mexican peso currencies during 2020 and 2018 and, during 2019, the Company hedged only the Mexican peso. In addition, the Company hedged the U.S. dollar against the Swedish krona and euro on behalf of its European subsidiaries in 2018.

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 income, to the extent that hedges are effective, until the underlying transactions are recognized in earnings. Unrealized amounts in accumulated other comprehensive income 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 (income) expense, net. At December 31, 2020, 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:

Euro-denominated Foreign Currency Forward Contracts – Cash Flow Hedges

At December 31, 2017, the Company held foreign currency forward contracts with an underlying notional amount of $1,486 to reduce the exposure related to the Company's euro-denominated intercompany loans. There were no contracts entered into as of December 31, 2020, 2019 or 2018 as these contracts were settled in December 2018. This euro-denominated foreign currency forward contract was not designated as a hedging instrument. For the year ended December 31, 2018, the Company recognized a gain of $73 in the consolidated statements of operations as a component of other (income) expense, net related to the euro-denominated contract.

U.S. dollar-denominated Foreign Currency Forward Contracts – Cash Flow Hedges

The Company entered into U.S. dollar-denominated currency contracts on behalf of one of its European Electronics subsidiaries, whose functional currency is the euro, and expired ratably on a monthly basis during 2020. There were no such contracts at December 31, 2019.

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

The Company holds Mexican peso-denominated foreign currency forward contracts with a notional amount at December 31, 2020 of $1,242 which expire ratably on a monthly basis from January 2021 to March 2021. There were no open Mexican peso-denominated foreign currency forward contracts at December 31, 2019.

The Company evaluated the effectiveness of the Mexican peso-denominated foreign currency forward contracts held as of December 31, 2020 and the year then ended, and concluded that the hedges were effective.

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 2019 Credit Facility borrowings. The Swap was designated as a cash flow hedge of the variable interest rate obligation under the Company's 2019 Credit Facility that has a current balance of $136,000 at December 31, 2020. Accordingly, the change in fair value of the Swap is recognized in accumulated other comprehensive income (loss). The Swap agreement requires monthly settlements on the same days that the 2019 Credit Facility interest payments are due and has a maturity date of March 10, 2023, which is prior to the 2019 Credit Facility maturity date of June 4, 2024. Under the Swap terms, the Company pays a fixed interest rate and receives a floating interest rate based on the one-month LIBOR, with a floor. The critical terms of the Swap are aligned with the terms of the 2019 Credit Facility, resulting in no hedge ineffectiveness. The difference between amounts to be received and paid under the Swap is recognized as a component of interest expense, net on the consolidated statements of operations. The swap settlements increased interest expense by $433 for the year ended December 31, 2020.

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

December 31	Notional amounts (A) 2020	Notional amounts (A) 2019	Prepaid expenses and other current assets 2020	Prepaid expenses and other current assets 2019	Accrued expenses and other current liabilities 2020	Accrued expenses and other current liabilities 2019
Derivatives designated as hedging instruments:						
Cash flow hedges:						
Forward currency contracts	**$ 1,242**	$ -	**$ 255**	$ -	**$ -**	$ -
Interest rate swap	**$ 50,000**	$ -	**$ -**	$ -	**$ 1,318**	$ -

(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) 2020	2019	2018	Gain (loss) reclassified from other comprehensive income (loss) into net (loss) income (A) 2020	2019	2018
Derivatives designated as cash flow hedges:						
Forward currency contracts	**$ (1,244)**	$ 450	$ 1,967	**$ (1,499)**	$ 820	$ 1,376
Interest rate swap	**$ (1,751)**	$ -	$ -	**$ (433)**	$ -	$ -

(A) Gains (losses) 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, 2020, 2019 and 2018 were $(1,146), $695 and $1,259, respectively. Gains (losses) reclassified from other comprehensive income (loss) into net (loss) income recognized in D&D in the Company's consolidated statements of operations were $(29), $125 and $117 for the years ended December 31, 2020, 2019 and 2018, respectively. Gains (losses) reclassified from other comprehensive income (loss) into net (loss) income recognized in SG&A in the Company's consolidated statements of operations were $(324), $0 and $0 for the years ended December 31, 2020, 2019 and 2018, respectively.

For the year ended December 31, 2020, the total net gain on the foreign currency contract cash flow hedges of $255 is expected to be included in COGS, SG&A and D&D within the next 12 months. Of the total net loss on the interest rate swap cash flow hedge, $591 of loss is expected to be included in interest expense, net within the next 12 months and $727 of losses are expected to be included in interest expense, net in subsequent periods.

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, 2020, 2019 and 2018.

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 contracts, inputs include foreign currency exchange rates. For the interest rate swap, inputs include 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				**2020**	**2019**
		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 contract	**$ 255**	**$ -**	**$ 255**	**$ -**	$ -
Total financial assets carried at fair value	**$ 255**	**$ -**	**$ 255**	**$ -**	$ -
Financial liabilities carried at fair value:					
Interest rate swap	**$ 1,318**	**$ -**	**$ 1,318**	**$ -**	$ -
Earn-out consideration	**5,813**	**-**	**-**	**5,813**	12,011
Total financial liabilities carried at fair value	**$ 7,131**	**$ -**	**$ 1,318**	**$ 5,813**	$ 12,011

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.

	Stoneridge Brazil	**Total**
Balance at December 31, 2019	$ 12,011	$ 12,011
Change in fair value	**(3,196)**	**(3,196)**
Foreign currency adjustments	**(3,002)**	**(3,002)**
Balance at December 31, 2020	**$ 5,813**	**$ 5,813**

	Orlaco	**Stoneridge Brazil**	**Total**
Balance at December 31, 2018	$ 8,602	$ 10,070	$ 18,672
Change in fair value	-	2,308	2,308
Foreign currency adjustments	(128)	(367)	(495)
Earn-out consideration cash payment	(8,474)	-	(8,474)
Balance at December 31, 2019	$ -	$ 12,011	$ 12,011

The Company will be required to pay the Stoneridge Brazil earn-out consideration, which is not capped, based on Stoneridge Brazil's financial performance in either 2020 or 2021. The fair value of the Stoneridge Brazil earn-out consideration is based on discounted cash flows utilizing forecasted earnings before interest, depreciation and amortization ("EBITDA") in 2020 or 2021 using the key inputs of forecasted sales and expected operating income reduced by the market required rate of return. The former Stoneridge Brazil owners may choose either the 2020 or 2021 financial performance period to be used to determine the earn-out consideration payment. The former Stoneridge Brazil owners must choose the 2020 financial performance period by March 31, 2021 otherwise the 2021 financial performance period will automatically be used. The Company has assigned a zero probability that the former owners will choose the 2020 performance period given Stoneridge Brazil's financial performance has been negatively impacted by COVID-19. As such, the earn-out fair value assumes 2021 financial performance will be the basis for the earn-out consideration obligation. The earn-out consideration obligation related to Stoneridge Brazil is recorded within other long-term liabilities in the consolidated balance sheets as of December 31, 2020 and 2019.

The change in fair value of the earn-out consideration for Stoneridge Brazil was due to updated financial performance projections and favorable foreign currency translation offset by the reduced time from the current period end to the payment date. The change in fair value of the Stoneridge Brazil earn-out consideration was recorded in SG&A expense and the foreign currency impact was included in other (income) expense, net in the consolidated statements of operations.

The fair value of the Orlaco earn-out consideration was based on a Monte Carlo simulation utilizing forecasted EBITDA for the 2017 and 2018 earn-out period as well as a growth rate reduced by the market required rate of return.

The Orlaco earn-out consideration reached the capped amount of €7,500 as of the quarter ended March 31, 2018 due to actual performance exceeding forecasted performance and remained at the capped amount until it was paid out in March 2019. The payment of the Orlaco earn-out consideration of $8,474 was paid in March 2019 and recorded in the consolidated statement of cash flows within operating and financing activities in the amounts of $5,080 and $3,394, respectively, for the year ended December 31, 2019.

There were no transfers in or out of Level 3 from other levels in the fair value hierarchy for the year ended December 31, 2020.

No non-recurring fair value adjustments were required for nonfinancial assets for the years ended December 31, 2020 and 2019.

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.

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On May 19, 2020, the Company committed to the strategic exit of its Control Devices particulate matter (“PM”) sensor product line. As a result of the strategic exit of the PM sensor product line the Company determined an impairment indicator existed and performed a recoverability test of the related long-lived assets. The Company identified that there are two asset groups comprised of PM sensor fixed assets at the Company’s Lexington, Ohio and Tallinn, Estonia facilities. As a result of the recoverability test performed, the Company determined that the undiscounted cash flows did not exceed the carrying value of the PM sensor fixed assets at the Company’s Tallinn, Estonia facility. As such, an impairment loss of $2,326 was recorded based on the difference between the fair value and the carrying value of the assets. The Company used the income approach to determine the fair value of the PM sensor fixed assets at the Tallinn, Estonia facility. During the year ended December 31, 2020, the impairment loss of $2,326 was recorded on the Company’s condensed consolidated statement of operations within SG&A expense. The inputs utilized in the analyses are classified as Level 3 inputs within the fair value hierarchy as defined in ASC 820, "Fair Value Measurement."

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 this 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. Upon approval of the remedial action plan by the Florida Department of Environmental Protection, ground water remediation began in the fourth quarter of 2015. During the year ended December 31, 2020 environmental remediation costs incurred were $128 and were immaterial for the years ended December 31, 2019 and 2018. At December 31, 2020 and 2019, the Company had accrued an undiscounted liability of $180 and $82, respectively, related to future remediation costs which were recorded as a component of accrued expenses and other current liabilities on the consolidated balance sheets. 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. 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’s legal advisors in Brazil. As a result, no provision has been recorded with respect to these contingencies, which amounted to R$43,736 ($8,416) and R$29,700 ($7,300) at December 31, 2020 and 2019, respectively. An unfavorable outcome on these contingencies could result in significant cost to the Company and adversely affect its results of operations.

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 ($1,538) fine which is included in the reasonably possible contingencies noted above. The Company is challenging this ruling in Brazilian federal court to reverse this decision by the CADE tribunal.

Insurance Recoveries

The Company incurred losses and incremental costs related to the damage to assets caused by a storm at its Mexican production facility in the fourth quarter of 2016 and pursued recovery of such costs under applicable insurance policies. As of December 31, 2020, the claims have been resolved and the case has been closed with our insurance providers.

Loss recoveries related to the damage of inventory and incremental costs included in COGS were not significant for the years ended December 31, 2020, 2019 and 2018, and there were no loss recoveries and insurance gain contingencies related to the damage of property, plant and equipment included within SG&A expense. As of December 31, 2017, the Company had confirmation of the open insurance claim and recorded a receivable of $1,644. The cash payment was subsequently received in January 2018. Cash proceeds related to the damage of inventory and incremental costs were $241 for the year ended December 31, 2018 and were included in cash flows from operating activities. Cash proceeds related to the damage of property, plant and equipment of $1,403 for the year ended December 31, 2018 were included in cash flows from investing activities. Cash proceeds received during the year ended December 21, 2019 were immaterial and there were no cash proceeds received during the year ended December 31, 2020.

Brazilian Indirect Tax

In March 2017, the Supreme Court of Brazil issued a decision concluding that a certain state value added tax should not be included in the calculation of federal gross receipts taxes. The decision reduced Stoneridge Brazil’s gross receipts tax prospectively and, potentially, retrospectively. In April 2019, the Company received judicial notification that the Superior Judicial Court of Brazil rendered a favorable decision on Stoneridge Brazil’s case granting the Company the right to recover, through offset of federal tax liabilities, amounts collected by the government from June 2010 to February 2017. Based on the Company’s determination that these tax credits will be used prior to expiration, we recorded a pre-tax benefit of $6,473 as a reduction to SG&A expense which is inclusive of related interest income of $2,392, net of applicable professional fees of $990 in the year ended December 31, 2019. In January 2020, the Company received administrative approval and is now offsetting eligible federal tax with these tax credits.

The Brazilian tax authorities have sought clarification before the Supreme Court of Brazil (in a leading case involving another taxpayer) of certain matters that could affect the rights of Brazilian taxpayers regarding these credits. The timing for a decision is uncertain due to the COVID-19 pandemic. If the Brazilian tax authorities challenge our rights to these credits, we may become subject to new litigation that could impact the amount ultimately realized by Stoneridge Brazil.

12. Headquarter Relocation and Consolidation

During the fourth quarter of 2016, the Company relocated its corporate headquarters from Warren, Ohio to Novi, Michigan and consolidated its other corporate functions into one location. As a result, the Company incurred headquarter relocation costs recorded within SG&A expense, which included employee retention and relocation expense of $269 for the year ended December 31, 2018. There were no headquarter relocation costs incurred in 2020 or 2019.

In connection with the headquarter relocation, the Company was approved for a Michigan Business Development Program grant of up to $1,400 based upon the number of new jobs created in Michigan through 2022. As a result of the attainment of certain milestones, grant income of $429 and $312 was recognized during the years ended December 31, 2019 and 2018, respectively, within SG&A expense in the consolidated statements of operations. There was no grant income recognized during the year ended December 31, 2020.

13. Restructuring and Business Realignment

On May 19, 2020, the Company committed to the strategic exit of its Control Devices particulate matter (“PM”) sensor product line. 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. The Company expects the exit from the PM sensor product line to be completed in the fourth quarter of 2021.

As a result of the PM sensor restructuring actions, the Company recognized expense of $3,428 for the year ended December 31, 2020 for non-cash fixed asset charges, including impairment and accelerated depreciation of PM sensor related fixed assets and other related costs. For the year ended December 31, 2020 restructuring related costs of $817 and $2,611 were recognized in COGS and SG&A, respectively. The estimated range of additional cost of the plan to exit the PM sensor product line, that will impact the Control Devices segment, is approximately $2,800 and $6,330 and is related to employee severance and termination costs, contract terminations costs, other related costs such as potential commercial and supplier settlements and accelerated depreciation. We anticipate that these costs will be incurred through the fourth quarter of 2021.

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The expenses for the exit of the PM sensor line that relate to the Control Devices reportable segment include the following:

	Accrual as of January 1, 2020	2020 Charge to Expense	Utilization Cash	Utilization Non-Cash	Accrual as of December 31, 2020
Fixed asset impairment and accelerated depreciation	**$ -**	**$ 3,326**	**$ -**	**$ (3,326)**	**$ -**
Other related costs	**-**	**102**	**(102)**	-	**-**
Total	**$ -**	**$ 3,428**	**$ (102)**	**$ (3,326)**	**$ -**

On January 10, 2019, the Company committed to a restructuring plan that resulted in the closure of the Canton, Massachusetts facility ("Canton Facility") on by March 31, 2020 and the consolidation of manufacturing operations at that site into other Company locations ("Canton Restructuring"). Company management informed employees at the Canton Facility of this restructuring decision on January 11, 2019. 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 $2,978 and $12,530 for the years ended December 31, 2020 and 2019, respectively, for employee termination benefits and other restructuring related costs. For the year ended December 31, 2020 severance and other restructuring related costs of $1,659, $551 and $768 were recognized in COGS, SG&A and D&D, respectively, in the consolidated statement of operations. For the year ended December 31, 2019 severance and other related restructuring costs of $7,625, $1,526 and $3,379 were recognized in COGS, SG&A and D&D, respectively, in the consolidated statement of operations. The estimated additional cost of this restructuring plan, that will impact the Control Devices segment, is immaterial.

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

	Accrual as of January 1, 2020	2020 Charge to Expense	Utilization Cash	Utilization Non-Cash	Accrual as of December 31, 2020
Employee termination benefits	**$ 2,636**	**$ 1,119**	**$ (3,590)**	**$ -**	**$ 165**
Other related costs	**-**	**1,859**	**(1,859)**	-	**-**
Total	**$ 2,636**	**$ 2,978**	**$ (5,449)**	**$ -**	**$ 165**

	Accrual as of January 1, 2019	2019 Charge to Expense	Utilization Cash	Utilization Non-Cash	Accrual as of December 31, 2019
Employee termination benefits	$ -	$ 8,088	$ (5,452)	$ -	$ 2,636
Other related costs	-	4,442	(4,442)	-	-
Total	$ -	$ 12,530	$ (9,894)	$ -	$ 2,636

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 $2,400, $603 and $3,539 respectively, for the years ended December 31, 2020, 2019 and 2018 for employee severance and termination costs, contract termination costs, non-cash fixed asset charges for accelerated depreciation of fixed assets 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, 2020 were $147, $1,774 and $479, respectively. Electronics segment restructuring costs were recorded in SG&A in the consolidated statements of operations for the year ended December 31, 2019. Excess and obsolete inventory write-offs of $823 were recognized in COGS for the year ended December 31, 2018 and all other restructuring costs were recognized in SG&A in the consolidated statement of operations. The Company expects to incur approximately $200 of additional restructuring costs related to the actions through the second quarter of 2021.

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

	Accrual as of January 1, 2020	2020 Charge to Expense	Utilization Cash	Utilization Non-Cash	Accrual as of December 31, 2020
Employee termination benefits	**$ 52**	**$ 1,034**	**$ (859)**	**$ -**	**$ 227**
Contract termination costs	**-**	**452**	**(452)**	-	**-**
Other related costs	**-**	**914**	**(914)**	-	**-**
Total	**$ 52**	**$ 2,400**	**$ (2,225)**	**$ -**	**$ 227**

	Accrual as of January 1, 2019	2019 Charge to Expense	Utilization Cash	Utilization Non-Cash	Accrual as of December 31, 2019
Employee termination benefits	$ 520	$ (18)	$ (453)	$ 3	$ 52
Accelerated depreciation	-	289	-	(289)	-
Contract termination costs	17	9	(26)	-	-
Other related costs	119	323	(442)	-	-
Total	$ 656	$ 603	$ (921)	$ (286)	$ 52

	Accrual as of January 1, 2018	2018 Charge to Expense	Utilization Cash	Utilization Non-Cash	Accrual as of December 31, 2018
Employee termination benefits	$ -	$ 1,939	$ (1,419)	$ -	$ 520
Excess and obsolete inventory	-	823	-	(823)	-
Intangible impairment	-	200	-	(200)	-
Fixed asset impairment	-	157	-	(157)	-
Contract termination costs	-	156	(139)	-	17
Other related costs	-	264	(145)	-	119
Total	$ -	$ 3,539	$ (1,703)	$ (1,180)	$ 656

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	**2020**	**2019**	**2018**
Control Devices (A)	**$ 1,752**	$ 682	$ 169
Electronics (B)	**1,690**	99	63
Stoneridge Brazil (C)	**234**	-	478
Unallocated Corporate (D)	**361**	1,048	-
Total business realignment charges	**$ 4,037**	$ 1,829	$ 710

(A) Severance costs for the year ended December 31, 2020 related to COGS, D&D and SG&A were $724, $283 and $745, respectively. Severance costs for the year ended December 31, 2019 related to SG&A were $682. Severance costs for the year ended December 31, 2018 related to D&D and SG&A were $128 and $41, respectively.

(B) Severance costs for the year ended December 31, 2020 related to COGS, D&D and SG&A were $383, $402 and $905, respectively. Severance costs for the year ended December 31, 2019 related to SG&A were $99. Severance costs for the year ended December 31, 2018 related to SG&A were $63.

(C) Severance costs for the year ended December 31, 2020 related to COGS and SG&A were $124 and $110, respectively. Severance costs for the year ended December 31, 2018 related to COGS, SG&A and D&D were $63, $387 and $28, respectively.

(D) Severance costs for the years ended December 31, 2020 and 2019 related to SG&A were $361 and $1,048, respectively.

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

Year ended December 31	2020	2019	2018
Cost of goods sold	**$ 1,231**	$ -	$ 63
Selling, general and administrative	**2,121**	1,829	491
Design and development	**685**	-	156
Total business realignment charges	**$ 4,037**	$ 1,829	$ 710

14. 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, camera-based vision 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 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 accounted for on terms similar to those to third parties and 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.

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Year ended December 31	2020	2019	2018
Net Sales:			
Control Devices	$ 342,576	$ 431,560	$ 441,297
Inter-segment sales	5,475	6,438	8,348
Control Devices net sales	348,051	437,998	449,645
Electronics	257,767	335,195	344,727
Inter-segment sales	24,027	33,735	37,126
Electronics net sales	281,794	368,930	381,853
Stoneridge Brazil	47,663	67,534	80,175
Inter-segment sales	-	6	2
Stoneridge Brazil net sales	47,663	67,540	80,177
Eliminations	(29,502)	(40,179)	(45,476)
Total net sales	$ 648,006	$ 834,289	$ 866,199
Operating (Loss) Income:			
Control Devices	$ 22,072	$ 73,327	$ 64,191
Electronics	(3,672)	25,006	28,236
Stoneridge Brazil	3,766	6,539	4,989
Unallocated Corporate (A)	(29,830)	(33,591)	(30,412)
Total operating (loss) income	$ (7,664)	$ 71,281	$ 67,004
Depreciation and Amortization:			
Control Devices	$ 15,377	$ 13,397	$ 11,914
Electronics	10,501	9,872	8,982
Stoneridge Brazil	4,766	6,338	7,443
Unallocated Corporate	2,592	1,252	852
Total depreciation and amortization (B)	$ 33,236	$ 30,859	$ 29,191
Interest Expense, net:			
Control Devices	$ 343	$ 811	$ 76
Electronics	612	350	85
Stoneridge Brazil	29	208	824
Unallocated Corporate	5,140	2,955	3,735
Total interest expense, net	$ 6,124	$ 4,324	$ 4,720
Capital Expenditures:			
Control Devices	$ 11,760	$ 12,646	$ 16,737
Electronics	11,617	15,476	5,965
Stoneridge Brazil	2,839	5,003	3,242
Unallocated Corporate (C)	1,444	2,699	3,083
Total capital expenditures	$ 27,660	$ 35,824	$ 29,027

As of December 31	2020	2019
Total Assets:		
Control Devices	$ 194,433	$ 191,491
Electronics	303,914	285,027
Stoneridge Brazil	61,350	89,393
Corporate (C)	390,851	358,766
Eliminations	(329,140)	(322,468)
Total assets	$ 621,408	$ 602,209

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

Year ended December 31	2020	2019	2018
Net Sales:			
North America	$ 330,528	$ 457,633	$ 480,511
South America	47,663	67,534	80,175
Europe and Other	269,815	309,122	305,513
Total net sales	$ 648,006	$ 834,289	$ 866,199

As of December 31	2020	2019
Long-term Assets:		
North America	$ 110,330	$ 87,430
South America	33,785	52,518
Europe and Other	142,629	130,995
Total long-term assets	$ 286,744	$ 270,943

(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.

15. Unaudited Quarterly Financial Data

The following is a summary of quarterly results of operations:

2020	December 31	September 30	June 30	Quarter ended March 31
Net sales	$ 189,731	$ 175,764	$ 99,545	$ 182,966
Gross profit	49,550	45,995	13,254	45,397
Operating income (loss)	5,673	9,827	(26,823)	3,659
Income tax expense (benefit)	920	1,814	(6,721)	1,213
Net income (loss)	3,580	6,714	(21,734)	3,490
Earnings (loss) per share:				
Basic (A)	$ 0.13	$ 0.25	$ (0.81)	$ 0.13
Diluted (A)	$ 0.13	$ 0.25	$ (0.81)	$ 0.13

2019	December 31	September 30	June 30 (B)	Quarter ended March 31
Net sales	$ 190,365	$ 203,386	$ 222,241	$ 218,297
Gross profit	44,198	51,855	56,827	60,853
Operating income	1,073	9,323	49,186	11,699
Income tax (benefit) expense	(4,249)	1,450	9,066	1,835
Net income	4,209	6,661	39,764	9,657
Earnings per share:				
Basic (A)	$ 0.15	$ 0.24	$ 1.43	$ 0.34
Diluted (A)	$ 0.15	$ 0.24	$ 1.41	$ 0.33

(A) Earnings per share for the year may not equal the sum of the four historical quarters earnings per share due to changes in weighted-average basic and diluted shares outstanding.

(B) The Company recognized a gain on disposal of Non-core Products in our Control Devices segment, net of $33,599 in the quarter ended June 30, 2019. See Note 2 to the Company's consolidated financial statements for further information.

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, 2020, 2019 and 2018 (in thousands):

	Balance at beginning of period	Charged to costs and expenses (income)	Write-offs	Balance at end of period
Accounts receivable reserves:				
Year ended December 31, 2020	**$ 1,289**	**$ 1,130**	**$ (1,602)**	**$ 817**
Year ended December 31, 2019	1,243	1,126	(1,080)	1,289
Year ended December 31, 2018	1,109	1,244	(1,110)	1,243

	Balance at beginning of period	Net additions charged to expense (benefit)	Exchange rate fluctuations and other items	Balance at end of period
Valuation allowance for deferred tax assets:				
Year ended December 31, 2020	**$ 8,586**	**$ 2,174**	**$ (523)**	**$ 10,237**
Year ended December 31, 2019	8,962	(138)	(238)	8,586
Year ended December 31, 2018	11,986	(1,922)	(1,102)	8,962

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, 2020, 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, 2020.

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 (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, 2020. Based on our evaluation under the framework in *Internal Control-Integrated Framework* (2013 Framework), our management has concluded that our internal control over financial reporting was effective as of December 31, 2020.

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, 2020. 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, 2020 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, 2020, 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, 2020, 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, 2020 and 2019, the related consolidated statements of operations, comprehensive income, cash flows and shareholders' equity for each of the three years in the period ended December 31, 2020, and the related notes and financial statement schedule of the Company and our report dated February 24, 2021 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
February 24, 2021

Item 9B. Other Information.

Change in Control Agreements

On February 22, 2021, each of the following executive officers entered into a new Change in Control Agreement (the "CIC Agreement") with the Company: Thomas M. Dono Jr, Robert R. Krakowiak and Laurent Borne. The CIC Agreement is designed to provide for continuity of management in the event of change in control of the Company. The Company believes that it is important for the Company's executive officer to be able to react neutrally to a potential change in control and not be influenced by personal financial concerns. For these executive officers, the CIC Agreement sets a level of benefits, as described below, to remain competitive with our select peer group. All payments under the CIC Agreement are conditioned on a customary non-compete, non-solicitation and non-disparagement agreement. There is no excise tax gross-up payment under the CIC Agreement. The CIC Agreement is "double trigger" agreement meaning that in order for the executive officers to receive a payment and other benefits both of the following must occur: (1) a change in control of the Company, and (2) a triggering event within two years of a change in control where (a) the Company separates the executive officer other than in the case of a termination for cause (as defined), or (b) the executive officer separates from service from the Company for good reason (as defined). Under the CIC Agreement if the events set forth above occur and the executive delivers a release to the Company, the Company will be obligated to pay the applicable executive officers (1) an amount equal to two times the greater of the executive officer's annual base salary at the time of a triggering event or at the time of the occurrence of a change in control, (2) an amount equal to two times the greater of the executives officer's target annual incentive award at the time of termination or the actual incentive award received for the fiscal year prior to termination, and (3) an amount equal to the pro rata amount of annual incentive compensation the executive officer would have been entitled to at the time of a triggering event calculated based on the performance goals that were achieved in the year in which the triggering event occurred. In addition, the executive officer will be provided continued life and health insurance benefits for twenty-four months following termination.

The material amendments to the prior Change in Control agreements are that the new CIC Agreement changes (i) changes the defined term "Executives Annual Bonus" to mean the greater of the target annual incentive award at the time of termination or the actual incentive award received for the year prior to termination, and (ii) the provisions related to payment in connection total compensation in excess of the safe harbor amount of Section 208G of the Internal Revenue Code so that the covered executive will receive the greater of safe harbor amount (as defined) or aggregate parachute value (as defined) of the total payments (as defined) less applicable excise tax. The prior Change in Control Agreements with Thomas M. Dono Jr, Robert R. Krakowiak and Laurent Borne are superseded and replaced by the new CIC Agreement described above. The above summary of the CIC Agreement is qualified in its entirety by reference to the full text of the CIC Agreement, a copy of which are filed as an exhibit to this Form 10-K and incorporated herein by reference.

Amendment to Jonathan DeGaynor Employment Agreement

On February 23, 2021, the Company and Jonathan B. DeGaynor ("DeGaynor") entered into an amendment (the "Amendment") to DeGaynor's March 16, 2015 Employment Agreement (the "Employment Agreement"). The Amendment also amended the Change in Control Agreement, also dated March 16, 2015, by and between DeGaynor and the Company (the, "DeGaynor CIC Agreement"). The CIC Agreement is attached as Appendix C to the Employment Agreement.

The Amendment was designed to conform the Employment Agreement and the DeGaynor CIC Agreement to other compensation plans and practices applicable to the Company's other executive officers in terms of the vesting of equity-based awards under the Company's Long-Term Incentive Plan and the treatment of certain payments in the event of a Company change in control. The material changes made by the Amendment (i) eliminate automatic (single trigger) vesting of equity-based awards under the Company's Long-Term Incentive Plan pursuant to the Employment Agreement so that all current and future awards under the Company's Long-Term Incentive Plan will be subject to "double trigger" vesting in the event of a change in control, and (ii) adjusts the provisions related to payment in connection total compensation in excess of the safe harbor amount of Section 208G of the Internal Revenue Code so that DeGaynor will receive the greater of safe harbor amount (as defined) or aggregate parachute value (as defined) of the total payments (as defined) less applicable excise tax.

The Employment Agreement will be automatically renewed for one year every year unless notice of termination is delivered by either party before the end of the then current term. The Employment Agreement provides the payment of an annual base salary of $500,000; participation in the Company's annual incentive plan ("AIP") at a target of 100% of base salary (since 2015 both DeGaynor's base salary and AIP percentage target have been increased by the Board's Compensation Committee as result of regular, annual merit pay increases – in 2019, DeGaynor's base salary was $825,000 and his AIP base salary target was 103%); relocation benefits; a monthly car allowance; and participation in the Company's customary benefit plans for senior executive officers. Under the Employment Agreement if DeGaynor is terminated by the Company without cause or he terminates the Employment Agreement and his employment for good reason, the Company will be obligated to pay him severance in equal to his annual base salary and target annual incentive. In addition, upon a termination without cause (or good reason termination) the Company must continue to cover his health and welfare benefits for a period of twelve months following such termination. In connection with the Employment Agreement, DeGaynor and the Company entered in the DeGaynor CIC Agreement. Under the DeGaynor CIC Agreement, if within two years after a Change in Control (as defined in the DeGaynor CIC Agreement) DeGaynor is terminated without cause or resigns for good reason then the Company shall be obligated to pay DeGaynor a lump sum cash payment equal to the sum of two times DeGaynor's annual salary, plus two times his annual bonus, plus his pro rata annual bonus. The Company shall also be obligated to continue DeGaynor's health and welfare benefits for twenty-four months.

DeGaynor is entitled to be nominated each year for election to serve on the Company's Board of Directors under the Employment Agreement. The Employment Agreement also contains certain other customary provisions for employment agreements, such as covenants by DeGaynor regarding non-competition and non-solicitation and use of confidential information and a release obligation as a condition to severance payments.

The above summaries of the Employment Agreement, the DeGaynor CIC Agreement and the Amendment are qualified in their entirety by references to the full text of such agreements or amendment, copies of which are filed as exhibits to this Form 10-K and incorporated herein by reference.

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 11, 2021. The information required by this Item 10 regarding our executive officers appears as a Supplementary Item following Item 1 under Part I, hereof.

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 11, 2021.

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 11, 2021.

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. Our shareholders approved each plan.

Equity compensation plan information as of December 31, 2020 is as follows:

	Number of securities remaining available for future issuance under equity compensation plans [(A)]
Equity compensation plans approved by shareholders	1,457,832
Equity compensation plans not approved by shareholders	-

(A) Excludes 1,207,841 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 11, 2021.

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 11, 2021.

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	41
Consolidated Balance Sheets as of December 31, 2020 and 2019	44
Consolidated Statements of Operations for the Years Ended December 31, 2020, 2019 and 2018	45
Consolidated Statements of Comprehensive Income for the Years Ended December 31, 2020, 2019 and 2018	46
Consolidated Statements of Cash Flows for the Years Ended December 31, 2020, 2019 and 2018	47
Consolidated Statements of Shareholders' Equity for the Years Ended December 31, 2020, 2019 and 2018	48
Notes to Consolidated Financial Statements	49
(2) Financial Statement Schedule:	
Schedule II – Valuation and Qualifying Accounts	83

(3) Exhibits:

Exhibit Number	Exhibit
3.1	Second Amended and Restated Articles of Incorporation of the Company (incorporated by reference to the Company's Quarterly Report on Form 10-Q for the quarter ended March 31, 1999).
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	Form of Directors' Restricted Shares Plan Grant Agreement under the Directors' Restricted Shares Plan (incorporated by reference to the Company's Annual Report on Form 10-K for the year ended December 31, 2017)*.
10.2	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)*.
10.3	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)*.
10.4	Annual Incentive Plan (incorporated by reference to Exhibit 99.1 to the Company's Current Report on Form 8-K filed on May 12, 2016)*.
10.5	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)*.
10.6	Amended and Restated Officers' and Key Employees' Severance Plan of Stoneridge, Inc., filed herewith.
10.7	Stoneridge, Inc. Amended and Restated Long-Term Incentive Plan – Form of Restricted Shares Grant Agreement (incorporated by reference to Exhibit 10.1 to the Company's Quarterly Report on Form 10-Q for the quarter ended March 31, 2010)*.
10.8	Form of Phantom Share Grant Agreement under the Stoneridge, Inc. Long-Term Cash Incentive Plan (incorporated by reference to Exhibit 10.2 to the Company's Quarterly Report on Form 10-Q for the quarter ended March 31, 2010)*.
10.9	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)*.
10.10	Form of Performance Share Grant Agreement under the Stoneridge, Inc. Long-Term Incentive Plan (incorporated by reference to Exhibit 10.12 to the Company's Annual Report on Form 10-K for the year ended December 31, 2017)*.
10.11	Form of Share Units Grant Agreement under the Stoneridge, Inc. 2016 Long-Term Incentive Plan (incorporated by reference to Exhibit 10.13 to the Company's Annual Report on Form 10-K for the year ended December 31, 2017)*.
10.12	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)*.
10.13	Form of Change in Control Agreement, filed herewith*.

Exhibit Number	Exhibit
10.14	Employment Agreement, dated March 16, 2015, between the Company and Jonathan B. DeGaynor (incorporated by reference to Exhibit 10.2 to the Company's Current Report on Form 8-K filed on March 19, 2015)*.
10.15	Amendment No. 1, dated February 23, 2021, to Employment Agreement, dated March 16, 2015 between the Company and Jonathan B. DeGaynor, filed herewith*.
10.16	Indemnification Agreement between the Company and Jonathan B. DeGaynor (incorporated by reference to Exhibit 10.3 to the Company's Current Report on Form 8-K filed on March 19, 2015).
10.17	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).
10.18	Employment Agreement, dated January 3, 2020, by and between the Company and Kevin Heigel (incorporated by reference to Exhibit 10.1 to the Company's Quarterly Report on Form 10-Q for the quarter ended March 31, 2020)*.
10.19	Separation Agreement and Release of Claim, dated March 31, 2020, by and between the Company and Robert Willig (incorporated by reference to Exhibit 99.1 on the Company's Current Report on Form 8-K filed on April 3, 2020)*.
10.20	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)*.
10.21	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)*.
10.22	Employment Agreement, dated January 29, 2021, by and between the Company and James Zizelman, filed herewith*.
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.
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

Exhibit Number	Exhibit
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.

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: February 24, 2021

/s/ ROBERT R. KRAKOWIAK
Robert R. Krakowiak
Executive Vice President, 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: February 24, 2021

/s/ JONATHAN B. DEGAYNOR
Jonathan B. DeGaynor
President, Chief Executive Officer and Director
(Principal Executive Officer)

Date: February 24, 2021

/s/ ROBERT R. KRAKOWIAK
Robert R. Krakowiak
Executive Vice President, Chief Financial Officer and Treasurer
(Principal Financial Officer)

Date: February 24, 2021

/s/ ROBERT J. HARTMAN JR.
Robert J. Hartman Jr.
Chief Accounting Officer
(Principal Accounting Officer)

Date: February 24, 2021

/s/ WILLIAM M. LASKY
William M. Lasky
Chairman of the Board of Directors

Date: February 24, 2021

/s/ JEFFREY P. DRAIME
Jeffrey P. Draime
Director

Date: February 24, 2021

/s/ DOUGLAS C. JACOBS
Douglas C. Jacobs
Director

Date: February 24, 2021

/s/ IRA C. KAPLAN
Ira C. Kaplan
Director

Date: February 24, 2021

/s/ KIM KORTH
Kim Korth
Director

Date: February 24, 2021

/s/ GEORGE S. MAYES, JR.
George S. Mayes, Jr.
Director

Date: February 24, 2021

/s/ PAUL J. SCHLATHER
Paul J. Schlather
Director

Date: February 24, 2021

Frank S. Sklarsky*

* Mr. Sklarsky was added to the Board of Directors on February 22, 2021

Exhibit 10.6

AMENDED AND RESTATED
OFFICERS' AND KEY EMPLOYEES'
SEVERANCE PLAN OF
STONERIDGE, INC.

Article 1

Introduction

1.1 STONERIDGE, INC. ("STONERIDGE") hereby establishes this Amended and Restated Officers' and Key Employees' Severance Plan of STONERIDGE, INC. ("Plan"), effective as of September 14, 2020, to provide salary continuation, and welfare benefit continuation (collectively, the "Severance Benefits") to eligible officers and key employees of STONERIDGE (a) whose employment is involuntarily terminated and (b) who satisfy all Plan requirements for the receipt of Severance Benefits.

1.2 While the term of this Plan is indefinite, STONERIDGE as the Plan Sponsor reserves the right to amend, modify or terminate this Plan without notice; provided, however, any such amendment, modification or termination shall not adversely affect an Eligible Executive's (as defined in Section 2.1) right to Severance Benefits if all conditions in Article 2 are satisfied at the time of the proposed amendment, modification or termination. No benefits shall be provided hereunder to such Eligible Executive to the extent he or she receives benefits under a separate employment agreement or other plan, as further described under Section 4.7. Lastly, nothing herein shall be deemed to modify the at-will employment status of any STONERIDGE Eligible Executive who is not subject to a specific employment agreement.

1.3 STONERIDGE intends to pay the Severance Benefits provided hereunder from the general assets of STONERIDGE; however, STONERIDGE reserves the right to fund and provide all or part of the Severance Benefits hereunder through one or more welfare trusts.

1.4 Information regarding the Plan, its claims procedures and employees' rights under the Employee Retirement Income Security Act of 1974, as amended ("ERISA"), are included as Section 4.4 and Articles 5 and 6.

1.5 This Plan shall be administered, in all respects, by the Compensation Committee of the Board of Directors of STONERIDGE or its adopted designee (the "Committee"), including sole responsibility for and absolute discretionary authority in determining eligibility to participate in this Plan, eligibility for benefits under the Plan, interpreting Plan terms, and resolving disputes under the Plan.

1.6 As used herein, the following terms shall have the following meanings:

(a) Affiliate: For purposes of this Plan, an "Affiliate" shall mean any corporation which would be defined as a member of a "controlled group of corporations" within the meaning of Code Section 414(b) which includes STONERIDGE or any business organization which would be defined as a trade or

business (whether or not incorporated) which is under “common control” within the meaning of Code Section 414(c) with STONERIDGE but, in each case, only during periods any such corporation or business organization would be so defined. This definition shall be modified for purposes of the definition of “Separation from Service” by the modification described in Treasury Regulation 1.409A-1(h).

(b) Board: For purposes of this Plan, the “Board” shall mean STONERIDGE’s Board of Directors.

(c) Cause: For the purposes of this Plan, “Cause” shall mean:

(i) intentional misappropriation of funds from STONERIDGE;

(ii) conviction for a felony;

(iii) commission of a crime or act or series of acts involving moral turpitude;

(iv) commission of an act or series of acts of dishonesty that are materially inimical to the best interests of STONERIDGE;

(v) breach of any material term of such Eligible Executive’s employment agreement or employment obligations;

(vi) willful and repeated failure to perform the duties associated with the Eligible Executive’s position, which failure has not been cured within thirty (30) days after STONERIDGE gives notice thereof to the Eligible Executive; or

(vii) failure to cooperate with any STONERIDGE investigation or with any investigation, inquiry, hearing or similar proceedings by any governmental authority having jurisdiction over the Eligible Executive or STONERIDGE.

(d) Code: For purposes of this Plan, “Code” shall mean the Internal Revenue Code of 1986, as amended and any lawful regulations or other lawful guidance promulgated thereunder. Whenever a reference is made herein to a specific Code Section, such reference shall be deemed to include any successor Code Section having the same or a similar purpose.

(e) Change in Control: For purposes of this Plan, “Change in Control” shall mean the occurrence of any of the following events:

(i) the Board of Directors or shareholders of STONERIDGE approve a consolidation or merger that results in the shareholders of STONERIDGE immediately prior to the transaction giving rise to the consolidation or merger, owning less than 50% of the total combined voting power of all classes of equity securities entitled to vote of the

surviving entity immediately after the consummation of the transaction giving rise to the merger or consolidation;

(ii) the Board of Directors or shareholders of STONERIDGE approve the sale of substantially all of the assets of STONERIDGE or the liquidation or dissolution of STONERIDGE;

(iii) any person or other entity (other than STONERIDGE or a subsidiary of STONERIDGE or any STONERIDGE employee benefit plan (including any trustee of any such plan acting in its capacity as trustee)) purchases any common shares (or securities convertible into common shares) pursuant to a tender or exchange offer without the prior consent of the Board or becomes the beneficial owner of securities of STONERIDGE representing 35% or more of the voting power of STONERIDGE's outstanding securities; or

(iv) during any period of two consecutive calendar years, individuals who at the beginning of such period constituted STONERIDGE's Board (together with any new directors whose (x) election by STONERIDGE's Board or (y) nomination for election by STONERIDGE's shareholders was (prior to the date of the proxy or consent solicitation relating to such nomination) approved by a vote of at least two-thirds of the directors then still in office who either were directors at the beginning of such period or whose election or nomination for election was previously so approved), cease for any reason to constitute a majority of the directors then in office.

(f) Director: For purposes of this Plan, a "Director" shall mean a member of the Board of Directors.

(g) Involuntary Separation from Service: For purposes of this Plan, an "Involuntary Separation from Service" shall mean a Separation from Service due to the independent exercise by STONERIDGE (or any successor company) of the unilateral authority to terminate the Eligible Executive's services, other than due to the Eligible Executive's implicit or explicit request, where the Eligible Executive was willing and able to continue performing services.

(h) Separation from Service: For purposes of this Plan, a "Separation from Service" shall mean the Eligible Executive's termination from employment with STONERIDGE and all Affiliates on account of the Eligible Executive's death, retirement or other termination of employment, as determined in accordance with Section 409A of the Code. An Eligible Executive will not be deemed to have experienced a Separation from Service if on military leave, sick leave or other bona fide leave of absence, to the extent such leave does not exceed a period of six months or, if longer, such longer period of time as is protected by either statute or contract. An Eligible Executive will not be deemed to have experienced a Separation from Service if the Eligible Executive provides continuing services that average more than 20 percent of

the services provided by the Eligible Executive to STONERIDGE or its Affiliates (whether as an employee or an independent contractor) during the immediately preceding 36-month period of services (or the full period of services to STONERIDGE and its Affiliates, if the Eligible Executive has provided services to STONERIDGE or its Affiliates for less than 36 months). If an Eligible Executive provides services both as an employee and as an independent contractor of STONERIDGE, the Eligible Executive must cease providing services both as an employee and as an independent contractor to be treated as having experienced a Separation from Service. If an Eligible Executive ceases providing services as an independent contractor and begins providing services as an employee, or vice versa, the Eligible Executive will not be considered to have a Separation from Service until the Eligible Executive has ceased providing services in both capacities. If an Eligible Executive provides services both as an employee of STONERIDGE and as a member of the Board of Directors, the services provided as a Director are not taken into account in determining whether the Eligible Executive has a Separation from Service under this Plan unless it is aggregated with any plan in which the Eligible Executive participates as a Director under Section 409A of the Code.

Article 2

Eligibility For Severance Benefits

2.1 Eligibility: A STONERIDGE officer or other key employee must satisfy all of the following conditions of this Plan in order to be eligible for Severance Benefits under this Plan:

(a) STONERIDGE must have designated such officer or key employee as a person eligible to receive severance benefits by listing him or her on Exhibit A. Such designation shall be at the sole and complete discretion of STONERIDGE, and status as a STONERIDGE officer or key employee alone shall not include the right to participate in this Plan;

(b) The designated officer or key employee must experience an Involuntary Separation from Service from STONERIDGE for reasons other than (i) Cause, or (ii) following a leave of absence exceeding six months and without a return to active employment, or (iii) termination due to Change in Control while covered by a STONERIDGE Change In Control Agreement.

An officer or key employee who satisfies the foregoing conditions shall be deemed to be an "Eligible Executive" under the Plan.

Article 3

Severance Benefits

3.1 Salary Continuation: Subject to the terms of this Plan, an Eligible Executive shall be provided salary continuation for 12 months after the effective date of the Involuntary Separation from Service, payable (assuming the Code Section 409A Severance Limit described

in Section 3.3 is not exceeded) in accordance with normal payroll practices, commencing on a date selected by the Plan Administrator which is not later than 60 days following the date of the Eligible Executive's Separation from Service and subject to normal tax withholding. Notwithstanding the foregoing to the contrary, the Plan Administrator shall not be required to commence payments until it receives the release required pursuant to Section 3.4 and it becomes irrevocable. In the event that the total amount of Severance Benefits provided pursuant to this Article 3 exceeds the Code Section 409A Severance Limit described in Section 3.3, salary continuation benefits shall be payable in accordance with the Alternate Payment Timing provisions of Section 3.3. The Eligible Executive's right to a series of installment payments under this Section shall be treated as a right to a series of separate payments as provided in Treasure Regulation Section 1.409A-2(b)(2)(iii).

3.2 Benefit Continuation: Subject to the terms of this Plan, an Eligible Executive shall receive medical, dental and life insurance benefit continuation for 12 months after the effective date of the Separation from Service, provided, however, Employer shall not be obligated to pay for Health and Welfare Benefits after the date on which Executive is eligible to receive benefits from another employer which are substantially equivalent to or greater than the benefits Executive received from Employer. For medical and dental benefit continuation, such benefit continuation shall be pursuant to COBRA and shall be at the same levels elected prior to the Eligible Executive's Separation from Service, and STONERIDGE will pay (or reimburse, as applicable) any required medical and dental benefit contribution premiums on behalf of the Eligible Executive during this 12-month period at the same level as they were payable by STONERIDGE immediately prior to the Separation from Service. After such period, the Eligible Executive will be eligible for medical and dental benefit continuation under COBRA for the balance of the applicable COBRA period, subject to payment of COBRA rates by the Eligible Executive without reimbursement by STONERIDGE. For life insurance benefit continuation, STONERIDGE will pay any required benefit contributions on behalf of the Eligible Executive during the initial 12-month period; provided, however, that such required premium contributions will not be paid by STONERIDGE for six months following Separation from Service (at which time all required premium contributions during such six-month period shall be reimbursed to the Eligible Executive in a single lump sum payment on the day which is six months and one day following such Separation from Service). The Eligible Executive shall be responsible for paying any required benefit contributions during the six-month period immediately following his or her Separation from Service with respect to any benefits that are considered to provide for a deferral of compensation (as determined under Section 409A of the Code), including, without limitation, continuation of life insurance benefits. Failure to pay such required benefit contributions during such period shall result in forfeiture of the applicable benefits. Upon Separation from Service, the Eligible Executive's rights, if any, to participate in any other STONERIDGE pension and welfare benefit plans not specifically addressed in this Plan shall be governed by the terms of those pension and welfare plans.

3.3 Alternative Payment Timing: In the event that (a) the aggregate amount of Severance Benefits provided under Sections 3.1 exceeds two times the lesser of (i) the Eligible Executive's annualized compensation for the preceding calendar year (or the current calendar year if the Eligible Executive did not have compensation from STONERIDGE or an Affiliate during the preceding calendar year), or (ii) the limit on compensation set forth in Section

401(a)(17) of the Code (the "Section 409A Severance Limit"), any payments in excess of the Section 409A Severance Limit shall be considered a separate benefit and no portion of such separate benefit shall be paid prior to the day which is six months and one day following the Eligible Executive's Separation from Service. The aggregate of the payments comprising such unpaid amount (the "Section 409A Severance Reduction Amount") shall be paid to the Eligible Executive in a single lump sum payment on the day which is six months and one day following his or her Separation from Service.

3.4 Required Release: Notwithstanding the foregoing to the contrary, benefits described under this Section 3 shall not be provided to any Eligible Executive unless such Eligible Executive has executed and delivered to STONERIDGE a release, in form and substance reasonably satisfactory to STONERIDGE and similar to Exhibit B attached hereto.

Article 4

General Provisions

4.1 Other Plans:

(a) Benefits received under this Plan will not be included in compensation or earnings for purposes of determining benefits, including pension benefits, under any other employee benefit plan of STONERIDGE.

(b) Except as otherwise provided in this Plan, payment of benefits under this Plan will not adversely affect an Eligible Executive's rights under any other employee benefit plan of STONERIDGE. An Eligible Executive's rights under all other STONERIDGE pension or welfare benefit plans shall be governed by the terms of the plans in effect at the time of the Eligible Executive's Separation from Service with STONERIDGE.

4.2 No Rights to Employment: Nothing herein, or in any other agreement offered or executed hereunder, or in oral discussions regarding this Plan, shall constitute a commitment for employment for any specified duration, or be deemed to limit STONERIDGE's right or power to terminate the employment of any Eligible Executive.

4.3 No Right to Transfer or Assign Benefits: Benefits under this Plan are intended for the exclusive benefit of Eligible Executives (and their dependents and beneficiaries to the extent applicable). Present and future benefits cannot be subjected to anticipation, alienation, sale, transfer, assignment, pledge, encumbrance, or charge (except as required by law), and any attempt to do so is null and void.

4.4 Plan Administration:

(a) The Plan constitutes an employee welfare benefit plan as defined in ERISA. The Plan Administrator for the Plan is the Compensation Committee of the Board of Directors of STONERIDGE, INC., Stoneridge, Inc., 39675 MacKenzie Drive, Suite 400, Novi, Michigan, 48377 (the "Committee").

(b) Legal matters, including service of process, relating to the Plan should be addressed to STONERIDGE, INC. Corporate Secretary at the address shown above.

(c) Records for the Plan are kept on a plan year basis, beginning January 1 and ending the following December 31.

(d) For government reporting purposes, the Employer Identification Number for STONERIDGE is 34-1598949. In addition, the Plan is identified by the following official name and plan number:

Corporate Officers' and Key Employee's Severance Plan of STONERIDGE, INC. Plan Number: 502.

This Plan name and number should be used in any formal correspondence relating to the Plan.

4.5 Severability: Any term or provision of this Plan which is invalid or unenforceable in any jurisdiction shall, as to such jurisdiction, be ineffective only to the extent of such invalidity or unenforceability without thereby rendering invalid or unenforceable the remaining terms and provisions hereof or affecting the validity or enforceability of any of the terms or provisions of this Plan in any other jurisdiction.

4.6 Code Section 409A Compliance: This Plan is intended to be operated in compliance with the provisions of Section 409A of the Code. In the event that any provision of this Plan fails to satisfy the provisions of Section 409A of the Code, then such provision shall be reformed so as to comply with Section 409A of the Code and to preserve as closely as possible the intention of STONERIDGE in maintaining the Plan, to the extent practicable; provided that, in the event it is determined not to be feasible to so reform a provision of this Plan as it applies to a payment or benefit due to an Eligible Executive or his or her beneficiary(ies), such payment shall be made without complying with Section 409A of the Code.

4.7 Non-duplication of Benefits: To the extent, and only to the extent, a payment or benefit that is to be paid or provided under Article 3 of this Plan has been or will be paid or provided for the same purpose and is payable at the same time and in the same manner as under this Plan under the terms of another applicable plan, program, agreement or arrangement, including, without limitation, any employment agreement with the Eligible Executive, then the payment under this Plan shall be deemed to have been satisfied by the payment made or benefit(s) provided under such other applicable plan, program, agreement or arrangement, and under no circumstances shall the Eligible Executive be eligible for duplicate, overlapping or cumulative payments or benefits. If this Section is applicable and the other plan, program, agreement or arrangement contains similar language which indicates that the like payments shall be made under this Plan rather than that plan, program, agreement or arrangement, the Committee shall resolve the issue so that the Eligible Executive is paid under one but not both arrangements.

Article 5

Claims Procedure

5.1 Claim:

(a) An Eligible Executive need not present a formal claim in order to qualify for rights or benefits under this Plan. However, if STONERIDGE fails to provide any benefit to which an Eligible Executive is entitled hereunder or if any Eligible Executive believes (i) that the Plan is not being administered or operated in accordance with its terms, (ii) that fiduciaries of the Plan have breached their duties, or (iii) that his or her own legal rights are being violated with respect to the Plan (a "claimant"), the claimant must file a formal written claim for benefits under the procedures set forth in this Article 5 and utilizing such forms and in such manner as the Plan Administrator shall prescribe. The procedures in this Article 5 shall apply to all claims that any person has with respect to the Plan, including claims against fiduciaries and former fiduciaries, except to the extent the Plan Administrator determines, in its sole discretion, that it does not have the power to grant, in substance, all relief reasonably being sought by the claimant.

(b) A claim by any person shall be presented to the Committee in writing within 90 days following the date upon which the claimant (or his or her predecessor in interest) first knew (or should have known) of the facts upon which the claim is based, unless the Plan Administrator in writing consents otherwise. The Committee shall, within 90 days of receiving the claim, consider the claim and issue his or her determination thereon in writing. The Committee may extend the determination period for up to an additional 90 days by giving the claimant written notice. If the claim is granted, the benefits or relief the claimant seeks will be provided.

5.2 Denial: If the claim is wholly or partially denied, the Committee shall, within 90 days (or such longer period as described above), provide the claimant with written notice of the denial, setting forth, in a manner reasonably calculated to be understood by the claimant,

(a) the specific reason or reasons for the denial,

(b) specific references to pertinent Plan provisions upon which the denial is based,

(c) a description of any additional material or information necessary for the claimant to perfect the claim and an explanation of why the additional material or information is necessary, and

(d) a description of the Plan's appeal procedures describing the steps to be taken by the claimant and time limits applicable to such procedures, including a statement of the claimant's right to bring a civil action under ERISA in the event of the denial of the appeal.

With the consent of the claimant, this determination period can be extended further. If the Committee fails to respond to the claim in a timely manner, the claimant may treat the claim as having been denied by the Committee.

5.3 Appeal: Each claimant may appeal in writing the Committee's denial of a claim (in whole or in part) to the Committee within 60 days after receipt by the claimant of written notice of the claim denial, or within 60 days after such written notice was due, if the written notice was not sent. In connection with the review proceeding, the claimant or his or her duly authorized representative may review pertinent documents and may submit issues and comments in writing. The claimant may include with the appeal such documents and other information as the claimant deems reasonable. Any claims which the claimant does not in good faith pursue through the review stage of the procedure shall be treated as having been irrevocably waived.

5.4 Review Procedures: The Committee shall adopt procedures pursuant to which claims shall be reviewed and may adopt different procedures for different claims without being bound by past actions. Any procedures adopted, however, shall be designed to afford a claimant a full and fair review of his or her claim.

5.5 Final Decision: The decision by the Committee upon review of an appeal shall be made not later than 60 days after the written appeal is received by the Committee, unless special circumstances require an extension of time for processing, in which case a decision shall be rendered as soon as possible, but not later than 120 days after receipt of the appeal, unless the claimant agrees to a greater extension of that deadline.

5.6 Form: The decision by the Committee regarding the appeal following its review shall be in writing and shall be written in a manner reasonably calculated to be understood by the claimant. In the event that the appeal is denied, the decision shall include at least the following information:

(a) the specific reason or reasons for the denial of the appeal,

(b) specific references to pertinent Plan provisions upon which the denial is based,

(c) a statement that the claimant is entitled to receive, upon request and free of charge, reasonable access to, and copies of, all documents, records, and other information relevant to the claim and appeal, and

(d) a statement describing the procedures for voluntary dispute resolution offered by the Plan (if any) and the claimant's right to obtain information regarding such procedures, along with a statement of the claimant's right to bring a civil action under ERISA.

5.7 Legal Effect: To the extent permitted by law, the decision of the Committee (if no appeal thereof is made as herein provided) or the decision of the Committee, as the case may be, shall be final and binding on all parties. Any claims which the claimant does not pursue

through the review and appeal stages of the procedures herein provided shall be deemed waived, finally and irrevocably. No legal action for benefits under the Plan shall be brought unless and until the claimant has exhausted his or her remedies under this Article 5. If, after exhausting the claims and appeal procedures, a claimant institutes any legal action against the Plan and/or STONERIDGE, the claimant may present only the evidence and theories which the claimant presented during the claims and appeal procedures. Judicial review of the claimant's denied claim shall be limited to a determination of whether the denial was arbitrary and capricious based on the evidence and theories which were presented to and considered by the Committee during the claims procedure or by the Committee during the appeal procedure.

5.8 Plan Interpretation: The Plan Administrator shall administer the Plan in accordance with its terms and the intended meanings of the Plan and any other welfare or pension benefit plan of STONERIDGE. The Plan Administrator shall have the sole and absolute discretionary authority to make any findings of fact needed in the administration of the Plan.

5.9 Authority of Committee: The Committee shall have the sole and absolute discretionary authority to interpret or construe the terms of the Plan, whether express or implied, and resolve any ambiguities, including but not limited to terms governing the eligibility of Executives and the administration of the Plan, and fashion any remedy which the Committee, in its sole judgment, deems appropriate. The validity of any such finding of fact, interpretation, construction or decision shall not be afforded de novo review if challenged in court, by arbitration or in any other forum, and rather, shall be upheld unless clearly arbitrary or capricious.

5.10 Exercise of Discretion: To the extent the Plan Administrator or the Committee has been granted discretionary authority under the Plan, such fiduciary's prior exercise of such authority shall not obligate it to exercise its authority in a like fashion thereafter.

5.11 Intent: If, due to errors in drafting, any Plan provision does not accurately reflect its intended meaning, as demonstrated by consistent interpretations or other evidence of intent, or as determined by the Committee in its sole and exclusive judgment, the provision shall be considered ambiguous and shall be interpreted by the Plan Administrator in a fashion consistent with its intent, as determined by the Committee in its sole discretion. The Committee, without the need for Board of Directors' approval, may amend the Plan retroactively to cure any such ambiguity.

5.12 Consistency: This Article 5 may not be invoked by any person to require the Plan to be administered in a manner which is inconsistent with its interpretation by the Committee.

5.13 Final and Binding: All actions taken and all determinations made in good faith by the Plan Administrator or by the Committee shall be final and binding upon all persons claiming any interest in or under the Plan.

Article 6

<u>The Plan and ERISA</u>

6.1 <u>ERISA Requirements:</u> "ERISA" -- the Employee Retirement Income Security Act of 1974 -- is a comprehensive law that sets standards and procedures for employee benefit plans. As a participant in the Plan, you have certain rights under ERISA.

You have the right under ERISA to receive additional information regarding the Plan. Specifically, you are entitled to:

- Examine without charge, at the Plan Administrator's office or upon request at your local Human Resources Department, all documents governing the Plan and a copy of the latest annual report (Form 5500 series) filed by the Plan with the U.S. Department of Labor and available at the Public Disclosure Room of the Employee Benefits Security Administration.

- Obtain copies of all documents governing the operation of the Plan and other Plan information upon written request to the Plan Administrator (including copies of the latest annual report (Form 5500 series) and updated summary plan description (assuming that the Plan has been updated). The Plan Administrator may make a reasonable charge for the copies.

- Receive a summary of the Plan's annual financial report. The Plan Administrator is required by law to furnish each participant with a copy of the summary annual report.

6.2 <u>Prudent Actions By Plan Fiduciaries:</u> In addition to creating rights for participants, ERISA imposes duties upon the persons who are responsible for the operation of the Plan. The persons who operate the Plan, called "fiduciaries" of the Plan, have a duty to do so prudently in your interest and that of other participants and beneficiaries. No one may fire you or otherwise discriminate against you in any way to prevent you from obtaining benefits or exercising your rights under ERISA. If your claim for a benefit is denied in whole or in part, you must receive a written explanation of the reason for the denial. You have the right to have your claim reviewed and reconsidered. (See Article 5, above).

6.3 <u>Enforce Your Rights:</u> Under ERISA, there are steps you can take to enforce the above rights. For instance, if you request materials from the Plan Administrator and do not receive them within 30 days, you may file suit in a federal court. In such a case, the court may require the Plan Administrator to provide the materials and pay you up to $110 a day until you receive the materials, unless the materials were not sent because of reasons beyond the Plan Administrator's control. If you have a claim for benefits which is denied or ignored, in whole or in part, you may file suit in a state or federal court. If you are discriminated against for asserting your rights, you may seek assistance from the U.S. Department of Labor, or you may file suit in a federal court. The court will decide who should pay court costs and legal fees. If you are successful, the court may order the person you have sued to pay these costs and fees. If

you lose and the court finds that your claim is frivolous, the court may order you to pay these costs and fees.

6.4 Assistance With Your Questions: If you have any questions about the Plan, you should contact the Plan Administrator. If you have any questions about your rights under ERISA, or if you need assistance in obtaining documents from the Plan Administrator, you should contact the nearest area office of the Employee Benefits Security Administration, U.S. Department of Labor, listed in your telephone directory, or you may contact the Division of Technical Assistance and Inquiries, Employee Benefits Security Administration, U.S. Department of Labor, 200 Constitution NW, Washington, D.C. 20210. STONERIDGE supports both the spirit and letter of ERISA and is committed to assuring proper treatment and full disclosure of all pertinent information to plan participants. It is the policy of STONERIDGE that no employee will be fired or discriminated against, either to prevent him or her from obtaining benefits or for exercising his or her rights under ERISA.

This Plan, as amended and restated, supersedes and replaces the Severance Plan Officers' and Key Employees' Severance Plan of STONERIDGE, INC. dated May 9, 2017.

This Plan is hereby adopted and approved this 14th day of September, 2020.

STONERIDGE, INC.

By: /s/ Jonathan B. DeGaynor
Jonathan B. DeGaynor
President and Chief Executive Officer

EXHIBIT A

ELIGIBLE EXECUTIVES

Susan Benedict, Chief Human Resources Officer & Assistant General Counsel – Labor & Employment

Laurent Borne, President Electronics & Chief Technology Officer

Thomas Dono, Chief Legal Officer

Robert R. Krakowiak, EVP, Chief Financial Officer and Treasurer

Daniel Kusiak, Chief Procurement Officer

James Zizelman, President Control Devices

EXHIBIT B

RELEASE

As a condition to the payment of the benefits by STONERIDGE to Eligible Executive pursuant to this Plan, as described in Section 3.4, Eligible Executive shall deliver a signed release of claims against STONERIDGE. Such release shall be delivered to Employer no later than sixty (60) days following a Separation From Service, shall be in a form and substance satisfactory to STONERIDGE, and, if applicable, shall not be revoked by Eligible Executive, and must include the operative language substantially similar to the following:

> In exchange for the payments set forth under the Corporate Officers' and Key Employees' Severance Plan of STONERIDGE, Inc. ("Severance Plan"), I and my heirs, personal representatives, successors and assigns, hereby forever release, remise and discharge STONERIDGE, Inc. (the "Employer") and each of its past, present, and future officers, directors, shareholders, members, employees, trustees, agents, representatives, affiliates, successors and assigns (collectively the "Employer Released Parties") from any and all claims, claims for relief, demands, actions and causes of action of any kind or description whatsoever, known or unknown, whether arising out of contract, tort, statute, treaty or otherwise, in law or in equity, which I now have or have had against any of the Employer Released Parties from the beginning of my employment with Employer to the date of this release, arising from, connected with, or in any way growing out of, or related to, directly or indirectly, (i) my employment by Employer, (ii) my service as an officer or key employee, as the case may be, of Employer, (iii) any transaction prior to the date of this release and all effects, consequences, losses and damages relating thereto, (iv) the services provided by me to Employer, or (v) my termination of employment with Employer under the common law or any federal, state or local statute, law, or ordinance including, but not limited to, all claims arising under the Civil Rights Acts of 1866 and 1964, the Equal Pay Act of 1963, the Age Discrimination in Employment Act of 1967, the Rehabilitation Act of 1973, the Older Workers Benefit Protection Act of 1990, the Americans with Disabilities Act of 1990, the Civil Rights Act of 1991, the Family and Medical Leave Act of 1993, the Genetic Information Nondiscrimination Act of 2008, the Consolidated Omnibus Budget Reconciliation Act ("COBRA"), Title 4112 of the Ohio Revised Code, the wage and hour laws of Ohio and Michigan, the Elliott Larsen Civil Rights Act, the Michigan Persons with Disabilities Civil Rights Act, and all other federal, state or local laws governing employers and employees.
>
> Notwithstanding this release of claims, I acknowledge that: (i) nothing in this release will bar, impair or affect the obligations, covenants and agreements of Employer set forth in the Severance Plan; (ii) I retain the right to file a charge of alleged employment discrimination with the Equal Employment Opportunity Commission (EEOC) or a state or local civil rights agency or to participate in the investigation of such charge filed by another person or to initiate or respond to communications with the EEOC or a state or local civil rights agency; however, I waive all rights to recover or share in any damages or monetary payment awarded under any EEOC charge or state or local civil rights

agency charge or action; and (iii) I retain the right to file a charge or complaint or otherwise communicate with the Securities and Exchange Commission (SEC) or participate in any investigation or proceeding conducted by the SEC, and the release does not limit my right to receive an award for information provided to the SEC.

If the release described in this Exhibit B, as Employer may reasonably modify in its discretion, is not timely delivered by Eligible Executive to Employer or, if applicable, is timely revoked by Executive, then no payment shall be made under this Severance Plan.

Exhibit 10.13

Explanatory Note: On February 22, 2021 the following Company executive officers have executed this form of Change in Control Agreement: Tom Dono, Susan Benedict, Bob Krakowiak, Dan Kusiak, Jim Zizelman and Laurent Borne.

STONERIDGE, INC.
CHANGE IN CONTROL AGREEMENT
(EMPLOYEE NAME)

THIS CHANGE IN CONTROL AGREEMENT (the "Agreement") is made by and between Stoneridge, Inc., an Ohio corporation ("Employer"), and EMPLOYEE NAME ("Executive"), this X day of MONTH YEAR.

RECITALS

A. Executive is presently employed by Employer as Employer's POSITION TITLE.

B. Employer wishes to induce Executive to continue as its POSITION TITLE and, accordingly, to provide certain employment security to Executive in the event of a "Change in Control" of Employer (as hereinafter defined);

C. Employer believes that it is in the best interest of its shareholders for Executive to continue in his position on an objective and impartial basis and without distraction, whether based upon individual financial uncertainties or otherwise, or conflict of interest as a result of a possible or actual Change in Control; and

D. In consideration of this Agreement, Executive is willing to continue as Employer's POSITION TITLE;

NOW THEREFORE, in consideration of Executive continuing as Employer's POSITION TITLE and of the mutual promises herein contained, Executive and Employer, intending to be legally bound, hereby agree as follows:

SECTION 1

DEFINITIONS

1. A "Change in Control" for the purpose of this Agreement will be deemed to have occurred if during Executive's employment with Employer:

(a) the Board of Directors or shareholders of Employer approve a consolidation or merger that results in the shareholders of Employer, immediately prior to the transaction giving rise to the consolidation or merger, owning less than 50% of the total combined voting power of all classes of equity securities entitled to vote of the surviving entity immediately after the consummation of the transaction giving rise to the merger or consolidation;

(b) the Board of Directors or shareholders of Employer approve the sale of substantially all of the assets of Employer or the liquidation or dissolution of Employer;

(c) any person or other entity (other than Employer or a subsidiary of Employer or any Employer employee benefit plan (including any trustee of any such plan acting in its capacity as trustee)) purchases any common shares (or securities convertible into common shares) pursuant to a tender or exchange offer without the prior consent of the Board of Directors or becomes the beneficial owner of securities of Employer representing 35% or more of the voting power of Employer's outstanding securities; or

(d) during any two-year period, individuals who at the beginning of such period constitute the entire Board of Directors cease to constitute a majority of the Board of Directors, unless the election or the nomination for election of each new director is approved by the Nominating and Corporate Governance Committee (if comprised entirely of directors who were in office at the beginning of that period) or at least two-thirds of the directors then still in office who were directors at the beginning of that period.

2. A "Triggering Event" for the purpose of this Agreement will be deemed to have occurred if within two years after the date on which the Change in Control occurred:

(a) Employer separates Executive from service with Employer other than in the case of a Termination for Cause (as defined below); or

(b) Executive separates from service with Employer for Good Reason (as defined below).

For purposes of this Agreement, the term "separates from service with Employer" shall mean Executive's Separation from Service, as determined under Section 409A of the U.S. Internal Revenue Code of 1986, as amended (the "Code"), and the regulations promulgated thereunder; provided, however, that such Separation from Service with Employer is not as a result of Executive's death or disability (as defined in Code Section 409A). If, however, Executive separates from service with Employer as a result of death or disability (as defined in Code Section 409A) after Employer has provided written notice to Executive of Employer's intent to separate Executive from service with Employer at a future date, but in no event later than two years after the date on which the Change in Control occurred, then notwithstanding the prior sentence, Executive or his estate, as applicable, will be entitled the benefits provided herein.

3. Executive will be deemed to have separated from service with Employer for "Good Reason" for the purpose of this Agreement if:

(a) Employer materially reduces Executive's title, responsibilities, power or authority in comparison with his title, responsibilities, power or authority at the time of the Change in Control;

(b) Employer assigns Executive duties that are materially inconsistent with the duties assigned to Executive on the date on which the Change in Control occurred, and which duties Employer persists in assigning to Executive despite the prior written objection of Executive; or

(c) Employer materially reduces Executive's base compensation, or materially reduces his group health, life, disability or other insurance programs (including any such benefits provided to Executive's family), his pension, retirement or profit-sharing benefits or any benefits provided by Employer's Annual Incentive or Long-Term Incentive Plans or any substitute therefor, or excludes his from any plan, program or arrangement, including but not limited to any bonus or incentive plans in which Employer's other executive officers are included.

4. A "Termination for Cause" for the purposes of this Agreement will be deemed to have occurred if, and only if, the Board of Directors of Employer, or its designee, in good faith determines that Executive's termination is because of any one or more of the following:

(a) misappropriation of funds from Employer;

(b) conviction of a felony;

(c) commission of a crime or act or series of acts involving moral turpitude;

(d) commission of an act or series of acts of dishonesty that are inimical to the best interests of Employer or Employer's shareholders;

(e) willful and repeated failure to perform the duties associated with Executive's position, which failure has not been cured within thirty (30) days after Employer gives notice thereof to Executive; or

(f) failure to cooperate with any Employer investigation or with any investigation, inquiry, hearing or similar proceedings by any governmental authority having jurisdiction over Employer or Executive.

5. "Executive's Annual Bonus" means the greater of the target annual incentive award at the time of termination or the actual incentive award received for the fiscal year prior to termination.

6. "Executive's Annual Salary" means the greater of Executive's annual base salary at the time of a Triggering Event or at the time of the occurrence of a Change in Control.

7. "Executive Pro Rata Annual Bonus" means an amount equal to the pro rata amount of incentive compensation Executive would have been entitled to at the time of a Triggering Event calculated based upon the personal and Employer targets or performance goals that were achieved in the year in which the Triggering Event occurred.

SECTION 2

TRIGGERING EVENT PAYMENTS

1. After the occurrence of a Triggering Event, Employer shall commence payments to Executive of the benefits or amounts set forth hereunder, provided the release required and

described in Section 9 has been executed and timely delivered by Executive to Employer and, as applicable, such release has not been revoked:

(a) A lump sum payment, which will be in addition to any other compensation or remuneration to which Executive is, or becomes, entitled to receive from Employer. The lump sum cash payment shall be in an amount equal to the sum of (i) two times Executive's Annual Salary, plus (ii) two times Executive's Annual Bonus.

(b) In addition to making the payment described above, Employer shall also pay Executive a lump sum cash payment equal to the Executive Pro Rata Annual Bonus. If such payment cannot be made at the same time as the payment for Section 2, paragraph 1(a), as set forth below, because the Pro Rata Annual Bonus cannot be determined as of that payment date then such payment shall be made as soon as practicable after the determination of the Pro Rata Annual Bonus.

(c) In addition, Employer shall, at its expense, provide Executive, and his family with life and health insurance ("Health and Welfare Benefits") in an amount not less than that provided on the date on which the Change in Control occurred for a period of twenty-four (24) months, at the time Employer commences payments described in Section 2, paragraph 1(a) above; provided, however, Employer shall not be obligated to pay for Health and Welfare Benefits after the date on which Executive shall be eligible to receive benefits from another employer which are substantially equivalent to or greater than the benefits Executive and his family received from Employer; provided, further, that if Executive's continuation in some or all of Employer Health and Welfare Benefits is not available, then Employer shall make monthly payments to Executive commencing the first day of the month after Employer makes the payments described in Section 2, paragraph 1(a) above equal to the cost of the coverage for similarly situated employees of Employer, as determined solely by Employer, over a period of twenty-four (24) months with respect to those benefits among the Health and Welfare Benefits not available. The benefits shall run concurrent with the health insurance continuation coverage otherwise available under the COBRA rules.

The benefits under Section 2, paragraph 1(a) and, if applicable, Section 2, paragraph 1(b) shall be paid in one lump sum cash payment as soon as practicable following the sixty-first (61st) day after the Triggering Event. Provided, however, if the Executive is a "specified employee" (within the meaning of Section 409A of the Code), all payments under Section 2 that are deferred compensation subject to Section 409A restrictions shall be made or commence, as applicable, on the date which is six (6) months after the date of Executive's separation from service with Employer, or if Executive dies prior to such date, on the next payroll date that is administratively feasible following such death. In addition, all payments pursuant to this Agreement shall be made less standard required deductions and withholdings as required under the Code.

2. Notwithstanding anything in this Agreement to the contrary, in the event that it shall be determined (as hereinafter provided) that any payment or distribution by Employer to or for the benefit of Executive, whether paid or payable or distributed or distributable pursuant to the terms of this Agreement, or otherwise pursuant to or by reason of any other agreement,

policy, plan, program or arrangement, including without limitation any grants under Employer's Long-Term Incentive Plan, any stock option, restricted stock, stock appreciation right or similar right, or the lapse or termination of any restriction on, or the vesting or exercisability of, any of the foregoing (in the aggregate "Total Payments"), would be subject, but for the application of this Section 2, paragraph 2, to the excise tax imposed by Code Section 4999 (or any successor provision thereto) (the "Excise Tax") by reason of being considered "contingent on a change in ownership or control" of Employer and as being considered an "excess parachute payment," both within the meaning of Code Section 280G (or any successor provision thereto), the Executive shall receive the greater of:

(a) The Safe Harbor Amount (as defined below); or

(b) The aggregate Parachute Value (as defined below) of the Total Payments less the applicable Excise Tax.

For purposes of this Agreement, the "Safe Harbor Amount" is the maximum aggregate Parachute Value of the Total Payments that may be paid or distributed to Executive or for the benefit of the Executive without triggering the Excise Tax because such amount is less than three times Executive's "base amount," within the meaning of Code Section 280G. The "Parachute Value" of the Total Payments is the aggregate present value as of the date of the Change in Control of that portion of the Total Payments that constitutes "parachute payments," within the meaning of Code Section 280G. The calculation of the Total Payments, the Safe Harbor Amount, and the Parachute Value, as well as the method in which the reduction in payments under Section 2, paragraph 2(a) will be applied, shall be conducted and determined by a national accounting firm selected by Employer and its determinations shall be binding on all parties; provided, however, that if the calculation of such national accounting firm will result in a reduction of any of the payments to be made to Executive under Section 2, paragraph 1, prior to issuance of the final and binding determination, Executive shall be given a reasonable opportunity to (i) review and comment upon all of the material, information and documentation provided to the national accounting firm by Employer, and (ii) offer such input as Executive may determine to be helpful to the national accounting firm's preliminary determination.

3. If in any future year a determination is made that the reduction described in Section 2, paragraph 2(a) was not required, then payment of such reduced amount shall be made as soon as administratively feasible.

SECTION 3

SETOFF

No amounts otherwise due or payable under this Agreement will be subject to setoff or counterclaim by either party hereto.

SECTION 4

ATTORNEY'S FEES/DISPUTE RESOLUTION/ARBITRATION AGREEMENT

All attorney's reasonable fees and related expenses incurred in good faith by Executive in connection with or relating to the enforcement by Executive of his rights under this Agreement will be paid for by Employer. In addition, Executive and Employer agree that, subject to the express exceptions set forth in this Section 4, any dispute, claim or controversy that could be brought in court (collectively referred to herein as "Claim") that Executive has against Employer or that Employer has against Executive relating to or arising out of the terms of this Agreement shall be resolved by final and binding arbitration as set forth in this Section 4.

Under this Section, the term Claim includes any allegations of unlawful discrimination, harassment, wrongful discharge, constructive discharge, and claims related to the payment of wages or benefits, under federal, state or local law and further includes, but is not limited to, contract, tort, common law, and statutory claims. By agreeing to this Attorney's Fees/Dispute Resolution/Arbitration Agreement Section, Executive and Employer expressly waive any right that they may have to resolve any covered Claim through any other means, including a jury or court trial.

Executive and Employer agree that any covered Claim shall be resolved by exclusive, final and binding arbitration to be conducted in accordance with the American Arbitration Association's ("AAA") Employment Arbitration Rules and Mediation Procedures and held in the county in which the Executive provides a majority of Executive's services. In any arbitration proceeding, the Arbitrator shall apply the terms of this Dispute Resolution/Arbitration Agreement, and applicable federal, Ohio state, and local law. In the event any portion of this Dispute Resolution/Arbitration Agreement Section is held inapplicable as in violation of applicable law, as determined by the arbitrator selected herein or a court of competent jurisdiction, the offending portion of this provision may be removed or modified and the remainder of this Dispute Resolution/Arbitration Agreement Section shall not be affected. This Dispute Resolution/Arbitration Agreement Section shall be governed by the Federal Arbitration Act as will any actions to compel, enforce, vacate or confirm proceedings, awards, or orders of the arbitrator under this Dispute Resolution/Arbitration Agreement.

SECTION 5

SUCCESSORS AND PARTIES IN INTEREST

This Agreement will be binding upon and will inure to the benefit of Employer and its successors and assigns, including, without limitation, any corporation or other person which acquires, directly or indirectly, by purchase, merger, consolidation or otherwise, all or substantially all of the business or assets of Employer. Without limitation of the foregoing, Employer will require any such successor, by agreement in form and substance satisfactory to Executive, expressly to assume and agree to perform this Agreement in the same manner and to the same extent that it is required to be performed by Employer. This Agreement will be binding upon and will inure to the benefit of Executive, his heirs at law and his personal representatives.

SECTION 6

ATTACHMENT

Neither this Agreement nor any benefits payable hereunder will be subject to anticipation, alienation, sale, transfer, assignment, pledge, encumbrance or charge or to execution, attachment, levy or similar process at law, whether voluntary or involuntary.

SECTION 7

NO EMPLOYMENT CONTRACT; TERMINATION

This Agreement will not in any way constitute an employment agreement between Employer and Executive and it will not oblige Executive to continue in the employ of Employer, nor will it oblige Employer to continue to employ Executive, but it will merely require Employer to pay benefits hereunder to Executive under the agreed upon circumstances. In addition, provided a Change in Control has not occurred, this Agreement shall terminate and be of no further force or effect one year from the date Executive ceases to be an employee eligible for this Agreement (as determined by the Board of Directors of Employer in its sole discretion and reflected in the minutes of Board of Directors after notice to such Executive).

SECTION 8

RIGHTS UNDER OTHER PLANS AND AGREEMENTS

The Change in Control benefits herein provided will be in addition to, and are not intended to reduce, restrict or eliminate any benefit to which Executive may otherwise be entitled by virtue of his termination of employment or otherwise.

SECTION 9

RELEASE

As a condition to the payment of the benefits by Employer to Executive pursuant to this Agreement, as described in Section 2, Executive shall deliver a signed release of claims against Employer. Such release shall be delivered to Employer no later than sixty (60) days following a Triggering Event, shall be in a form and substance as determined by Employer, and, as applicable, shall not be timely revoked by Executive, and will include among its terms operative language similar to the following:

> In exchange for the payments set forth in the Change in Control Agreement by and between Stoneridge, Inc. ("Employer") and EMPLOYEE NAME ("Executive")(the "CIC Agreement"), Executive for himself and for his heirs, personal representatives, successors and assigns, hereby forever releases, remises and discharges Stoneridge, Inc. (Employer) and each of its past, present, and future officers, directors, shareholders, members, employees, trustees, agents, representatives, affiliates, successors and assigns (collectively the "Stoneridge Released Parties") from any and all claims, claims for relief, demands, actions

and causes of action of any kind or description whatsoever, known or unknown, whether arising out of contract, tort, statute, treaty or otherwise, in law or in equity, which Executive now has, has had, or may hereafter have against any of the Stoneridge Released Parties from the beginning of Executive's employment with Stoneridge to the date of this Release, arising from, connected with, or in any way growing out of, or related to, directly or indirectly, (i) Executive's employment by Stoneridge, (ii) Executive's service as an officer, director or key employee, as the case may be, of Stoneridge, (iii) any transaction prior to the date of this Release and all effects, consequences, losses and damages relating thereto, (iv) the services provided by Executive to Stoneridge, or (v) Executive's termination of employment with Stoneridge under the common law or any federal or state statute, including, but not limited to, all claims arising under the Civil Rights Acts of 1866 and 1964, the Equal Pay Act of 1963, the Age Discrimination in Employment Act of 1967, the Rehabilitation Act of 1973, the Older Workers Benefit Protection Act of 1990, the Americans with Disabilities Act of 1990, the Civil Rights Act of 1991, the Family and Medical Leave Act of 1993, the Consolidated Omnibus Budget Reconciliation Act ("COBRA"), Title 4112 of the Ohio Revised Code, and all other foreign, federal, state or local laws governing employers and employees. With regard to the release of claims under the Age Discrimination in Employment Act, Executive understands that he has a period of at least 21 days in which to consider this release, although he may sign it sooner if he chooses. Executive also understands that he will have a period of 7 days following the signing of this Release to revoke it by notifying Stoneridge's Chief Human Resources Officer, in writing at 39675 MacKenzie Drive, Suite 400, Novi, MI 48377 prior to the expiration of the seven day period. The release of claims under the Age Discrimination in Employment Act shall not become effective and the payments to be made under the Change in Control Agreement will not be made until the 7 day revocation period has expired. Executive is advised that by signing this Release, he is waiving legal rights and he is hereby advised to consult with an attorney prior to signing. Notwithstanding Executive's release of claims, Executive retains the right to file a charge of alleged employment discrimination with the federal Equal Employment Opportunity Commission ("EEOC") or a state or local civil rights agency or to participate in the investigation of such charge filed by another person or to initiate or respond to communications with the EEOC or a state or local civil rights agency; however, Executive waives all rights to recover or share in any damages or monetary payment awarded under any EEOC charge or action or any state or local agency complaint or action.

If the release described in this Section has not been delivered by Executive to Employer thirty (30) days after a Triggering Event, Employer shall provide Executive or his estate, as applicable, written notice that the release must be timely delivered in order for Executive to receive the benefits hereunder, which notice, however, shall in no event modify any otherwise applicable time periods. Notwithstanding any other provision of this Agreement, if the release described in this Section 9 is not timely delivered by Executive to Employer or, as applicable, is timely revoked by Executive, then this Agreement shall terminate and be of no further force or effect.

SECTION 10

COVENANTS, NON-COMPETITION, AND CONFIDENTIAL INFORMATION

For the first year following Executive's separation from service with Employer, Executive shall not, directly or indirectly, do or suffer any of the following:

(a) Own, manage, control or participate in the ownership, management, or control of, or be employed or engaged by or otherwise affiliated or associated as a consultant, independent contractor or otherwise with, any other corporation, partnership, proprietorship, firm, association or other business entity (i) that has material operations which are engaged in any business activity competitive with the business of Employer or (ii) engaged in the business of designing and/or manufacturing of engineered electrical and electronic components, modules and systems for the automotive, medium- and heavy-duty truck, agricultural and off-highway vehicle markets; provided, however, that the ownership of not more than one percent (1%) of any class of publicly traded securities of any entity shall not be deemed a violation of this covenant;

(b) Without the prior written consent of Employer, on his own behalf or on behalf of any person or entity, directly or indirectly, hire or solicit the employment of any employee who has been employed by Employer or its subsidiaries at any time during the six (6) months immediately preceding such date of hiring or solicitation; or

(c) Use, disclose or make accessible to any other person, firm, partnership, corporation or any other entity any Confidential Information (as defined below) pertaining to the business of Employer or any entity controlling, controlled by, or under common control with Employer (each an "Affiliate") except when required to do so by a court of competent jurisdiction; provided, however, that the foregoing restrictions shall not apply to the extent that such information (i) is clearly obtainable in the public domain, (ii) becomes obtainable in the public domain, except by reason of the breach by Executive of the terms hereof, (iii) was not acquired by Executive in connection with his employment or affiliation with Employer, (iv) was not acquired by Executive from Employer or its representatives, or (v) is required to be disclosed by rule of law or by order of a court or governmental body or agency. For purposes of this Agreement, "Confidential Information" shall mean non-public information concerning Employer's financial data, statistical data, strategic business plans, product development (or other proprietary product data), customer and supplier lists, customer and supplier information, pricing data, information relating to governmental relations, discoveries, practices, processes, methods, trade secrets, developments, marketing plans and other non-public, proprietary and confidential information of Employer or its Affiliates, that, in any case, is not otherwise generally available to the public and has not been disclosed by Employer, or its Affiliates, as the case may be, to others not subject to confidentiality agreements. In the event Executive's employment is terminated for any reason, Executive immediately shall return to Employer all Confidential Information in his possession.

The covenants of this Section 10 are in addition to, and not in lieu of, any other similar covenants or obligations imposed on Executive by law, regulation, agreement or Employer policies.

SECTION 11

NOTICES

All notices and other communications required to be given hereunder shall be in writing and will be deemed to have been delivered or made when mailed, by certified mail, return receipt requested, if to Executive, to the last address which Executive shall provide to Employer, in writing, for this purpose, but if Executive has not then provided such an address, then to the last address of Executive then on file with Employer; and if to Employer, then to the last address which Employer shall provide to Executive, in writing, for this purpose, but if Employer has not then provided Executive with such an address, then to:

Secretary
Stoneridge, Inc.
39675 MacKenzie Dr, Suite 400
Novi, Michigan 48377

With a copy to:

Robert M. Loesch
Tucker Ellis LLP
950 Main Avenue, Suite 1100
Cleveland, Ohio 44113

SECTION 12

GOVERNING LAW AND JURISDICTION

This Agreement will be governed by, and construed in accordance with, the laws of the State of Ohio. Subject to Section 4, if either party institutes a suit or other legal proceedings, whether in law or equity, Executive and Employer hereby irrevocably consent to the jurisdiction of the Circuit Court for Oakland County, Michigan or the United States District Court for the Eastern District of Michigan.

SECTION 13

ENTIRE AGREEMENT AND COMPLIANCE WITH LAW

This Agreement constitutes the entire understanding between Employer and Executive concerning the subject matter hereof and supersedes all prior written or oral agreements or understandings between the parties hereto, including all prior Change in Control agreements or arrangements by and between Employer and Executive. Nothing in this Agreement is intended to affect Executive's rights, including rights to indemnification, if applicable, under the Company's Code of Regulations. No term or provision of this Agreement may be changed, waived, amended or terminated except by a written instrument signed by both parties. Employer reserves the right, in its sole discretion, to amend this Agreement to comply with Code Section 409A (which amendment may be retroactive to the extent permitted by Code Section 409A and may be made by Employer without the consent of Executive). In particular, to the extent

Executive becomes entitled to receive payments subject to Code Section 409A upon an event that does not constitute a permitted distribution event under Code Section 409A(a)(2), then notwithstanding anything to the contrary in this Agreement, the timing of payment to Executive will be adjusted accordingly. Employer shall not indemnify or otherwise assume responsibility to Executive for any taxes, interest or penalties that arise from any payment made in violation of Code Section 409A.

IN WITNESS WHEREOF, and as conclusive evidence of the adoption of this Agreement, the parties have hereunto set their hands as of the date and year first above written.

STONERIDGE, INC.

By: _/s/ Jonathan B. DeGaynor_________
Jonathan B. DeGaynor
Chief Executive Officer

____
EXECUTIVE
(EMPLOYEE NAME)

Exhibit 10.15

AMENDMENT NO. 1
EMPLOYMENT AGREEMENT

This Amendment No. 1 (the "Amendment"), dated February 23, 2021, by and between Stoneridge, Inc., an Ohio corporation (the "Company"), and Jonathan DeGaynor (the "Executive"), amends the Employment Agreement (this "Employment Agreement") entered into as of the 16th day of March 2015, by and between the Company and the Executive.

WHEREAS, the parties hereto desire to amend the Employment Agreement.

NOW, THEREFORE, the parties hereto, in consideration of the premises and the agreements herein contained and intending to be legally bound hereby, agree as follows:

1. Each defined term used herein and not otherwise defined herein shall have the meaning ascribed to such term in the Employment Agreement.

2. The Executive shall be located at the Company's Novi, Michigan corporate headquarters.

3. Section 4.B.(3) shall be deleted in its entirety and Section 4.B.(4) shall be renumbered to be Section 4.B.(3).

4. Section 4.C. shall be deleted in its entirety and replaced with the following:

   <u>Termination for Death.</u> In the event of termination for reason of death (in the case of death the Executive's employment hereunder shall be terminated as of the date of his death) the Executive's designated beneficiary, or, in the absence of such designation, the estate or other legal representative of the Executive shall be paid the Executive's unpaid base salary (but no annual bonus or annual incentive compensation except as specifically provided in Section 3(B) or 3(C) with respect to a pro-rated annual bonus) through the end of the month in which the death occurs. No other benefits shall be payable under this Section 4 due to the Executive's termination in the event of death.

5. Section 4.D. shall be deleted in its entirety and replaced with the following:

   <u>Termination for Disability.</u> In the event that the Executive is determined to be Permanently Disabled, the Company or Executive shall have the right to terminate Executive's employment under this Employment Agreement by giving the other ten (10) days' prior written notice. If the Executive's employment hereunder is so terminated, the Executive shall continue to receive his base salary for a period of three (3) months (but no annual bonus or annual incentive compensation except as specifically provided in Section 3(B) or 3(C) with respect to a pro-rated annual bonus). No other benefits shall be payable under this Section 4 due to the Executive's termination due to his Permanent Disability. For purposes of this Employment Agreement, the Executive's "Permanent Disability" means a permanent and total disability as defined in Section 22(e)(3) of the Internal Revenue Code of 1986, as amended.

6. Section 7.E. shall be deleted in its entirety and replaced with the following:

   All notices and other communications hereunder shall be in writing and shall be deemed to have been given if delivered personally or sent by facsimile transmission, overnight

courier, or certified, registered or express mail, postage prepaid. Any such notice shall be deemed given when so delivered personally or sent by facsimile transmission (provided that a confirmation copy is sent by overnight courier), one day after deposit with an overnight courier, or if mailed, five (5) days after the date of deposit in the United States mails, as follows:

To the Company:

Stoneridge, Inc.

39675 MacKenzie Drive, Suite 400
Novi, Michigan 48377
Telephone: (248) 324-9300
Attention: Chief Legal Officer

With copy to:

Robert M. Loesch
Tucker Ellis LLP
950 Main Avenue, Suite 1100
Cleveland, Ohio 44113
rloesch@tuckerellis.com
Telephone (216) 696-5916
Fax (216) 592-5009

To Executive:

Jonathan DeGaynor
c/o Stoneridge, Inc.
39675 MacKenzie Drive, Suite 400
Novi, Michigan 48377

With copy to:

Jeffrey A. Hopper, Esq.
Barnes & Thornburg LLP
11 South Meridian Street
Indianapolis, Indiana 46204-3534
Telephone (317) 231-72552
Fax (317) 231-7433

7. The Change in Control Agreement, dated March 16, 2015, by and between the Company and the Executive, attached as Appendix C to the Employment Agreement (the "Change in Control Agreement"), is amended as follows:

(a) Under SECTION 2 the first paragraph of subsection 2. shall be deleted in its entirety and replaced with the following:

Notwithstanding anything in this Agreement to the contrary, in the event that it shall be determined (as hereinafter provided) that any payment or distribution by Employer to or

for the benefit of Executive, whether paid or payable or distributed or distributable pursuant to the terms of this Agreement, or otherwise pursuant to or by reason of any other agreement, policy, plan, program or arrangement, including without limitation any grants under Employer's Amended and Restated Long-Term Incentive Plan, any stock option, restricted stock, stock appreciation right or similar right, or the lapse or termination of any restriction on, or the vesting or exercisability of, any of the foregoing (in the aggregate "Total Payments"), would be subject, but for the application of this Section 2, paragraph 2, to the excise tax imposed by Code Section 4999 (or any successor provision thereto) (the "Excise Tax") by reason of being considered "contingent on a change in ownership or control" of Employer and as being considered an "excess parachute payment," both within the meaning of Code Section 280G (or any successor provision thereto), then Executive shall receive the greater of:

(a) The Safe Harbor Amount (as defined below); or

(b) The aggregate Parachute Value (as defined below) of the Total Payments less the applicable Excise Tax.

(b) In SECTION 11 the address for notices to the Company shall be:

Secretary
Stoneridge, Inc.
39675 MacKenzie Drive, Suite 400
Novi, Michigan 48377

8. Except as amended by this Amendment, the remainder of the Employment Agreement (and the Change in Control Agreement) shall remain unchanged and in full force and effect.

IN WITNESS WHEREOF, the parties have executed this Amendment on the day and year first set forth above.

STONERIDGE, INC.

By: /s/ Robert R. Krakowiak
Robert R. Krakowiak
Executive Vice President, Chief Financial Officer, and Treasurer

/s/ Jonathan DeGaynor
Jonathan DeGaynor

Exhibit 10.22

January 25, 2021

Mr. James Zizelman

Dear Jim,

Per our discussion, I am pleased to offer you these revised employment terms as the President of Control Devices for Stoneridge, Inc. Your current limited-term employment contract and its pay and bonus structure will end effective January 31, 2021, and your new employment terms will begin February 1, 2021, as described in the attachment to this letter. Your role as President of Control Devices will continue to be classified as a Section 16 Officer, which comes with certain rights and responsibilities.

Upon your acceptance of these terms, please sign this letter, initial the pages of the attachment and return all to me. Note that these employment terms do not constitute a contract, your employment will be "at will" with no obligation on either you or the Company to continue employment for a determined length of time.

Jim, thank you for your contributions to Stoneridge. I am excited to continue working with you and the rest of the leadership team to bring even greater success to Stoneridge.

Sincerely,

/s/ Jonathan B. DeGaynor
Jonathan B. DeGaynor
President and CEO

I accept this revised offer of employment as the President of Control Devices.

/s/ James Zizelman	01/29/2021
James Zizelman	Date

ATTACHMENT

This offer of employment for James Zizelman as the President of Control Devices for Stoneridge, Inc. includes the following:

Base Salary:	$390,000 annually, paid monthly. Reviewed on an annual basis; you will be eligible for a base salary review no later than January 2022.
Annual Incentive Plan (AIP):	Participation in the AIP, with a target of 60% of base salary beginning January 1, 2021. The AIP provides the opportunity to earn from 50% to 200% of target, based on Company and individual performance.
Long-Term Incentive Plan (LTIP):	Participation in the LTIP, with a target award equivalent to 110% of your base salary. LTIP awards are made at the discretion of the Compensation Committee and are typically approved during the first quarter of each calendar year.
Deferred Compensation Plan:	Continued eligibility for the Company's Deferred Compensation plan. This plan allows you to defer a portion of your base salary, AIP and/or LTIP awards on an annual basis into a variety of investment vehicles and time horizons.
Benefits:	You will remain eligible to participate in our employee benefit program, which is reviewed annually and may be modified from time to time. Following is a general description of the 2021 benefits available to employees:
	Medical and dental insurance provided on a cost share basis. Our current medical and carrier is Anthem BC/BS and our dental carrier is Delta Dental.
	Basic term life insurance, provided at two times base salary up to $1,000,000; Basic AD&D coverage, provided at two times base salary up to $1,000,000.
	Short-term disability provided at 100% of monthly earnings for 13 weeks and 60% of monthly earnings for the next 13 weeks.
	Long-term disability coverage provided at 60% of monthly earnings up to $15,000 per month.
	Reimbursement for any out-of-pocket costs not paid through medical insurance claims for an annual executive physical exam.
	A selection of voluntary benefits is available as detailed in the 2019 Benefits Guide.

Participation in the Stoneridge, Inc. 401(k) Retirement Plan. In 2021, the Company will match 100% of a participant's deferral up to 3%, and 50% of the next 2% deferral. The plan is subject to the IRS statutory limits.

Annual Time Off Benefits:	Twenty (20) vacation days annually, no carryover. Five (5) sick/personal days, no carryover. Thirteen (13) holidays, consistent with local office practice.
Other:	As an Executive of the Company, you will be covered under the Company's Executive Severance Plan, subject to Compensation Committee approval.
	You will receive a standard Change In Control agreement, which includes 24 months base salary and benefits continuation and is subject to a double trigger provision (i.e., change in control and loss of position within 24 months).
	You will be subject to the terms of the Executive Officer Share Retention Guidelines, a copy of which will be provided separately.

EXHIBIT 21.1

PRINCIPAL SUBSIDIARIES

Name of Subsidiary	Jurisdiction in Which Organized or Incorporated
Consolidated Subsidiaries of Stoneridge, Inc.:	
Exploitatiemaatschappij Berghaaf B.V.	Netherlands
Orlaco GmbH	Germany
Orlaco Inc.	Delaware
Orlaco Products B.V.	Netherlands
PST Eletronica Ltda.	Brazil
PST Teleatendimento Ltda.	Brazil
Positron Rastreadores Argentina S.A.	Brazil
SRI CS LLC	Michigan
SRI Delaware Holdings LLC	Delaware
SRI Holdings US LLC	Delaware
Stoneridge Aftermarket GmbH	Germany
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 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
Equity Method Investee of Stoneridge, Inc.:	
Minda Stoneridge Instruments Limited	India

EXHIBIT 23.1

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
333-190395	Form S-8 – Stoneridge, Inc. Amended and Restated Long-Term Incentive Plan, as Amended, and Stoneridge, Inc. Amended Directors' Restricted Shares Plan,
333-172002	Form S-8 – Stoneridge, Inc. Amended and Restated Long-Term Incentive Plan, as Amended, and Stoneridge, Inc. Amended Directors' Restricted Shares Plan,
333-149436	Form S-8 – Stoneridge, Inc. Amended and Restated Long-Term Incentive Plan,
333-127017	Form S-8 – Stoneridge, Inc. Directors' Restricted Shares Plan,
333-219648	Form S-8 – Stoneridge, Inc. Deferred Compensation Plan,
333-212867	Form S-8 – Stoneridge, Inc. 2016 Long-Term Incentive Plan, and
333-226505	Form S-8 – Stoneridge, Inc. 2018 Amended and Restated Directors' Restricted Shares Plan;

of our reports dated February 24, 2021, 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, 2020.

/s/ Ernst & Young LLP

Detroit, Michigan
February 24, 2021

EXHIBIT 31.1

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

I, Jonathan B. DeGaynor, 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/ JONATHAN B. DEGAYNOR

Jonathan B. DeGaynor, President and Chief Executive Officer
February 24, 2021

EXHIBIT 31.2

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

I, Robert R. Krakowiak, 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/ ROBERT R. KRAKOWIAK

Robert R. Krakowiak, Executive Vice President
Chief Financial Officer and Treasurer
February 24, 2021

EXHIBIT 32.1

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

I, Jonathan B. DeGaynor, 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, 2020 (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/ JONATHAN B. DEGAYNOR

Jonathan B. DeGaynor, President and Chief Executive Officer
February 24, 2021

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.

EXHIBIT 32.2

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

I, Robert R. Krakowiak, 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, 2020 (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/ ROBERT R. KRAKOWIAK

Robert R. Krakowiak, Executive Vice President
Chief Financial Officer and Treasurer
February 24, 2021

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.