UNITED STATES
SECURITIES AND EXCHANGE COMMISSION
Washington, D.C. 20549

FORM 10-K

x **ANNUAL REPORT PURSUANT TO SECTION 13 OR 15(d) OF THE SECURITIES EXCHANGE ACT OF 1934**
For the fiscal year ended December 31, 2019

or

☐ **TRANSITION REPORT PURSUANT TO SECTION 13 OR 15(d) OF THE SECURITIES EXCHANGE ACT OF 1934**
For the transition period from________to________
Commission file number 001-35944

POWER SOLUTIONS INTERNATIONAL, INC.
(Exact Name of Registrant as Specified in its Charter)

Delaware	**33-0963637**
(State or Other Jurisdiction of Incorporation or Organization)	(I.R.S. Employer Identification No.)
201 Mittel Drive, Wood Dale, IL	**60191**
(Address of Principal Executive Offices)	(Zip Code)

(630) 350-9400
(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**
None	—	—

Securities Registered Pursuant to Section 12(g) of the Act:
Common Stock, par value $0.001 per share

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

Indicate by check mark if the registrant is not required to file reports pursuant to Section 13 and Section 15(d) of the Act. YES ☐ NO x

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

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 during the preceding 12 months (or for such shorter period that the registrant was required to submit such files). YES x NO ☐

Indicate by check mark if disclosure of delinquent filers pursuant to Item 405 of Regulation S-K is not contained herein, and will not be contained, to the best of the registrant's knowledge, in definitive proxy or information statements incorporated by reference in Part III of this Form 10-K or any amendment to this Form 10-K. ☐

Indicate by check mark whether the registrant is a large accelerated filer, an accelerated filer, a non-accelerated filer, a smaller reporting company, or an emerging growth company. See the definitions 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	x	Smaller reporting company	x
		Emerging growth company	☐

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

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

The aggregate market value of 5,028,139 shares of Common Stock held by non-affiliates of the registrant as of June 30, 2019 was $49.0 million based on the last reported sale price on the over-the-counter ("OTC") market on June 30, 2019 (although the total market capitalization of the registrant as of such date was approximately $222.4 million). Shares of the registrant's Common Stock held by each executive officer and director and by each person who holds 10% or more of the outstanding Common Stock have been excluded in that such persons may be deemed to be affiliates. This determination of affiliate status is not necessarily a conclusive determination for other purposes.

As of April 22, 2020, there were 22,857,602 outstanding shares of the Common Stock of the registrant.

DOCUMENTS INCORPORATED BY REFERENCE

Portions of the registrant's amendment to this Form 10-K (the "Amendment") to be filed with the United States Securities and Exchange Commission (the "SEC") are incorporated by reference into Part III of this Annual Report on Form 10-K to the extent stated herein. The Amendment was to be filed with the SEC no later than 120 days after the close of the registrant's fiscal year ended December 31, 2019. On April 29, 2020, relying on the SEC's Order under Section 36 of the Securities Exchange Act of 1934, Modifying Exemptions from the Reporting and Proxy Delivery Requirements for Public Companies, dated March 4, 2020 and amended March 25, 2020 (Release Nos. 34-88318 and 34-88465) (collectively, the "Order"), the registrant filed a Form 8-K extending the Amendment's filing deadline by 45 days to June 15, 2020.

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EXPLANATORY NOTE

As previously disclosed on Power Solutions International, Inc.'s (the "Company") Form 8-K filed with the SEC on March 30, 2020, the filing of this Annual Report on Form 10-K for the period ended December 31, 2019 (the "2019 Annual Report") was delayed due to circumstances related to the novel coronavirus ("COVID-19") and its impact on the Company's operations. The disruptions in transportation, staffing, and technology systems to both the Company and the Company's professional advisors resulted in limited support from the Company's staff and professional advisors due to the COVID-19 outbreak. In particular, COVID-19 has caused disruptions in the Company's day-to-day activities and impaired the Company's ability to perform necessary work on the 2019 Annual Report and to file the 2019 Annual Report by its March 30, 2020 due date. The Company relied on the SEC's *Order Under Section 36 of the Securities Exchange Act of 1934 Modifying Exemptions From the Reporting and Proxy Delivery Requirements for Public Companies*, dated March 4, 2020 and amended March 25, 2020 (Release Nos. 34-88318 and 34-88465), to delay the filing of this 2019 Annual Report.

FORWARD-LOOKING STATEMENTS

Certain statements contained in this Annual Report on Form 10-K that are not historical facts are intended to constitute "forward-looking statements" entitled to the safe-harbor provisions of Section 21E of the Securities Exchange Act of 1934, as amended (the "Exchange Act"). These statements may involve risks and uncertainties. These statements often include words such as "anticipate," "believe," "budgeted," "contemplate," "estimate," "expect," "forecast," "guidance," "may," "outlook," "plan," "projection," "should," "target," "will," "would" or similar expressions, but these words are not the exclusive means for identifying such statements. These forward-looking statements include statements regarding the Company's projected sales and potential profitability, strategic initiatives, future business strategies, warranty mitigation efforts and market opportunities, improvements in its business, remediation of internal controls, improvement of product margins, and product market conditions and trends. These statements are not guarantees of performance or results, and they involve risks, uncertainties and assumptions. Although the Company believes that these forward-looking statements are based on reasonable assumptions, there are many factors that could affect the Company's results of operations and could cause actual results, performance or achievements to differ materially from those expressed in, or implied by, the Company's forward-looking statements.

The Company cautions that the risks, uncertainties and other factors that could cause its actual results to differ materially from those expressed in, or implied by, the forward-looking statements include, without limitation: the factors discussed in this report set forth in Item 1A. Risk Factors; management's ability to successfully implement the Audit Committee's remedial recommendations; the timing of completion of steps to address, and the inability to address and remedy, material weaknesses; the identification of additional material weaknesses or significant deficiencies; variances in non-recurring expenses; risks relating to the substantial costs and diversion of personnel's attention and resources deployed to address the financial reporting and internal control matters; the ability of the Company to accurately budget for and forecast sales, and the extent to which sales result in recorded revenues; changes in customer demand for the Company's products; volatility in oil and gas prices; the impact of the U.S. tariffs on imports from China on the Company's supply chain to source products; the impact of the investigations being conducted by the SEC, and the criminal division of the United States Attorney's Office for the Northern District of Illinois (the "USAO") and any related or additional governmental investigative or enforcement proceedings; any delays and challenges in recruiting key employees consistent with the Company's plans; the impact the recent outbreak of a new strain of coronavirus ("COVID-19 outbreak") could have on the Company's business and financial results; any negative impacts from delisting of the Company's common stock par value $0.001 (the "Common Stock") from the NASDAQ Stock Market ("NASDAQ") and any delays and challenges in obtaining a re-listing on a stock exchange.

The Company's forward-looking statements are presented as of the date hereof. Except as required by law, the Company expressly disclaims any intention or obligation to revise or update any forward-looking statements, whether as a result of new information, future events or otherwise.

AVAILABLE INFORMATION

The Company is subject to the reporting and information requirements of the Exchange Act, and as a result, it is obligated to file annual, quarterly and current reports, proxy statements and other information with the SEC. The Company makes these filings available free of charge on its website (http://www.psiengines.com) as soon as reasonably practicable after it electronically files them with, or furnishes them to, the SEC. Information on the Company's website does not constitute part of this Annual Report on Form 10-K. In addition, the SEC maintains a website (http://www.sec.gov) that contains the annual, quarterly and current reports, proxy and information statements, and other information the Company electronically files with, or furnishes to, the SEC.

PART I

Unless the context indicates otherwise, references in this 2019 Annual Report to “Power Solutions,” “PSI,” “the Company,” “Corporate,” “it,” “its” and “itself” mean Power Solutions International, Inc. and its wholly-owned subsidiaries. References herein to “2019,” “fiscal 2019” or “fiscal year 2019” refer to the fiscal year ended December 31, 2019. References herein to “2018,” “fiscal 2018” or “fiscal year 2018” refer to the fiscal year ended December 31, 2018.

Item 1. Business.

General Business Overview

Power Solutions International, Inc., incorporated under the laws of the state of Delaware in 2011, designs, engineers, manufactures, markets and sells a broad range of advanced, emission-certified engines and power systems that are powered by a wide variety of fuels, including natural gas, propane, gasoline, diesel and biofuels, within the energy, industrial and transportation end markets. The Company manages the business as a single segment.

The Company’s products are primarily used by global original equipment manufacturers (“OEMs”) and end-user customers across a wide range of applications and equipment that includes standby and prime power generation, demand response, microgrid, combined heat and power, arbor equipment, material handling (including forklifts), agricultural and turf, construction, pumps and irrigation, compressors, utility vehicles, light- and medium-duty vocational trucks, and school and transit buses.

The Company provides highly engineered, comprehensive solutions designed to meet specific customer application requirements and technical specifications, including those imposed by environmental regulatory bodies, including the U.S. Environmental Protection Agency (“EPA”), the California Air Resources Board (“CARB”) and the People’s Republic of China’s Ministry of Ecology and Environment (“MEE,” formerly the Ministry of Environmental Protection), as well as regulatory bodies within the European Union (“EU”).

The Company’s products include both sourced and internally designed and manufactured engines that are engineered and integrated with associated components. These comprehensive power systems are tested and validated to meet quality, safety, durability and global environmental standards and regulations.

Through advanced research and development (“R&D”) and engineering capabilities, the Company is able to provide its customers with highly optimized, efficient, durable and emissions-compliant products that enhance their competitive position.

The Company’s business is diversified across end markets and applications and also includes extensive aftermarket and service parts programs. These programs consist of (i) internal aftermarket service parts programs with worldwide sales and distribution capabilities and (ii) internal OEM-developed service parts programs for components and products supplied by the Company.

The Company’s end markets, product categories and equipment are as highlighted in the following table:

End Market	Product Categories	Equipment/Products
Energy	Electric Power Generation	Mobile and Stationary / Standby and Prime Power Demand Response Microgrid Combined Heat and Power (“CHP”)
	Large Custom Generator Set (“Genset”) Enclosures	Electric Power Generators Grid Connectivity Solar and Wind
Industrial	Material Handling Agricultural/Arbor Care Irrigation/Pumps Construction Compressors Other Industrial	Forklifts Wood Chippers Stump Grinders Sweepers/Industrial Scrubbers Aerial Lift Platforms/Scissor Lifts Irrigation Pumps Oil and Gas Compression Oil Lifts Off Road Utility Vehicles Ground Support Equipment Ice Resurfacing Equipment Pump Jacks
Transportation	Trucks Buses Fuel Systems and Tanks	Class 2 - 7 Vocational Trucks and Vans School Buses (Type A and Type C) Transit Buses Terminal and Utility Tractors

Products

The Company’s sourced and internally designed and manufactured engine blocks are engineered and integrated with associated components in a range of configurations that includes basic engine blocks integrated with appropriate fuel system parts as well as completely packaged power systems that include combinations of front accessory drives, cooling systems, electronic systems, air intake systems, fuel systems, housings, power takeoff systems, exhaust systems, hydraulic systems, enclosures, brackets, hoses, tubes, packaging, telematics and other assembled componentry. The Company also designs and manufactures large, custom-engineered integrated electrical power generation systems for both standby and prime power applications. The Company’s comprehensive power systems are tested and validated to meet quality, safety, durability and global environmental standards and regulations.

The Company’s engines and power systems include both emission-certified compression and spark-ignited internal combustion engines ranging from 0.99 liters (“L”) to 53L of displacement, which run on a wide variety of fuels, including natural gas, propane, gasoline, diesel and biofuels within the energy, industrial and transportation end markets.

Uncertain Impact of COVID-19 and Oil and Gas Market Price Volatility

In January 2020, the World Health Organization (“WHO”) announced a global health emergency because of the COVID-19 outbreak and the risks to the international community as the virus spreads globally. In March 2020, the WHO classified the COVID-19 outbreak as a global pandemic (the “COVID-19 pandemic”), based on the rapid increase in exposure globally. The COVID-19 pandemic has resulted in the implementation of significant governmental measures to control the spread of the virus, including quarantines, travel restrictions, business shutdowns and restrictions on the movement of people in the United States and abroad.

In addition, the global economy has experienced substantial turmoil including impacts from the world financial markets, which have experienced a period of significant volatility and overall declines. As of the date of this 2019 Annual Report, due to unprecedented decreases in demand, an oil price war, and economic uncertainty resulting from the COVID-19 pandemic, crude oil prices have declined precipitously. A significant portion of the Company’s sales and profitability is derived from the sale of products that are used within the oil and gas industry. While the Company has yet to experience significant supply chain interruptions or material cancellations of orders, the potential impact of future disruptions, continued economic uncertainty, and continued depressed crude oil prices, and declining rig count levels may have a significant adverse impact that may result in the recognition of material impairments or other related charges.

These factors, in turn, may not only impact the Company's operations, financial condition and demand for the Company's goods and services, but its overall ability to react timely to mitigate the impact of these events. The timing and execution of the strategic initiatives and growth strategies discussed below may be adversely impacted by the COVID-19 pandemic including the related significant price volatility in the oil and gas markets.

Strategic Initiatives/Growth Strategies

The Company has initiated a comprehensive set of business objectives aimed at improving profitability, streamlining processes, strengthening the business and focusing on achieving growth in higher-return product lines. Key elements of these objectives and other initiatives are highlighted below.

Improve profitability

The Company has implemented a plan focused on enhancing profitability through the review of its customer and product portfolio. To date, this has resulted in strategic price increases in certain areas of the business, along with product redesign and the re-sourcing of certain components, to support improved margins. This program is a multi-year effort and will entail a strategic assessment of certain areas in which profitability does not meet established thresholds. The Company is also seeking opportunities to improve its profitability through the initiation of programs to improve manufacturing efficiency and working capital efficiency. It has also been investing heavily in the expansion of its heavy-duty engine product line, which has historically provided better margins. Further, the Company is in the early phases of production of certain products and anticipates potential benefits as it gains improved economies of scale through greater volumes. Lastly, since mid-2016, the Company incurred substantial costs related to its restatement of prior financial statements and efforts toward remediation of its material weaknesses. The Company saw a meaningful reduction in certain of these costs with the completion of the restatement of its prior financial statements in May 2019 and expects to see further reductions now that all delinquent periodic reports are filed and as it continues to remediate its material weaknesses.

Warranty expense mitigation efforts

The Company aims to curtail its warranty expense through various mitigation efforts. As part of this, the Company is developing reimbursement and commercial remedies from key suppliers, where applicable. Also, the Company is undergoing a continued evaluation and improvement of its engineering validation and reliability programs for products and applications. The Company also continues to make investments in technology to further enhance its tools and processes.

Streamlining of business processes

The Company has an ongoing program to review and identify cost reductions throughout the organization. As part of this program, the Company continues to adopt tighter controls, monitors major areas of spending and is centralizing certain business processes.

Strengthening of business through the optimization of business systems and technology

The Company is working to strengthen its business through the optimization of its business systems and technology to support the remediation of internal controls, improve processes, drive greater operational efficiencies and provide better and timelier decision making across the organization. As part of this initiative, the Company is working on the upgrade and reimplementation of its Enterprise Resource Planning system.

Increased emphasis on energy product offerings through new product development and investments

The Company has been a major participant in the energy market for many years as a supplier to several of the world's leading power generation companies and through its large custom Generator Set ("Genset") enclosure business. Building on its broad product offering, in March 2018, October 2018, and October 2019, the Company received EPA certification for its 32L, 40L, and 53L heavy-duty engines, respectively. These heavy-duty engines provide a natural-gas-fueled power range from 500 kilowatt-electric ("kWe") to 1.25 megawatt ("MW"), which is well above the Company's prior capabilities, allowing it to serve a greater portion of the demand response, microgrid, combined heat and power, and oil and gas markets. Additionally, in September 2019, the Company received EPA emergency standby certification for its 20L, 40L and 53L diesel engines, which provide a power range of 550 kWe to 1.65 MW. These diesel engines are largely designed for energy market applications including emergency power, wastewater treatment, and oil and gas exploration and production. Also, the engines can handle mission critical customer operations in the health care, data center, hospitality and transportation industries. In addition to dedicating significant R&D resources within the energy market, the Company has also strategically invested in expanding its management, sales and operations staff to support these efforts. The Company's heavy-duty engines have historically provided better margins.

Capitalize on key market trends

The Company's breadth of products and solutions will enable it to capitalize on numerous market trends that it believes have the potential to drive customer demand for its products and contribute toward its long-term growth. Further, the Company's R&D activity is largely focused on expanding its solutions to further address trends in these areas. The key trends include the following:

- the worldwide growth of intermittent sources of energy, such as wind and solar, and an aged electric grid in the United States, coupled with power outage activity due to weather or power shutdowns, which is driving increased demand for generators, microgrids and demand response equipment;
- increasingly stringent regulations and growing efforts to reduce emissions, which are driving demand for alternatives to diesel power engines (e.g., EPA Tier 4 emission standards, CARB regulations, MEE policies in China), in particular, in several markets such as the power generation market for oil and gas, school bus, arbor care and the China bus market, among others;
- growth in e-commerce activity around the world, which is driving demand for last-mile delivery vehicles; and
- the availability of automotive engines that are suited for industrial application.

New product expansion by leveraging deep industry experience

Throughout the Company's history, it has evolved from a provider of diesel power systems to become a major supplier of power systems fueled by alternatives to diesel, including gasoline, propane, and natural gas, among others. By leveraging the deep industry experience of its engineering and new-product development teams, the Company is continuing to take steps to broaden the range of its power system product offerings, including engine classes, power ratings and the OEM and direct user market categories into which it supplies products. The Company plans to capitalize on its technologically sophisticated, in-house design, prototyping, testing and application engineering capabilities to further refine its superior power system technology.

Leverage the Company's relationship with Weichai

In March 2017, the Company executed a share purchase agreement (the "SPA") with Weichai America Corp., a wholly owned subsidiary of Weichai Power Co., Ltd. (HK2338, SZ000338) (herein collectively referred to as "Weichai"). Under the terms of the SPA, Weichai invested $60.0 million in the Company (the "Weichai Transactions") by purchasing a combination of newly issued Common Stock and preferred stock, par value $0.001 (the "Preferred Stock"), as well as a stock purchase warrant, which significantly strengthened the Company's financial condition and contributed to the subsequent extinguishment of a $60.0 million term loan. The Company and Weichai also entered into a strategic collaboration agreement (the "Collaboration Agreement") under which they have been working together to accelerate market opportunities for each company's respective product lines across various geographic and end-user markets.

The Collaboration Agreement provides the Company with strategic benefits and opportunities, including the ability to leverage Weichai's strengths and capabilities in R&D, manufacturing, procurement and distribution and its widespread sales channels in China and other emerging markets. This collaboration has already enabled the Company to broaden its existing product portfolio, improve material quality, decrease costs, accelerate the development of new products and bring them to market, and expand access and exposure to new markets.

Among other things, the Collaboration Agreement establishes a joint steering committee, permits Weichai to second a limited number of certain technical, marketing, sales, procurement and finance personnel to work at the Company and establishes several collaborations, including with respect to stationary natural gas applications and Weichai diesel engines. The Collaboration Agreement also provides for the steering committee to create different subcommittees with various operating roles, and it otherwise governs the treatment of intellectual property of the parties prior to the collaboration and the intellectual property developed during the collaboration. The Collaboration Agreement had a term of three years that was set to expire in March 2020. On March 26, 2020, the Collaboration Agreement was extended for an additional term of three years.

The Weichai stock purchase warrant, as last amended (the "Weichai Warrant"), was exercisable commencing on April 1, 2019 for such number of shares of the Company's Common Stock as was sufficient to provide Weichai with majority ownership of the Company's Common Stock. On April 23, 2019, Weichai exercised the Weichai Warrant resulting in the Company issuing 4,049,759 shares of the Company's Common Stock. See Note 1. *Summary of Significant Accounting Policies and Other Information–Stock Ownership and Control* in Part II. Item 8. *Financial Statements and Supplemental Information*, for additional information. Weichai is currently the Company's largest stockholder, holding 51.4% of the Company's outstanding Common Stock as of April 22, 2020.

Expand global business

Through the expansion of its product lineup and the entry into new markets, the Company has a history of growing its product offerings internationally beyond North America. The Company sees long-term opportunity in continuing to grow its business worldwide with further R&D investment including new-product development and offerings.

Strengthened engine development and testing capability

In April 2018, the Company acquired the assets of Chicago Technical Center R&D facility from Ricardo, Inc. This transaction has allowed the Company to significantly strengthen and expand its testing capabilities and increase its capacity to meet current and future engine development, certification and durability testing needs. The advanced R&D facility immediately provided three strategic benefits for the corporate engine programs: (i) increased speed to market response, (ii) greater ability to innovate and optimize product performance and reliability, and (iii) lower cost of product development through direct control of in-house EPA and CARB-certified testing cell operations, scheduling and management of the industry-leading engine testing center.

Sales and Marketing

The Company employs a direct sales and marketing approach to maintain maximum interface with and service support for its OEM customers. This direct interface incorporates the corporate internal technical sales representatives. The Company complements its direct OEM relationships with a localized, independent sales and product support organization. This localized sales and support organization provides the necessary knowledge of local customs and requirements while also delivering immediate sales assistance and customer support.

The Company has invested in and is focused on capturing aftermarket sales of the value-added components that are included in its power systems. With a significant portion of the selling prices of the Company's power systems coming from value-added components, this is a large, continuing growth opportunity for its aftermarket business.

Customers

The Company's customers primarily include global OEMs and direct end-users across a wide range of applications that demand high product quality, best-in-class engineering support and on-time delivery. Within several applications for which the Company provides solutions, it maintains supplier relationships with two or more customers, which are often among the largest in that category.

The Company's largest customers, based upon its consolidated net sales in 2019, included the following subsidiaries/affiliates of Daimler AG: Freightliner Custom Chassis Corporation, Thomas Built Buses and FUSO Company (collectively, "Freightliner") and Hyster-Yale Materials Handling Group. Freightliner and Hyster-Yale Materials Handling Group represented 17% and 13% of 2019 consolidated net sales, respectively. The largest customers change from time to time as a result of various factors, including prevailing market conditions, customers' strategies and inventory of the Company's power systems.

Competition

In each of the Company's end markets there are a variety of competitors, including engine manufacturers, independent suppliers and distributors of engines, fuel systems and component providers, manufacturers of power generation equipment, engine packagers and integrators, and the in-house operations of certain OEMs, some of which have longer operating histories, strong brand recognition and significantly greater financial and marketing resources.

Notwithstanding significant competition, the Company believes that the following factors provide it with a differentiated value proposition that allows the Company to compete effectively:

- fuel-agnostic strategy;
- demonstrated expertise in on- and off-road applications;
- ability to leverage Weichai's strengths and capabilities;
- completeness and comprehensiveness of engines and power systems;
- expansive product integrations, including electronics, controls, fuel systems and transmissions;
- commonality of technology platform spanning all product lines;
- emissions regulation compliance and certification;
- breadth and depth of advanced engineering disciplines;
- industry-leading product and application engineering;
- competitive pricing/cost;
- ability to tailor power systems to specific customer needs;
- performance and quality;
- speed to market; and
- customer support and service.

Manufacturing

The Company manufactures and assembles its products at facilities in suburban Chicago, Illinois, and Darien, Wisconsin, and customizes its power systems to meet specific requirements of OEM applications and the needs of its OEM customers. The Company has invested in precision computer numerical control ("CNC") machining equipment to finish its internally designed engine blocks and cylinder heads, which are cast by various suppliers. The manufacturing lines in the Company's production facilities are technologically sophisticated, lean, agile and flexible, and the Company allocates production capacity on its mixed model manufacturing lines to accommodate the demand levels and product mix required by its OEM customers.

The Company focuses on safety, people, quality, on-time delivery, cost and environment in its manufacturing operations. The Company is certified to the most recent International Organization for Standardization ("ISO") standard, ISO 9001: 2015. The ISO 9000 family of quality management standards, which must be met in order to become ISO certified, is designed to help organizations monitor and improve the quality and delivery of their products and/or services to their customers. The Company also uses tools such as Six Sigma, Lean Manufacturing, 80/20, Value Stream Mapping and other manufacturing engineering strategies to help manage its business, build quality, and drive performance and a continuous improvement culture within the manufacturing operations' teams. The Company also uses a customer relationship management database to help collect customer feedback and to track overall quality performance at its OEM customers. Structured staff training is a constant priority and includes closed-loop quality monitoring and feedback systems.

Research, Development and Engineering

The Company's research, development and engineering programs are focused on new product development, enhancements to current products, quality improvements and material cost reductions across its product lines. Its efforts are market driven, with the sales team identifying and defining market requirements and trends and its engineering and new-product development groups reviewing existing power system portfolios and developing new solutions that build upon the technology within that portfolio. To further enhance the Company's research, development and engineering programs, the Company finalized the purchase of emissions testing assets and the sublease of an emissions testing facility from Ricardo, Inc., a subsidiary of the strategic engineering and environmental consultancy, Ricardo Plc., for $5.6 million in cash in April 2018. See Note 4. *Property, Plant and Equipment* in Part II. Item 8. *Financial Statements and Supplemental Information* for further discussion.

The Company's product and application development engineering teams include in-house mechanical and electrical engineering functions. Internal resources are supplemented with engineering outsourcing relationships for design, development and product testing. In addition to these engineering outsourcing relationships, the Company benefits from the design, development and testing capabilities of its supplier base. The Company staffs its engineering support activities associated with released product and component sourcing programs with dedicated internal engineering personnel.

Research, development and engineering expenditures include salaries, contractor fees, building costs, utilities, testing, information technology and administrative expenses and are expensed, net of contract reimbursements, when incurred. From time to time, the Company enters into agreements with its customers to fund a portion of the research, development and engineering costs of a particular project. These reimbursements are accounted for as a reduction of the related research, development and engineering expenditure. The Company's net research, development and engineering expenditures for 2019 and 2018 were $24.9 million and $28.6 million, respectively.

Supplier Relationships

In addition to producing its own engines, the Company has established relationships with its suppliers for certain engines that are integrated into its comprehensive power systems, the most significant of which are Doosan Infracore Co., Ltd. ("Doosan"), a subsidiary of Doosan Group, Shenyang Aerospace Mitsubishi Motors Engine Manufacturing Co., Ltd. ("SAME"), General Motors Company ("GM") and Weichai. The Company also sources other power system components and coordinates design efforts with third-party suppliers for some of its key components. In general, the prices at which the Company purchases engines, components and other raw materials are based on market factors, including the prices offered by other suppliers operating in the same market and the prevailing market prices of raw materials.

The Company aggregates product sourcing efforts across its large and diverse OEM customer base and across industry categories, capitalizing on volume, economies of scale and global supply opportunities. The Company's customers benefit from the aggregation of its global sourcing, procurement, and assembly and services, obtaining cost benefits that they might not obtain if they were to rely on their own internal resources, capabilities and more limited demand requirements. Through this process, customers are able to streamline their supply base by consolidating procurement and assembly efforts down to a single part number product supplied by the Company. The Company delivers this assembly to its customer's production line ready to install into the customers' product.

The Company is party to a supply agreement with Doosan, under which it purchases and distributes, on an exclusive basis, specified Doosan engines within a territory consisting of the United States, Canada and Mexico. On October 1, 2019, the supply agreement with Doosan was amended and extended to December 31, 2023, after which the agreement will automatically be extended for additional one-year terms unless a notice of termination is provided by either party six months prior to the scheduled expiration. The addendum also includes minimum product purchase commitments for the period 2019 through 2023, subject to reductions based on market declines in oil prices and defined prescribed payments to Doosan triggered by shortfalls in purchases made by the Company during each annual calendar period. Given the significant market declines in oil prices in early 2020, the Company is currently evaluating the impact of potential future purchasing volume reductions. As of December 31, 2019, no liability has been established for any possible purchasing shortfall payments to Doosan.

The Company was also party to a supply agreement with GM through December 31, 2019 for the exclusive purchase and distribution of the 6.0L engine to OEMs for usage in the on-road market, which includes the Company's sale of this engine to its customer, Freightliner. With the GM announcement that it will discontinue its production of the 6.0L engine, the Company has been conducting last-time buys of this engine to ensure adequate supply to Freightliner and other customers. The Company does not have a supply agreement with GM for its successor product to the 6.0L engine. However, it is actively exploring opportunities to identify engine alternatives for this product.

The Company is also party to a supply agreement with SAME through December 31, 2020 for the exclusive purchase and distribution of engines around the world, with the exception of China (including Hong Kong, Macao and Taiwan), within the forklift and marine markets. The agreement, which automatically extends for an additional one-year term on an annual basis, unless either party provides notice of termination at least 180 days before the expiration date, includes minimum purchase commitments.

Product Support

The Company's dedicated team of product and application engineers enables it to deliver high-quality, responsive technical support to its OEM and end-user customers. The Company provides technical support and training to its customers, including in-plant training and support through web- and phone-based field service. The Company further supports its customers by engaging regional providers to perform warranty services and offer support for its power systems. The Company also leverages its technical resources to provide service and support functions for its power systems sold to OEM customers.

Backlog

Backlog generally is not considered a significant factor in the Company's business.

Employees

As of December 31, 2019, the Company's workforce consisted of approximately 900 full-time employees. None of the members of the Company's workforce are represented by a union or covered by a collective bargaining agreement.

Impact of Government Regulation

The Company's power systems are subject to extensive statutory and regulatory requirements that directly or indirectly impose standards governing exhaust emissions, evaporative emissions, greenhouse gas ("GHG") emissions and noise. The Company's power systems are subject to compliance with regulatory standards imposed by the EPA, state regulatory agencies in the United States, including the CARB, and other regulatory agencies around the world, such as the MEE. Since its engines are sold into both off-road and on-road markets, the Company must ensure certification to the specific regulations within the applicable statutory segment. For products sold into the U.S. market, both EPA and CARB have imposed specific regulations on engines used in both off-road equipment and on-road vehicles. These regulations generally serve to restrict exhaust emissions, with a primary focus on oxides of nitrogen, hydrocarbons and carbon monoxide. Exhaust emission regulations for engines used in off-highway industrial and power generation equipment vary based upon the use of the equipment into which the engine is incorporated (such as stationary power generation or mobile off-highway industrial equipment) and the type of fuel used to drive the power system. Similarly, on-road regulations from the EPA and CARB focus on the same exhaust constituents as well as sophisticated requirements to meet on-board diagnostic ("OBD") system regulations. Emissions of GHGs such as carbon dioxide, methane and nitrogen dioxide are also regulated, with more stringent regulatory requirements starting in 2021. The Company continues to make significant investments into the necessary intellectual property that supports full compliance of the Company's engines now and into the foreseeable future.

The first EPA emissions regulations adopted for diesel engines, known as Tier 1, applied to diesel engines used in mobile off-highway applications in the U.S., and similar standards for diesel engines, known as Stage I regulations, were implemented thereafter in the EU. The EPA and applicable agencies in the EU have continued to develop emissions regulations for diesel engines in the U.S. and the EU, respectively, and have adopted more restrictive standards. The current diesel engine emission requirements in the U.S are known as Tier 4 and are applicable to off-road diesel engines used in industrial equipment. Similarly, the EU has adopted more restrictive standards under its Stage V regulations. Tier 4 and Stage V regulations call for reductions in levels of particulate matter and oxides of nitrogen.

The Company's entry into the transportation end market began in 2013 with the development of its 8.8L power systems targeted for 2015 regulatory standards. In 2014, the EPA and CARB certified the Company's new engine as a Model Year 2015 product for liquid propane gas ("LPG") and compressed natural gas ("CNG") fuels, and in 2015 the Company launched its first propane-fueled engine for on-road applications. To assist the adoption of alternative-fueled vehicles in the marketplace, the EPA and CARB granted alternative-fueled engines an exemption from OBD regulations until 2018 (CARB)/2019 (EPA). The Company has leveraged this exemption on its 8.8L certifications to date. Gasoline engines are not exempt from OBD regulations, therefore, in 2017, the Company achieved full OBD certification for its 2018 and beyond gasoline 6.0L and 8.8L products. The knowledge gained from this gasoline OBD development was applied to the Company's alternative-fueled engines for 2019 after all OBD exemptions ended as of December 31, 2018. In 2016, the EPA launched new Phase 1 GHG emission regulations. New EPA Phase 2 GHG emission regulations begin in 2021.

Historically, the Company's 6.0L and 8.8L gasoline engines qualified for the small manufacturer exemption for Phase 1 GHG under Title 40 of the Code of Federal Regulation Section 1036.150(d). Starting in 2020, as a result of the Weichai ownership change in April 2019, those products no longer qualify for the exemption and must meet Phase 1 GHG standards. The Company has developed and is implementing plans to address the impact of the transition of its emission regulation requirements in 2020 and 2021 through licensing of its technology to a third-party small manufacturer to produce and certify the 6.0L gasoline engine and utilization of averaging, banking, and trading compliance provisions for the sale of its 8.8L gasoline engine.

The initial and ongoing certification requirements vary by power system application and market segment. Each application must undergo a series of rigorous and demanding tests to demonstrate compliance with regulatory standards, including useful life, zero hours and durability testing. Once a power system is certified, regulatory agencies impose ongoing compliance requirements, which include testing newly produced power systems on a regular quarterly schedule to ensure ongoing compliance with applicable regulations. In addition, there are field audit requirements, which require the removal of power systems from service at specified stages of their useful lives to perform confirmatory exhaust emissions testing and/or OBD system audits and testing. All of the Company's emission-certified power systems meet existing exhaust emission standards of the EPA and CARB. Failure to comply with these standards could result in adverse effects on the Company's future financial results.

Information about the Company's Executive Officers

The following selected information for each of the Company's current executive officers was prepared as of May 4, 2020.

Name	Age	Executive Officer Since	Present Position with the Company
John P. Miller	62	2017	Chief Executive Officer and President
Charles F. Avery, Jr.	55	2017	Chief Financial Officer
Kenneth J. Winemaster	55	2017	Executive Vice President
Jason Lin	66	2019	Chief Technical Officer
Donald P. Klein	46	2018	Corporate Controller
Lance Arnett	49	2019	Chief Commercial Officer

John P. Miller was appointed as the Company's Chief Executive Officer and President effective May 17, 2017. From 2008 until 2016, he served in operational and financial management positions of increasing responsibility at Navistar International Corporation, a global manufacturer of commercial and military trucks, school buses, diesel engines and provider of service parts for trucks and diesel engines, and, most recently, from 2014, as a Senior Vice President of Operations and Corporate Finance. Mr. Miller's prior positions at Navistar included Vice President and General Manager for specialty business as well as Vice President and Chief Financial Officer for engine and parts. Prior thereto, he served in the role of Chief Financial Officer of Laidlaw Education Service, a provider of public transportation services, Chicago Metallic Corporation, a global manufacturer of suspended ceiling and metal products, Fleetpride, Inc., a distributor of heavy-duty truck parts, and Peapod, an online grocery delivery company.

Charles F. Avery, Jr. was appointed as the Company's Chief Financial Officer on July 31, 2017. From 2013 until 2016, he served as Chief Financial Officer, Vice President of Finance and Treasurer, at FreightCar America, Inc., a designer and builder of railroad freight cars, supplier of railcar parts and provider of railcar leasing. Prior to that role, from 2005 until 2013, he served in financial and information technology leadership positions, including as Vice President, Corporate Controller and Chief Information Officer, at Federal Signal Corporation, a global designer and manufacturer of safety, signal and communications equipment and environmental and firefighting vehicles, serving governmental and commercial customers. Earlier in his career, he served in financial and information technology leadership roles at Home Products International, Inc. and in audit and business advisory roles at Arthur Andersen LLP.

Kenneth J. Winemaster was appointed as Executive Vice President on November 28, 2017. Mr. Winemaster served as the Company's Senior Vice President from 2001 to 2017 and also served as the Company's Secretary from 2001 to 2013. In addition, Mr. Winemaster served as a Director of the Company from 2001 to 2011.

Jason Lin was appointed as the Company's Chief Technical Officer on June 14, 2019. Prior to this appointment, Mr. Lin served as a member of the Company's Board of Directors (the "Board") from May 2017 until June 2019. Mr. Lin is responsible for the oversight and management of various research and development and engineering groups including the Advanced Product Development, Design Engineering, Applied Engineering, Emissions & Certification, and On-highway Engineering groups. He also has oversight over certain aspects of program management and product strategic planning. From 2009 to July 2016, Mr. Lin served as Chief Executive Officer and President of Société Internationale des Moteurs Baudouin, a France-based marine engine manufacturing subsidiary of Weichai Power Co., Ltd. During this tenure, he also served as an Executive Technical Director and adviser to the Chairman of Weichai Power Co., Ltd. From February 2001 to July 2006, Mr. Lin was employed by International Truck and Engine Corporation, a truck, bus and diesel engine manufacturer subsidiary of Navistar International Corporation, in engineering management positions. Earlier in his career, Mr. Lin was employed in engineering positions by Cummins Engine Company and worked in Japan for Komatsu-Cummins Engine Company as Vice President.

Donald P. Klein has served as the Company's Corporate Controller and Principal Accounting Officer since May 14, 2018. Prior to joining the Company, he served as Assistant Corporate Controller at Littelfuse, Inc., a publicly traded company, with customers in the electronics, automotive and industrial markets with products that include fuses, semiconductors, polymers, ceramics, relays and sensors. Prior to that role, from 2008 to 2017, Mr. Klein served in various positions of increasing responsibility within finance and accounting, including most recently as Assistant Corporate Controller, at Navistar International Corporation. Prior to Navistar, he worked for Hewitt Associates as manager of external reporting and at Ernst & Young LLP as a senior manager of assurance and advisory services.

Lance Arnett has served as the Company's Chief Commercial Officer since November 18, 2019. Prior to joining the Company, from January 2009 to November 2019, he worked at Cummins Inc., a publicly traded company that designs, manufactures, distributes and services a broad portfolio of power solutions. During his tenure, he served in various capacities for Cummins Central Region in Minnesota, most recently serving as director and chief of staff of their North American OEM Performance Cell. In this capacity, he oversaw direct strategy for their North American business including sales, engineering, assembly and upfit, pricing, marketing, and customer support. His previous roles at Cummins Central Region include serving as interim president, vice president of OEM business, vice president of OEM and customer care and executive director of operational effectiveness. Prior thereto, from 2006 to 2009, he worked as business development manager for PreVisor, Inc. and, from 2001 to 2006, he served as director, franchise sales and development at Mighty Distributing System of America (Mighty Auto Parts). Earlier in his career, he served in management and sales roles within the staffing industry.

Item 1A. Risk Factors.

The Company's business and results of operations are subject to various risks, including those listed below, many of which are not within the Company's control, which may cause actual financial performance to differ materially from historical or projected future performance. New risks may emerge at any time, and the Company cannot predict those risks or estimate the extent to which they may affect its results of operations.

Risks Related to the Company's Delay in Filing Timely Reports with the SEC, the Restatement of Prior Consolidated Financial Statements, Accounting and Internal Controls, the Company's De-listing from NASDAQ, and Litigation Related to These Aforementioned Items

The Company is the subject of a formal investigation by the SEC and a parallel criminal investigation by the USAO. Any adverse outcome of these continuing investigations could have a material adverse effect on the Company.

The Company is fully cooperating with the SEC and the USAO in their investigations. Such investigations and the outcome of such investigations could have a material adverse effect on the Company, the trading prices of its securities and its ability to raise additional capital. If the SEC or the USAO determines that the Company violated federal securities or other laws and institutes civil enforcement or criminal proceedings, the Company may become subject to civil or criminal sanctions, including, but not limited to, civil or criminal charges, fines, other monetary penalties, injunctive relief and compliance conditions imposed by a court or agreement, which may have a material adverse effect on the financial condition or results of operations of the Company.

The restatement of the Company's previously issued consolidated financial statements and the delays in the Company's filing of consolidated financial statements has resulted in shareholder lawsuits that could have a material adverse effect on the Company's financial condition, results of operations and cash flows.

The Company has been subject to various shareholder lawsuits arising from matters related to the errors identified in the restatement of its previously issued financial statements. The Company may encounter additional such lawsuits. The Company has devoted and may be required to continue to devote significant time, attention and resources to these matters, and the outcome of these lawsuits cannot be predicted. Substantial damages or other monetary remedies assessed against the Company could have a material adverse effect on its business, financial condition, results of operations and cash flows. See Note 10. *Commitments and Contingencies*, included in Part II, Item 8. *Financial Statements and Supplementary Data*, for additional information regarding these matters.

Limitations of the Company's Directors and Officers liability insurance and potential indemnification obligations will have a material adverse effect on the Company's financial condition, results of operations and cash flows.

Under its bylaws and certain indemnification agreements, the Company has obligations to indemnify current and former officers and directors and certain current and former employees. Based on cumulative legal fees and settlements incurred, as of April 22, 2020, the Company has fully exhausted its primary directors and officers insurance coverage of $30 million. Additional expenses currently expected to be incurred and that may occur in the future and/or liabilities that may be imposed in connection with actions against certain of the Company's past and present directors and officers and certain current and former employees who are entitled to indemnification will be funded by the Company with its existing cash resources. Such expenses could have a material impact on the Company's financial condition, results of operations and cash flows.

As a result of the Company's delayed filings, NASDAQ delisted the Company's Common Stock in April 2017. The continued delisting of its Common Stock could have a material adverse effect on the Company.

The failure to timely file its periodic reports with the SEC resulted in the Company not being in compliance with NASDAQ Listing Rule 5250(c)(1), which requires listed companies to timely file all required periodic financial reports with the SEC, and triggered the delisting of the Company's Common Stock. The Company's delisting and potential inability to remediate failures to comply with applicable NASDAQ rules to be relisted could have a material adverse effect on the Company by, among other things, reducing:

- the liquidity of its Common Stock;
- the market price of its Common Stock;
- the number of institutional and other investors that will consider investing in its Common Stock;
- the number of market makers in its Common Stock;
- the availability of information concerning the trading prices and volume of its Common Stock;
- the number of broker-dealers willing to execute trades in shares of its Common Stock;
- the Company's ability to obtain equity financing for the continuation of its operations;
- the Company's ability to use its equity as consideration in any merger transaction; and
- the effectiveness of equity-based compensation plans for its employees used to attract and retain individuals important to the Company's operations.

The Company has identified material weaknesses in its internal control over financial reporting that have not been fully remediated. If its remediation measures are insufficient to address the material weaknesses, or if the Company otherwise fails to establish and maintain an effective system of internal control over financial reporting, it may not be able to accurately report financial results, timely file periodic reports, maintain its reporting status or prevent fraud.

In connection with the Company's assessment of the effectiveness of its internal control over financial reporting as of December 31, 2019, the Company concluded that there were material weaknesses in its internal control over financial reporting. See Item 9A. *Controls and Procedures*, included in Part II, for additional information regarding these matters.

The Company's management may identify other material weaknesses in its internal control over financial reporting in the future. The existence of internal control material weaknesses could harm its business, the market price of its Common Stock and its ability to retain the Company's current, or obtain new, lenders, suppliers, key employees, alliance and strategic partners or require the implementation of certain undertakings with the SEC. In addition, the existence of material weaknesses in the Company's internal control over financial reporting may affect its ability to timely file periodic reports under the Exchange Act. The inability to timely file periodic reports could result in the SEC revoking the registration of the Company's Common Stock, which would negatively impact the Company's ability to re-list its Common Stock on the NASDAQ or any other stock exchange.

The Company has incurred significant costs in connection with the restatement of previously issued consolidated financial statements and its failure to timely file prior periodic reports and will continue to incur significant costs to remediate material weaknesses in internal control.

The Company has incurred, and will continue to incur, significant expenses, including audit, legal, consulting and other professional fees, and lender and noteholder consent fees, related to the restatement of its previously issued consolidated financial statements and the ongoing remediation of material weaknesses in its internal control over financial reporting. The Company has taken a number of actions, including adding significant internal resources and implementing a number of additional procedures and controls, in order to strengthen its accounting function and reduce the risk of future material misstatements in its financial statements. To the extent that these actions are not successful, the Company may be forced to incur additional time and expense towards further remediation efforts and incremental substantive procedures, which could have a material adverse effect on its results of operations.

The Company's historical failure to timely file its periodic reports with the SEC could materially and adversely affect its prospective results of operations and may limit it from accessing the public or capital markets to raise debt or equity capital, which may limit the Company's ability to access debt capital financing, which in turn may limit its ability to pursue one of its potential strategies.

Any failure to make timely filings of one or more future periodic reports could result in further defaults and breaches and further negatively impact the Company's creditworthiness, each of which could have an adverse impact on its ability to obtain financing in the future, the cost of future financings and its results of operations.

Any failure by the Company to make timely filings with the SEC or other failure to remain compliant with reporting requirements of the SEC may inhibit its ability to access the public or capital markets to raise debt or equity capital. The inability to access capital may limit the Company's options to finance its business and may substantially limit its ability to finance potential acquisitions or other strategies. As needs arise, the Company may seek additional borrowings or alternative sources of financing; however, difficulties in borrowing capital or raising financing could have a material adverse effect on its operations, planned capital expenditures and ability to fund further growth.

Risks Related to the Company's Business and Industry

The Company is unable to predict the impact of COVID-19 on the Company including its business, results of operations and financial condition.

Any outbreaks of contagious diseases and other adverse public health developments could have a material and adverse effect on the Company's business, results of operations and financial condition. The COVID-19 pandemic has resulted in the implementation of significant governmental measures to control the spread of the virus, including quarantines, travel restrictions, business shutdowns and restrictions on the movement of people in the United States and abroad. These factors, in turn, may not only impact the Company's operations, financial condition and demand for the Company's goods and services, but its overall ability to react timely to mitigate the impact of the COVID-19 pandemic. The Company is aggressively beginning the execution of contingency actions as a result of the expected significant negative impacts of these factors. The Company is reviewing operating expenses as part of the contingency planning process, including prioritizing certain R&D investments in support of the Company's long-term growth objectives. As of the date of this 2019 Annual Report, the Company has implemented the following temporary cost reduction measures designed to mitigate the operating and financial impact of the COVID-19 pandemic on its business:

- reduced the hours of operations of the Company's production facilities;
- reduced the work week for all office employees;
- reduced pay for salaried employees by between 10% and 30%, depending on the employee's position;
- suspended the Company's 401(k) plan match;
- deferred spending on certain R&D programs;
- implemented a hiring freeze;
- restricted all non-essential travel; and
- minimized discretionary expenses and consulting services.

Depending on the severity and longevity of the COVID-19 pandemic, the Company's business, employees, customers, suppliers and stockholders may experience a significant negative impact. As such, the impact the COVID-19 pandemic may have on the Company's business, results of operations and financial condition cannot be reasonably estimated at this time, but the impact may be material. In addition, due to the speed with which the COVID-19 situation is developing and evolving, there is uncertainty around its ultimate impact on public health, business operations and the overall economy; therefore, the negative impact on the Company's business, results of operations and financial condition cannot be reasonably estimated at this time, but the impact may be material.

The Company's management has concluded as of the filing of this 2019 Annual Report that, due to uncertainty surrounding the Company's ability to extend or refinance its current debt agreements and uncertainty as to whether it will have sufficient liquidity to fund its business activities, substantial doubt exists as to its ability to continue as a going concern. The Company's plans to alleviate the substantial doubt about its ability to continue as a going concern may not be successful, and it may be forced to limit its business activities or be unable to continue as a going concern, which would have a material adverse effect on its results of operations and financial condition.

The consolidated financial statements included herein have been prepared assuming the Company will continue as a going concern. As of December 31, 2019, the Company had debt outstanding under its credit agreement between the Company and Wells Fargo Bank, N.A. ("Wells Fargo") (the "Wells Fargo Credit Agreement") and its $55.0 million unsecured senior notes due June 2020 (the "Unsecured Senior Notes"). On April 2, 2020, the Company closed on its new senior secured revolving credit facility pursuant to that certain credit agreement, dated as of March 27, 2020, between the Company and Standard Chartered Bank ("Standard Chartered"), as administrative agent (the "Credit Agreement"). The Credit Agreement, which allows the Company to borrow up to $130 million, matures on March 26, 2021, with an optional 60-day extension subject to certain conditions and payment of a 0.25% extension fee. The Credit Agreement is secured by substantially all of the Company's assets and includes certain financial covenants as well as a change of control provision. On April 2, 2020, the Company borrowed $95.0 million under the Credit Agreement and utilized the funds to (i) fully repay the outstanding balance of $16.8 million on the Wells Fargo Credit Agreement, (ii) to fully redeem and discharge $55.0 million in aggregate outstanding principal amount of the Unsecured Senior Notes and pay related interest, and (iii) for general corporate purposes. The Wells Fargo Credit Agreement was terminated in connection with repayment of the outstanding balance. Due to the Credit Agreement's current maturity date, the Company will need to extend or refinance the Credit Agreement on or before March 26, 2021.

The Company's ability to continue as a going concern is dependent on generating profitable operating results, having sufficient liquidity, maintaining compliance with the covenants and other requirements under the Credit Agreement and refinancing or repaying the indebtedness outstanding under the Credit Agreement.

There can be no assurance that it will be able to complete a financing on acceptable terms or repay this outstanding indebtedness, when required or if at all. If the Company does not have sufficient liquidity to fund its business activities, it may be forced to limit its business activities or be unable to continue as a going concern, which would have a material adverse effect on its results of operations and financial condition.

Furthermore, if the Company cannot raise capital on acceptable terms, it may not, among other things, be able to do the following:

- continue to expand the Company's research and product investments and sales and marketing organization;
- expand operations both organically and through acquisitions; and
- respond to competitive pressures or unanticipated working capital requirements.

The Company has experienced substantial net losses in recent fiscal years and may continue to experience net losses.

While the Company generated net income in fiscal year 2019, it experienced substantial net losses in fiscal year 2018 and has an accumulated deficit as of December 31, 2019. The net losses experienced in 2018 were principally attributable to unfavorable gross margin levels resulting from manufacturing productivity challenges, increased warranty claims on certain product lines, failure to pass cost increases on to customers through pricing actions and significant unrecovered costs associated with the transportation product line, along with a noncash valuation loss associated with the issuance of the Weichai Warrant, substantial legal and professional expenses associated with efforts to restate the Company's prior financial statements, respond to the government investigations and defend the lawsuits related to the restatements, high outstanding debt, and borrowing costs. The Company expects that many of these costs will remain significant in future periods. Continued losses could reduce cash available from operations to service or refinance the Company's indebtedness as necessary, as well as limit the Company's ability to finance future growth in its business and implement its strategies.

The Company has a significant amount of indebtedness and is highly leveraged. Its existing debt or any potential new debt could adversely affect its business and growth prospects.

As of December 31, 2019, the Company's total debt obligations including indebtedness under the Wells Fargo Credit Agreement, and the Unsecured Senior Notes were approximately $95 million in the aggregate, with available borrowing capacity of approximately $15 million under the Wells Fargo Credit Agreement. On April 2, 2020, the Company borrowed $95.0 million under the Credit Agreement and utilized the funds to (i) fully repay the outstanding balance of $16.8 million on the Wells Fargo Credit Agreement, (ii) to fully redeem and discharge $55.0 million in aggregate outstanding principal amount of the Unsecured Senior Notes and pay related interest, and (iii) for general corporate purposes. The Company has a significant amount of indebtedness and is highly leveraged. The Company's debt arrangements contain and may contain in the future certain requirements, including specific financial and other covenants or restrictions. The failure or the inability to meet such obligations under existing debt or any new debt could materially and adversely affect the Company's business and financial condition. In addition, the Company's debt obligations could make it more vulnerable to adverse economic and industry conditions and could limit its flexibility in planning for or reacting to changes in its business and the industries in which it operates. The Company's indebtedness and the cash flow needed to satisfy its debt obligations and the covenants contained in current and potential future debt agreements could have important consequences, including the following:

- limiting funds available for borrowing through the imposition of availability blocks;
- limiting funds otherwise available for financing capital expenditures by requiring dedication of a portion of cash flows from operating activities to the repayment of debt and the interest on such debt;
- limiting the ability to incur additional indebtedness;
- limiting the ability to capitalize on significant business opportunities, including mergers, acquisitions and other strategic transactions;
- making the Company more vulnerable to rising interest rates or higher interest rates; and
- making the Company more vulnerable in the event of a downturn in its business.

The Company's Credit Agreement places limitations on its ability to make acquisitions and restricts its ability to incur additional indebtedness. Any future failure by the Company to comply with the financial covenants set forth under the Credit Agreement, if not cured or waived, could result in the acceleration of debt maturities or prevent the Company from accessing availability under the Credit Agreement. If the maturity of the indebtedness is accelerated, the Company may not have sufficient cash resources, or have the ability to obtain financing through alternative resources, to satisfy its debt and other obligations, and the Company may not be able to continue as a going concern.

The introduction of new products, including new engines that the Company develops, and the continued expansion of products in the energy and transportation markets may not succeed or achieve widespread acceptance.

The Company's growth depends on its ability to develop and/or acquire new products and/or refine existing products and power system technology, to complement and enhance the breadth of its power system offerings with respect to engine class and the OEM market categories into which the Company supplies its products. The Company will generally seek to develop or acquire new products, or enhance existing products and power system technology, if it believes such acquisitions or enhancements will provide significant additional sales and favorable profit margins. However, the Company cannot know beforehand whether any new or enhanced products will successfully penetrate target markets. There can be no assurance that newly developed or acquired products will perform as well as the Company expects, or that such products will gain widespread adoption among the Company's customers.

Additionally, there are greater design and operational risks associated with new products. The inability of the Company's suppliers to produce technologically sophisticated components for new engines and power systems, the discovery of any product or process defects or failures associated with production of any new products, and any related product returns could each have a material adverse effect on the Company's business and its results of operations. If new products that the Company expends significant resources to develop or acquire are not successful, or such products do not achieve the required production volume and scale, its business could be adversely affected.

The Company's strategy includes production of in-house developed and manufactured engines used by OEM customers, including large transportation OEMs. The costs and regulations involved with developing and certifying an engine for transportation applications are significant and may be higher and more stringent than expected. Additionally, the stresses and demands on engines and power systems used for transportation applications could result in unexpected issues. The discovery of any significant problems with these engines could result in recall campaigns, increased warranty costs, potential product liability claims, and reputational and brand risks. Sales of the Company's internally developed engines could lead to significantly higher warranty costs to service these engines if they do not perform to expectations.

The Company could incur restructuring and impairment charges as it evaluates its portfolio of assets and identifies opportunities to restructure its business in an effort to optimize its cost structure.

The Company continuously evaluates its portfolio of assets and its operational structure in an effort to identify opportunities to optimize its cost structure including as a result of the COVID-19 pandemic. These actions could result in restructuring and related charges, including but not limited to asset impairments and employee termination costs, any of which could be significant and could adversely affect the Company's results of operations.

The Company has substantial amounts of long-lived assets, including goodwill and intangible assets, which are subject to periodic impairment analysis and review. Identifying and assessing whether impairment indicators exist, or if events or changes in circumstances have occurred, including market conditions, operating results, competition and general economic conditions, including as a result of the COVID-19 pandemic, requires significant judgment. Declines in profitability due to changes in volume, market pricing, cost or the business environment could result in charges that could have an adverse effect on the Company's results of operations.

The Company is dependent on third-party suppliers, and the partial or complete loss of one of these key suppliers, or the failure to find replacement suppliers or manufacturers in a timely manner, could result in supply shortages.

The Company sources engines, components and replacement parts used in the assembly of its power systems and aftermarket sales from various third-party suppliers. Much of the technology incorporated into the components that the Company sources from a limited number of suppliers is technologically sophisticated, and the Company does not believe that its competitors have access to some of this sophisticated technology. The Company's business could be harmed by adverse changes in its relationships with these suppliers, including through the management of the timing of payables, or if its competitors gain access to such technology. The viability of certain key third-party suppliers, or the exiting by certain suppliers of certain business lines, could require the Company to find other suppliers for materials or components. Furthermore, the COVID-19 pandemic has resulted in work stoppages at certain suppliers that are part of the Company's supply chain. As of the date of this filing, the Company has not experienced any significant production or delivery delays to customers as a result of the interruptions, but if future work stoppages were to be prolonged or expanded in scope, there could be resulting supply shortages, which could impact the Company's ability to deliver its products to customers on schedule. Some components cannot be quickly or inexpensively re-sourced to another supplier due to long lead times and contractual commitments that might be required by another supplier in order to provide the components or materials. Any extended delay in receiving engines or other critical components, or the inability of third-party suppliers to meet the Company's quality, quantity or cost requirements, could impair or prohibit the Company's ability to deliver products to its OEM customers.

The loss of certain of the Company's exclusive supply and distribution agreements, coupled with the Company's inability to manufacture or source alternative products, could have a material adverse impact on its financial results.

The Company is the exclusive supplier and distributor of certain engine products sourced from certain engine manufacturers. The agreements provide the Company with the exclusive rights to distribute the associated products in certain geographic regions. The Company may not be able to extend the agreements or may not achieve acceptable pricing. For example, the Company was an exclusive supplier of the GM 6.0L engine to OEMs and GM is discontinuing the engine. The Company does not have an agreement with GM to supply on-highway OEMs with GM's successor product to the 6.0L engine. If the Company is not able to maintain the arrangements or achieve competitive pricing, then it may need to find alternative products through either alternative supply sources or the design and manufacture of competitive products to meet customer demands. The loss of the any of the exclusive supply agreements and failure to source alternative products could have a materially adverse impact on the Company's financial results. In addition, the exclusive agreements often include minimum purchase requirements. The failure to reach the minimum purchase requirements could result in financial penalties or the loss of exclusivity that could be material to the Company.

The Company may be impacted by volatility of oil and gas prices and/or fuel price differentials.

The prices of various fuel alternatives are subject to fluctuation, based upon many factors, including global supply and demand, changes in resource base, pipeline transportation capacity for natural gas, refining capacity for crude oil, and government excise and fuel tax policies. The price differential among various fuel alternatives can impact OEMs and their decisions on which, if any, power systems they purchase from the Company. Furthermore, if OEMs do decide to purchase the Company's power systems, relative fuel prices may affect which power systems they purchase, and the margins can vary significantly among the Company's various power systems.

The Company may be affected by the price of oil and gas. For example, when the price of oil declines, oil becomes a more favorable source of fuel in the short term, and alternative fuel and energy producers suffer as a result. This volatility, as with any commodity, will occur from time to time and may adversely affect the Company's business.

Also, a significant portion of the Company's sales and profitability is derived from sales of products that are used in the oil and gas industry, primarily in support of operating wells. At times of severely depressed energy prices, as is currently being experienced in the market, oil and gas producers have curtailed capital expenditures, sometimes sharply. In addition, oil and gas producers may cease or suspend production at well sites that have or are likely to become unprofitable. As a result, sales of the Company's products could be severely impacted during periods of a prolonged depression in energy prices, which could have a material adverse effect on the Company's results of operations. The Company estimates that approximately $105 million and $85 million of its 2019 and 2018 net sales, respectively, were attributable to the sale of products used within the oil and gas industry. While the Company has yet to experience significant supply chain interruptions or material cancellations of orders, the potential impact of future disruptions, continued economic uncertainty, and continued depressed crude oil prices and declining rig count levels may have a significant adverse impact that may result in the recognition of material impairments or other related charges.

The Company is exposed to political, economic and other risks, in addition to various laws and regulations that arise from operating a multinational business.

The Company sells products internationally and sources a significant amount of materials from suppliers outside of the U.S. Accordingly, the Company is subject to the political, economic and other risks that are inherent in operating a multinational company, including risks related to the following:

- general economic conditions;
- the imposition of tariffs and other import or export barriers;
- compliance with regulations governing import and export activities;
- import and export duties and restrictions;
- currency fluctuations and exchange restrictions;
- transportation delays and interruptions;
- potentially adverse income tax consequences;
- political and economic instability;
- terrorist activities;
- labor unrest;
- natural disasters; and
- public health concerns including the potential negative impacts to suppliers, customers or the Company's business as a result of the COVID-19 pandemic.

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

The COVID-19 pandemic is expected to negatively impact the Company's business in 2020 and beyond and the extent and duration of such impacts over the longer term remain uncertain and dependent on future developments that cannot be accurately predicted at this time, such as the severity and transmission rate of the coronavirus, the extent and effectiveness of containment actions taken, including mobility restrictions and work restrictions, and the impact of these and other factors on the Company's customer base, suppliers, and general commercial activity.

Also, the Company is subject to, and may become subject to, various state, federal and international laws and regulations governing its business, environmental, labor, trade and tax practices. These laws and regulations, particularly those applicable to the Company's international operations, are or may be complex, extensive and subject to change. The Company needs to ensure that it and its OEM customers and suppliers timely comply with such laws and regulations, which may result in increased operating costs. Other legislation has been, and may in the future be, enacted in other locations in which the Company manufactures or sells its products. If the Company or its component suppliers fail to timely comply with applicable legislation, its customers may refuse to purchase its products, or it may face increased operating costs as a result of taxes, fines or penalties. In connection with complying with such environmental laws and regulations as well as with industry environmental initiatives, the standards of business conduct required by some of its customers and its commitment to sound corporate citizenship in all aspects of its business, the Company could incur substantial compliance and operating costs and be subject to disruptions to its operations and logistics. In addition, if the Company were found to be in violation of these laws or noncompliant with these initiatives or standards of conduct, it could be subject to governmental fines, liability to its customers and damage to its reputation and corporate brand, any of which could cause its financial condition or results of operations to suffer.

Lastly, the Company's overseas sales are subject to numerous stringent U.S. and foreign laws, including the Foreign Corrupt Practices Act ("FCPA") and comparable foreign laws and regulations, which prohibit improper payments or offers of payments to foreign governments and their officials and political parties by U.S. and other business entities for the purpose of obtaining or retaining business. Safeguards that the Company implements to discourage these practices could prove to be ineffective, and violations of the FCPA and other laws may result in severe criminal or civil sanctions, or other liabilities or proceedings against the Company, including class action lawsuits and enforcement actions from the SEC, the USAO and overseas regulators. Any of these factors, or any other international factors, could impair the Company's ability to effectively sell its power systems, or other products or services that it may develop, outside of the United States.

The Company utilizes a global supply chain to source products, including engines, components and materials, which may subject it to tariffs, including U.S. tariffs imposed on imports from China. The Company also sells its products on a global basis, and therefore its export sales could be impacted by tariffs.

Several of the Company's products are sourced internationally, including from China, where the United States has imposed tariffs on specified products imported from China. These tariffs have an impact on the Company's material costs and have the potential to have an even greater impact, depending on the outcome of future trade negotiations and policies. The Company is evaluating U.S. government policy, which is subject to change in the current negotiating environment, pricing, its supply chain and its operational strategies to mitigate the impact of these tariffs; however, there can be no assurances that any mitigation strategies employed will remain available under government policy or that the Company will be able to offset tariff-related costs or maintain competitive pricing of its products. Further, the imposition of tariffs on imports from China and other countries has the potential to materially and adversely impact the Company's sales, profitability and future product launches. The Company also sells its products on a global basis; and, therefore, its export sales could be impacted by the tariffs. Any material reduction in sales may have a material adverse effect on the Company's results of operations.

The Company and its products are subject to numerous environmental and regulatory policies, including emission and fuel economy rules.

The Company's business is affected by government environmental policies, mandates and regulations around the world, most significantly with respect to emission standards in the United States. Examples of such regulations include those that (i) restrict the sale of power systems that do not meet emission standards and (ii) impose penalties on sellers of noncompliant power systems.

The Company generally must obtain product certification from both the EPA and the CARB to sell its products in the United States. The Company may attempt to expand sales of its certified power systems to OEMs that sell their products in other countries, which may also have stringent emissions requirements. Accordingly, future sales of the Company's products will depend upon its products being certified to meet the existing and future air quality and energy standards imposed by the relevant regulatory agencies. While the Company incurs significant research and development costs to ensure that its products comply with emission standards and meet certification requirements in the regions in which its products are sold, the Company cannot provide assurance that its products will continue to meet those standards. The failure to comply with certification requirements would not only adversely affect future sales, but could result in the recall of products or the imposition of civil or criminal penalties.

The adoption of new, more stringent and burdensome government emissions regulations, whether at the foreign, federal, state or local level, in markets in which the Company supplies power systems may require modification of emission certification and other manufacturing processes for its power systems. The Company might incur additional and/or unanticipated expenses in meeting future compliance requirements, and it may be required to increase its research and product development expenditures. Increases in such costs and expenses could necessitate increases in the prices the Company charges for its power systems, which could adversely affect demand for such power systems. There are no assurances that the Company will have adequate financial or technical resources in the future to maintain compliance with government emissions standards.

Historically, the Company's 6.0L and 8.8L gasoline engines qualified for the small manufacturer exemption for Phase 1 GHG under Title 40 of the Code of Federal Regulation Section 1036.150(d). Starting in 2020, as a result of the Weichai ownership change in April 2019, those products no longer qualify for the exemption and must meet Phase 1 GHG standards. The Company has developed and is implementing plans to address the impact of the transition of its emission regulation requirements in 2020 and 2021through licensing of its technology to a third-party small manufacturer to produce and certify the 6.0L gasoline engine and utilization of averaging, banking, and trading compliance provisions for the sale of its 8.8L gasoline engine. New EPA Phase 2 GHG regulations will start in 2021 and the Company's engines will need to meet Phase 2 GHG standards. Future changes to the regulations and/or failure of the Company to comply with the regulations could have a material adverse effect on the Company's results of operations.

The Company is subject to price increases in some of the key components in its power systems.

The prices of some of the key components of the Company's power systems are subject to fluctuation due to market forces, including changes in the costs of raw materials incorporated into these components. Such price increases occur from time to time due to spot shortages of commodities, increases in labor costs or longer-term shortages due to market forces. In particular, the prices of certain precious metals, such as palladium and rhodium, used in emissions-control systems fluctuate frequently and often significantly. Substantial increases in the prices of raw materials used in components that the Company sources from suppliers may result in increased prices charged by suppliers. If the Company incurs price increases from suppliers for key components in its power systems, production costs will increase, and given competitive market conditions, the Company may not be able to pass all or any of those cost increases on to OEM customers in the form of higher sales prices. To the extent that its competitors do not suffer comparable component cost increases, the Company may have even greater difficulty passing along price increases, and the Company's competitive position may be harmed. As a result, increases in costs of key components may adversely affect the Company's margins and otherwise adversely affect its results of operations.

The market for alternative-fueled spark-ignited power systems may not continue to develop as expected.

The continued growth of the market for efficient alternative-fueled spark-ignited power systems, including natural gas, propane and gasoline, is a key tenet of the Company's growth strategy. The impact of diesel emission regulations is expected to increase the cost and complexity of diesel power systems, but this may not materialize to the expected extent or at all. Also, customers, or potential customers, may not substitute natural gas-, propane- and gasoline-powered power systems for diesel power systems in response to these regulations. In addition, to the extent that diesel power system manufacturers develop the ability to design and produce emission-compliant diesel power systems that are more competitive than the Company's alternative-fueled power systems, customers and potential customers may be less likely to substitute alternative-fueled power systems for diesel power systems. Furthermore, if alternative-fueled power systems are substituted for diesel power systems, there can be no assurance that the Company's power systems would capture any portion of the potential market increase. If the industrial OEM market generally, or more specifically any of the OEM categories that represent a significant portion of the Company's business or in which it anticipates significant growth opportunities for its power systems, fails to develop or develops more slowly than the Company anticipates, its business could be materially adversely affected.

Many of the Company's power systems involve long and variable design and sales cycles.

The design and sales cycle for customized power systems, from initial contact with potential OEM customers to the commencement of shipments, may be lengthy. Customers generally consider a wide range of solutions before making a decision to purchase power systems. Before an OEM commits to purchase power systems, they often require a significant technical review, assessment of competitive products and approval at a number of management levels within their organization. During the time the Company's customers are evaluating its products, the Company may incur substantial sales and marketing, engineering, and research and development expenses to customize the power systems to the customer's needs.

Failure to keep pace with technological developments may adversely affect the Company's operations.

The Company is engaged in an industry that will be affected by future technological developments. The Company's success will depend upon its ability to develop and introduce, on a timely and cost-effective basis, new products, applications and processes that keep pace with technological developments and address increasingly sophisticated customer requirements. The Company may not be successful in identifying, developing and marketing new products, applications and processes, and product or process enhancements. The Company may experience difficulties that could delay or prevent the successful development, introduction and marketing of product or process enhancements or new products, applications or processes. The Company's products, applications or processes may not adequately meet the requirements of the marketplace and achieve market acceptance. If the Company were to incur delays in developing new products, applications or processes, or product or process enhancements, or if its products do not gain market acceptance, its results of operations could be materially adversely affected.

The Company currently faces, and will continue to face, significant competition.

The market for the Company's products and related services is highly competitive, subject to rapid change and sensitive to new-product and service introductions and changes in technical requirements. New developments in power system technology may negatively affect the development or sale of some or all of the Company's power systems or make them uncompetitive or obsolete. Other companies, some of which have longer operating histories, greater name recognition and significantly greater financial and marketing resources than the Company, are currently engaged in the development of products and technologies that are similar to, or may be competitive with, certain of the Company's products and power system technologies. If the markets for its products grow as the Company anticipates, competition may intensify, as existing and new competitors identify opportunities in such markets.

The Company faces competition from companies that employ current power system technologies, and it may face competition in the future from additional companies as new power system technologies are adopted. Additionally, the Company may face competition from companies developing technologies such as cleaner diesel engines, biodiesel, fuel cells, advanced batteries and hybrid battery/internal combustion power systems. The Company may not be able to incorporate such technologies into its product offerings, or it may be required to devote substantial resources to do so. The success of its business depends in large part on its ability to provide single assembly, integrated, comprehensive, technologically sophisticated power systems to its customers. The development or enhancement by its competitors of similar capabilities could adversely affect the Company's business.

The Company could suffer warranty claims or be subject to product liability claims, both of which could materially adversely affect its business.

The Company's power systems are sophisticated and complex, and the success of the power systems is dependent, in part, upon the quality and performance of key components, such as engines, fuel systems, generators, breakers, and complex electrical components and associated software. The Company may incur liabilities for warranty claims as a result of defective products or components, including claims arising from defective products or components provided by its suppliers that are integrated into its power systems.

The provisions the Company makes for warranty accrual may not be sufficient, or it may be unable to rely on a warranty provided by a third-party manufacturer or recover costs incurred associated with defective components or products provided by its suppliers. The Company may recognize additional expenses as a result of warranty claims in excess of its current expectations. Such warranty claims may necessitate a redesign, re-specification, a change in manufacturing processes and/or a recall of its power systems, which could have a material adverse impact on the Company's financial condition and results of operations and on existing or future sales of its power systems and other products. Even in the absence of any warranty claims, a product deficiency such as a manufacturing defect or a safety issue may necessitate a product recall, which could have a material adverse impact on the Company's financial condition and results of operations and on existing or future sales.

The Company is exposed to potential product liability claims that are inherent to natural gas, propane, gasoline and diesel and products that use these fuels. Natural gas, propane, diesel and gasoline are flammable and are potentially dangerous products. Any accidents involving the Company's power systems could materially impede widespread market acceptance and demand for its power systems. In addition, the Company may be subject to a claim by end-users of its OEM customers' products or others alleging that they have suffered property damage, personal injury or death because its power systems or the products of its customers into which its power systems are integrated did not perform adequately. Such a claim could be made whether or not the Company's power systems perform adequately under the circumstances. From time to time, the Company may be subject to product liability claims in the ordinary course of business, and it carries a limited amount of product liability insurance for this purpose. However, current insurance policies may not provide sufficient or any coverage for such claims, and the Company cannot predict whether it will be able to maintain insurance coverage on commercially acceptable terms.

The Company's OEM customers may not continue to outsource their power system needs.

The purchasers of the Company's power systems are OEMs that manufacture a wide range of applications and equipment that include standby and prime power generation, demand response, microgrid, combined heat and power, utility power, arbor equipment, material handling (including forklifts), agricultural and turf, construction, pumps and irrigation, compressors, utility vehicles, light- and medium-duty vocational trucks, and school and transit buses. As a result of the significant resources and expertise required to develop and manufacture emission-certified power systems, certain of these customers have historically chosen to outsource production of power systems to the Company. To a significant extent, the Company depends on OEMs continuing to outsource design and production of power systems, power system components and subsystems. OEM customers may not continue to outsource as much or any of their power system production in the future. Increased levels of OEM vertical integration could result from a number of factors, such as shifts in the Company's customers' business strategies, acquisition by a customer of a power system manufacturer or the emergence of low-cost production opportunities in foreign countries. Any number of these factors could have an adverse impact on the Company's business.

The Company could fail to adequately protect its intellectual property rights or could face claims of intellectual property infringement by third parties.

The Company believes that the success of its business depends, in substantial part, upon its proprietary technology, information, processes and know-how. The Company does not own any material patents and relies on a combination of trademark and trade secret laws, along with confidentiality agreements, contractual provisions and licensing arrangements, to establish and protect its intellectual property rights. Despite the Company's efforts to protect its intellectual property rights, existing laws afford only limited protection, and the Company's actions may be inadequate to protect its rights or to prevent others from claiming violations of their proprietary rights. In addition, the laws of some foreign countries may not protect the Company's proprietary rights as fully or in the same manner as the laws of the United States. The unauthorized use of the Company's intellectual property rights and proprietary technology by others could materially harm its business.

In addition, the Company cannot be certain that its products, services and power system technologies, including any intellectual property licensed from third parties for use therein or incorporated into components that it sources from its suppliers, do not, or in the future will not, infringe or otherwise violate the intellectual property rights of third parties. The Company may in the future be subject to infringement claims that may result in litigation. Successful infringement claims against the Company could result in substantial monetary liability, require it to enter into royalty or licensing arrangements, or otherwise materially disrupt the conduct of its business. In addition, even if the Company prevails in the defense of any such claims, any such litigation could be time-consuming and expensive to defend or settle and could materially adversely affect its business.

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

The Company relies on its information technology systems and networks in connection with many of its business activities. The Company's operations routinely involve receiving, storing, processing and transmitting sensitive information pertaining to its business, customers, dealers, suppliers, employees and other sensitive matters. Cyber incidents could materially disrupt operational systems, result in loss of trade secrets or other proprietary or competitively sensitive information, compromise personally identifiable information regarding customers or employees, and jeopardize the security of the Company's facilities. A cyber incident could be caused by malicious outsiders using sophisticated methods to circumvent firewalls, encryption and other security defenses.

Because techniques used to obtain unauthorized access or to sabotage systems change frequently and generally are not recognized until they are launched against a target, the Company may be unable to anticipate these techniques or to implement adequate preventive measures. Information technology security threats, including security breaches, computer malware and other cyber-attacks, are increasing in both frequency and sophistication and could create financial liability, subject the Company to legal or regulatory sanctions, or damage its reputation with customers, dealers, suppliers and other stakeholders. The Company continuously seeks to maintain a robust program of information security and controls, but the impact of a material information technology event could have a material adverse effect on its reputation and results of operations.

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

The Company's success depends on its ability to attract, retain and motivate a highly skilled and diverse management team and workforce. Failure to ensure that the Company has the depth and breadth of personnel with the necessary skill set and experience could impede its ability to deliver growth objectives and execute its strategy. Competition for qualified employees among companies that rely heavily upon engineering and technology is at times intense, and the loss of qualified employees could hinder the Company's ability to conduct research activities successfully and develop marketable products. As the Company continues to expand, it will need to promote or hire additional staff, and it may be difficult to attract or retain such individuals as a result of increased compensation and benefit mandates without incurring significant additional costs.

Risks Related to Ownership of the Company's Stock

Ownership of the Company's stock is concentrated among certain current and former employees and Weichai, therefore limiting other stockholders' ability to influence corporate matters.

As of April 22, 2020, Weichai beneficially owned 51.4% of the Company's outstanding shares of Common Stock. Additionally, Gary S. Winemaster, the Company's founder, former Chairman of the Board, Chief Executive Officer, and President and nonexecutive Chief Strategy Officer, beneficially owned approximately 16.0% of the Company's outstanding shares of Common Stock, and Kenneth J. Winemaster, the Company's co-founder and Executive Vice President, beneficially owned approximately 9.7% of the Company's outstanding shares of Common Stock. Each of these stockholders, by virtue of their significant equity ownership in the Company, may be able to significantly influence, and, in the case of Weichai, control the outcome of, all matters requiring stockholder approval, including the election and removal of directors and any merger or other significant corporate transactions. The interests of these stockholders may not coincide with the interests of other stockholders. The concentration of ownership might also have the effect of delaying or preventing a change of control of the Company that other stockholders may view as beneficial. With the exercise of the Weichai Warrant, Weichai alone owns a majority of the outstanding shares of Common Stock and, therefore, it possesses voting control over the Company sufficient to prevent any change of control from occurring.

Weichai also maintains certain rights through its Investor Rights Agreement with the Company.

Weichai entered into an Investor Rights Agreement (the "Rights Agreement") with the Company upon execution of the SPA. The Rights Agreement provides Weichai with representation on the Company's Board and management representation rights. Weichai currently has three representatives on the Board. According to the Rights Agreement, once Weichai exercised the Weichai Warrant and became the majority owner of the Company's outstanding shares of Common Stock calculated on a fully diluted as-converted basis (excluding certain excepted issuances), the Company became required to appoint to the Board, an additional individual designated by Weichai, or such additional number of individuals so that Weichai designees shall constitute the majority of the directors serving on the Board. As of the date of this filing, Weichai has not designated an additional representative to the Board. According to the Rights Agreement, during any period when the Company is a "controlled company" within the meaning of the NASDAQ Listing Rules, it will take such measures as to avail itself of the "controlled company" exemptions available under Rule 5615 of the NASDAQ Listing Rules of Rules 5605(b), (d) and (e). With Weichai becoming a majority owner of the Company's outstanding shares of its Common Stock, Weichai will be able to exercise control over matters requiring stockholders' approval, including the election of the Directors, amendment of the Company's Charter and approval of significant corporate transactions. This control could have the effect of delaying or preventing a change of control of the Company or changes in management and will make the approval of certain transactions impractical without the support of Weichai.

A change in ownership or a failure to generate sufficient taxable income may limit the Company's ability to use net operating loss ("NOL") carryforwards to reduce future tax payments.

The Company has NOL carryforwards with which to offset its future taxable income for U.S. federal income tax reporting purposes. However, the Company may be subject to substantial annual limitations provided by the Internal Revenue Code (the "IRC") if an "ownership change," as defined in Section 382 of the IRC, occurs with respect to the Company's capital stock. Generally, an ownership change occurs if certain persons or groups increase their aggregate ownership of the Company's total capital stock by more than 50 percentage points in a three-year period. If an ownership change occurs, the Company's ability to use domestic pre-change in ownership NOLs to reduce taxable income is generally limited to an annual amount based on (i) the fair market value of its stock immediately prior to the ownership change multiplied by the long-term tax-exempt interest rate plus (ii) under certain circumstances, realized built-in gains on certain assets held prior to the ownership change for the first five years after the ownership change. Although pre-change in ownership NOLs that exceed the Section 382 limitation in any year continue to be allowed as carryforwards for the remainder of the 20-year carryforward period (indefinite carryforward period for NOLs generated in taxable years ended after December 31, 2017) and can be used to offset taxable income for years within the carryforward period subject to the limitation in each year, the use of the remaining pre-change in ownership NOLs for the loss year will be prohibited if the carryforward period for any loss year expires. If the Company should fail to generate a sufficient level of taxable income prior to the expiration of the NOL carryforward periods, then it will lose the ability to apply the NOLs as offsets to future taxable income. Similar limitations also apply to certain U.S. federal tax credits. In April 2019, Weichai exercised the Weichai Warrant resulting in Weichai becoming the majority owner of the outstanding shares of the Company's Common Stock. The Company believes that this will constitute an "ownership change" as defined in Section 382. Based on the current Section 382 annual limitation, the Company believes all tax attributes subject to Section 382 will be utilized prior to the expiration dates.

Item 1B. Unresolved Staff Comments.

None.

Item 2. Properties.

The Company's operations are located in 11 leased facilities in the United States, totaling approximately 1.0 million square feet of floor space. The Company's corporate headquarters is located in Wood Dale, Illinois, a suburb of Chicago.

The Company's primary manufacturing, assembly, engineering, research and development, sales and distribution facilities are located in suburban Chicago, Illinois and Darien, Wisconsin.

The Company believes that all of its facilities have been adequately maintained, are in good operating condition and are suitable for its current needs. These facilities are expected to meet the Company's needs in the foreseeable future.

Item 3. Legal Proceedings.

See Note 10. *Commitments and Contingencies*, included in Part II, Item 8. *Financial Statements and Supplementary Data*, for a discussion of legal proceedings, which are incorporated herein by reference.

Item 4. Mine Safety Disclosures.

Not applicable.

PART II

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

The Company's Common Stock traded on the NASDAQ under the symbol "PSIX" from May 28, 2013 through April 18, 2017. The Company's Common Stock was suspended from trading on NASDAQ effective at the open of business on April 19, 2017 (and subsequently delisted) and began trading on the OTC Pink marketplace ("OTCPink"), operated by OTC Markets Group, Inc. ("OTC Market") on that date under "PSIX."

The OTCPink is a quotation system and not a national securities exchange, and many companies have experienced limited liquidity when traded through this quotation system. The quotations represent inter-dealer prices without adjustment for retail markups, markdowns or commissions, and may not necessarily represent actual transactions.

Quarterly Period *	High	Low
Fiscal year ended December 31, 2019		
First quarter	$9.20	$6.69
Second quarter	11.49	7.03
Third quarter	10.75	6.70
Fourth quarter	7.49	3.55
Fiscal year ended December 31, 2018		
First quarter	8.35	6.25
Second quarter	9.80	7.00
Third quarter	12.97	9.50
Fourth quarter	12.20	7.01

As of April 22, 2020, the sale price for the Company's Common Stock, as reported by the OTC Market, was $3.80 per share.

Holders

As of April 22, 2020, there were approximately 1,700 holders of record of the Company's Common Stock.

Dividend Policy

The Company has not paid any cash dividends on its Common Stock to date. The payment of dividends is currently restricted by the Credit Agreement and was restricted by the Wells Fargo Credit Agreement and the indenture governing the Unsecured Senior Notes. The Company intends to retain its future earnings to support operations and to finance expansion.

Recent Sales of Unregistered Securities

None.

Securities Authorized for Issuance under Compensation Plans

See Note 13. *Stock-Based Compensation*, included in Item 8. *Financial Statements and Supplementary Data*.

Issuer Purchases of Equity Securities

During 2019 and 2018, the Company did not repurchase any equity securities.

Item 6. Selected Financial Data.

The Company is a smaller reporting company as defined by Rule 12b-2 of the Exchange Act, and it is not required to provide the information under this item.

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

The following discussion and analysis includes forward-looking statements about the Company's business and consolidated results of operations for the fiscal years ended December 31, 2019 and 2018, including discussions about management's expectations for the Company's business. These statements represent projections, beliefs and expectations based on current circumstances and conditions and in light of recent events and trends, and these statements should not be construed either as assurances of performance or as promises of a given course of action. Instead, various known and unknown factors are likely to cause the Company's actual performance and management's actions to vary, and the results of these variances may be both material and adverse. A description *of material factors known to the Company that may cause its results to vary, or may cause management to deviate from its current plans and expectations, is set forth under "Risk Factors" in this report. See also "Forward-Looking Statements." The following discussion should also be read in conjunction with the Company's consolidated financial statements and the related Notes included in this report. As discussed further herein, the Company adopted Accounting Standards Update 2016-02, Leases* (Topic 842), *effective January 1, 2019 using a modified retrospective approach. The 2018 results were not restated and are not comparative to 2019; however, the Company does not believe the impact is material. See Item 8. Financial Statements and Supplementary Data, Note 7. Leases, for further discussion.*

Executive Overview

The Company designs, engineers, manufactures, markets and sells a broad range of advanced, emission-certified engines and power systems that run on a wide variety of fuels, including natural gas, propane, gasoline, diesel and biofuels, within the energy, industrial and transportation end markets with primary manufacturing, assembly, engineering, R&D, sales and distribution facilities located in suburban Chicago, Illinois and Darien, Wisconsin. The Company provides highly engineered, comprehensive solutions designed to meet specific customer application requirements and technical specifications, including those imposed by environmental regulatory bodies, such as the EPA, the CARB and the MEE.

The Company's products are primarily used by global OEM and end-user customers across a wide range of applications and equipment that includes standby and prime power generation, demand response, microgrid, combined heat and power, arbor care, material handling (including forklifts), agricultural and turf, construction, pumps and irrigation, compressors, utility vehicles, light- and medium-duty vocational trucks, school and transit buses, and utility power. The Company manages the business as a single reporting segment.

For 2019, the Company's net sales increased by 10% to $546.1 million from $496.0 million in 2018, the result of sales increases of $37.1 million and $34.0 million in the energy and transportation end markets, respectively, partially offset by a sales decline of $21.1 million in the industrial end market. Full year 2019 results included sales of approximately $30 million associated with the shipment of certain engines at the request of one of the Company's customers in the fourth quarter of 2019 that were originally scheduled for the first half of 2020. Gross margin for 2019 was 18.3%, a strong improvement of 650 basis points versus 11.8% in 2018, primarily the result of increased sales, favorable mix, strategic pricing actions, lower warranty costs and operational productivity improvements. Gross profit improved by $41.1 million in 2019, while operating expenses decreased by $12.8 million, as compared to the same period in 2018. Additionally, in 2019, the loss from the change in value and exercise of the Weichai Warrant declined to $1.4 million from $10.4 million in 2018. Collectively, these factors contributed to a $63.0 million increase in net income, which totaled $8.2 million in 2019 compared to a loss of $54.7 million in 2018. Earnings per share was $0.38 in 2019 compared to a loss per share of $2.94 in 2018. Adjusted net income, which excludes certain items described below that the Company believes are not indicative of its ongoing operating performance, increased by $41.9 million to $28.1 million in 2019, compared to an Adjusted net loss of $13.8 million in 2018. Adjusted earnings per share was $1.30 in 2019 compared to Adjusted loss per share of $0.74 in 2018. Adjusted earnings before interest expense, income taxes, depreciation and amortization ("EBITDA") was $45.2 million in 2019 compared to Adjusted EBITDA of $4.2 million in 2018. Adjusted net income (loss), Adjusted earnings (loss) per share and Adjusted EBITDA are non-GAAP financial measures. For a reconciliation of each of these measures to the nearest applicable GAAP financial measure, as well as additional information about these non-GAAP measures, see the section entitled *Non-GAAP Financial Measures* in this Item 7. The Company's 2019 results included sales of approximately $30 million associated with the shipment of certain engines within the transportation end market at the request of one of the Company's customers (Freightliner) during the fourth quarter of 2019 that were originally scheduled for the first half of 2020.

Net sales by geographic area and by end market for 2019 and 2018 are presented below:

(in thousands)	For the Year Ended December 31, 2019			For the Year Ended December 31, 2018		
Geographic Area			% of Total			% of Total
North America	$	483,302	89%	$	436,068	88%
Pacific Rim		39,180	7%		42,071	8%
Europe		16,562	3%		13,743	3%
Others		7,032	1%		4,156	1%
Total	$	546,076	100%	$	496,038	100%

(in thousands)	For the Year Ended December 31, 2019			For the Year Ended December 31, 2018		
End Market			% of Total			% of Total
Energy	$	222,779	41%	$	185,685	37%
Industrial		180,111	33%		201,196	41%
Transportation		143,186	26%		109,157	22%
Total	$	546,076	100%	$	496,038	100%

Weichai Transactions

In March 2017, the Company and Weichai entered into a number of transactions (see Note 3. *Weichai Transactions*, included in Item 8. *Financial Statements and Supplementary Data*, for additional information), including the issuance of Common and Preferred Stock and a stock purchase warrant to Weichai for aggregate proceeds of $60.0 million. The stock purchase warrant issued to Weichai was exercisable for any number of additional shares of Common Stock such that Weichai, upon exercise, would hold 51% of the Common Stock then outstanding on a fully dilutive basis, on terms and subject to adjustments as provided in the SPA. On April 23, 2019, Weichai exercised the Weichai Warrant and increased its ownership to 51.5% of the Company's outstanding Common Stock, as of such date.

Through the Weichai Transactions, the Company sought to expand its range of products and its presence in the Pacific Rim.

The Company and Weichai executed the Collaboration Agreement in order to achieve their respective objectives, enhance the cooperation alliance and share experiences, expertise and resources. Among other things, the Collaboration Arrangement established a joint steering committee, permitted Weichai to second a limited number of technical, marketing, sales, procurement and finance personnel to work at the Company and established several collaborations related to stationary natural-gas applications and Weichai diesel engines. The Collaboration Agreement also provides for the steering committee to create various subcommittees with operating roles and otherwise governs the treatment of intellectual property of parties prior to the collaboration and the intellectual property developed during the collaboration. The Collaboration Agreement had a term of three years that was set to expire in March 2020. On March 26, 2020, the Collaboration Agreement was extended for an additional term of three years. For the years ended December 31, 2019 and 2018, sales to Weichai were not material. The Company purchased $4.4 million and $3.5 million of inventory from Weichai during 2019 and 2018, respectively.

Incremental Financial Reporting and Government Investigation Expenses

Incremental financial reporting and government investigation expenses consist of professional services fees related to the Company's efforts to restate prior period financial statements, prepare, audit and file delinquent financial statements, and remediate internal control material weaknesses as well as fees and reserves related to Company, SEC, and USAO investigations. Since August 2016, the Company has experienced a substantial and disruptive diversion of management resources to address various accounting, financial reporting and financial issues. During that time, the Company determined that it was necessary to restate financial results for 2014 and 2015 as well as the first quarter of 2016 and, since then, has also focused on becoming timely on all of its SEC financial reporting requirements, which is achieved with the filing of this Annual Report on Form 10-K for the year ended December 31, 2019. Additionally, the SEC and the USAO are conducting investigations into the Company's financial reporting, revenue recognition practices and related conduct (see Note 10. *Commitments and Contingencies*, included in Part II. Item 8. *Financial Statements and Supplementary Data*, for additional information). Incremental financial reporting and government investigation expenses, strategic and financing options, and key employee retention and severance-related expenses included in 2019 and 2018 operating results, were $17.5 million and $27.0 million, respectively.

Recent Trends and Business Outlook

Recent COVID-19 Outbreak and Oil and Gas Market Price Volatility

The COVID-19 pandemic has resulted in the implementation of significant governmental measures to control the spread of the virus, including quarantines, travel restrictions, business shutdowns, and restrictions on the movement of people in the United States and abroad. These factors, in turn, may not only impact the Company's operations, financial condition, and demand for its goods and services, but its overall ability to react timely to mitigate the impact of the COVID-19 pandemic. The Company is aggressively beginning the execution of contingency actions as a result of the expected significant negative impacts of these factors. The Company is reviewing operating expenses as part of the contingency planning process, including prioritizing certain R&D investments in support of the Company's long-term growth objectives. As of the date of this 2019 Annual Report, the Company has implemented the following temporary cost reduction measures designed to mitigate the operating and financial impacts of the COVID-19 pandemic on its business:

- reduced the hours of operations of the Company's production facilities;
- reduced the work week for all office employees;
- reduced pay for salaried employees by between 10% and 30%, depending on the employee's position;
- suspended the Company's 401(k) plan match;
- deferred spending on certain R&D programs;
- implemented a hiring freeze;
- restricted all non-essential travel; and
- minimized discretionary expenses and consulting services.

The full impact of the COVID-19 pandemic continues to evolve as of the date of this 2019 Annual Report.

The global economy has experienced substantial turmoil including impacts from the world financial markets, which have experienced a period of significant volatility and overall declines. In addition, as of the date of this 2019 Annual Report, due to unprecedented decreases in demand, an oil price war, and economic uncertainty resulting from the COVID-19 pandemic, crude oil prices have declined precipitously. A significant portion of the Company's sales and profitability is derived from the sale of products that are used within the oil and gas industry. While the Company has yet to experience significant supply chain interruptions or material cancellations of orders, the potential impact of future disruptions, continued economic uncertainty, and continued depressed crude oil prices, and declining rig count levels may have a significant adverse impact that may result in the recognition of material impairments or other related charges.

GM 6.0L Engine Offering: The Company has an exclusive agreement with Freightliner through December 31, 2020 to distribute 6.0L engines to on-highway customers. With the GM announcement that it will discontinue its production of the 6.0L engine, the Company has been conducting last-time buys of this engine to ensure adequate supply to Freightliner and other customers. In relation to these last-time buys, the Company had a net positive cash impact from customer prepayments of approximately $6 million as of December 31, 2019. The Company expects a net positive cash impact from customer prepayments to continue in 2020. The Company does not have a supply agreement with GM for its successor product to the 6.0L engine. However, it is actively exploring opportunities to identify engine alternatives for this product. The Company's 2019 results included sales of approximately $30 million associated with the shipment of certain engines at the request of one of the Company's customers (Freightliner) during the fourth quarter of 2019 that were originally scheduled for the first half of 2020.

Hyster-Yale Supply Arrangement: The Company had a multi-year supply agreement with Hyster-Yale, which ended December 31, 2018, for the supply of a range of engines at certain specified volume levels. Since the beginning of 2019, the Company has continued to supply products to Hyster-Yale while the two parties continued to negotiate a new agreement. The Company is nearing the completion of a renewed supply agreement; however, Hyster-Yale has indicated that it will be obtaining alternative supply beginning in 2021 for several high-volume engines that the Company currently provides, including the 2.0L and 2.4L engines sourced from the Company's supplier SAME. As a result of this, coupled with the discontinuation of a certain engine that the Company provides this customer during 2020, the Company anticipates that its sales volumes to Hyster-Yale may begin to decline in 2020, with further declines expected in 2021 and 2022. The Company believes it is positioned to continue its relationship in a moderated capacity with this customer in 2022 and beyond.

Strategic Initiatives/Growth Strategies: The Company has initiated a set of business objectives aimed at improving profitability, streamlining processes, strengthening the business and focusing on achieving growth in higher-return product lines. Central to this plan is the Company's increased emphasis on energy product offerings through new product development and investments, in addition to leveraging the Company's relationship with Weichai. With the introduction of numerous natural gas and diesel engines in 2018 and 2019, coupled with its existing strong product lineup, despite economic disruptions related to the recent COVID-19 pandemic, the Company believes that it has a solid foundation to achieve long-term growth within the energy market.

Results of Operations

Results of operations for the year ended December 31, 2019 compared with the year ended December 31, 2018:

(in thousands, except per share amounts)	For the Year Ended December 31,			
	2019	**2018**	Change	% Change
Net sales	$ 546,076	$ 496,038	$ 50,038	10 %
Cost of sales	446,188	437,269	8,919	2 %
Gross profit	99,888	58,769	41,119	70 %
Gross margin %	*18.3%*	*11.8%*	*6.5 %*	
Operating expenses:				
Research, development and engineering expenses	24,932	28,601	(3,669)	(13)%
Research, development and engineering expenses as a % of sales	*4.6%*	*5.8%*	*(1.2)%*	
Selling, general and administrative expenses	54,114	59,631	(5,517)	(9)%
Selling, general and administrative expenses as a % of sales	*9.9%*	*12.0%*	*(2.1)%*	
Asset impairment charges	1	2,234	(2,233)	(100)%
Amortization of intangible assets	3,638	5,008	(1,370)	(27)%
Total operating expenses	82,685	95,474	(12,789)	(13)%
Operating income (loss)	17,203	(36,705)	53,908	(147)%
Other expense:				
Interest expense	7,871	7,628	243	3 %
Loss from change in value and exercise of warrants	1,352	10,400	(9,048)	(87)%
Other income, net	(677)	(176)	(501)	NM
Total other expense	8,546	17,852	(9,306)	(52)%
Income (loss) before income taxes	8,657	(54,557)	63,214	(116)%
Income tax expense	409	169	240	142 %
Net income (loss)	$ 8,248	$ (54,726)	$ 62,974	(115)%
Earnings (loss) per common share:				
Basic	$ 0.38	$ (2.94)	$ 3.32	(113)%
Diluted	$ 0.38	$ (2.94)	$ 3.32	(113)%
Non-GAAP Financial Measures:				
Adjusted net income (loss) *	$ 28,112	$ (13,820)	$ 41,932	NM
Adjusted earnings (loss) per share *	$ 1.30	$ (0.74)	$ 2.04	NM
EBITDA *	$ 25,327	$ (36,725)	$ 62,052	(169)%
Adjusted EBITDA *	$ 45,191	$ 4,181	$ 41,010	NM

NM Not meaningful
* See reconciliation of non-GAAP financial measures to GAAP results below

Net Sales

Net sales increased $50.0 million, or 10%, in 2019 compared to 2018, as a result of sales increases of $37.1 million and $34.0 million in the energy and transportation end markets, respectively, partially offset by a sales decline of $21.1 million in the industrial end market. The increased sales within the energy end market were primarily attributable to stronger demand for power generation products, including those used within the oil and gas market, and increased demand for demand response products. The increased sales within the transportation end market were primarily attributable to higher demand for products used in the medium-duty truck market and included approximately $30 million of sales associated with the aforementioned shipment of certain engines at the request of one of the Company's customers, Freightliner, during the fourth quarter of 2019 that were originally scheduled for the first half of 2020. Also, to a lesser degree, the increased sales were a result of higher demand for products used in the school bus market. The sales decline within the industrial end market was primarily attributable to lower demand for products used in the material handling/forklift and arbor care markets.

Gross Profit

Gross margin was 18.3% and 11.8% in 2019 and 2018, respectively. Gross profit increased in 2019 by $41.1 million, or 70%, compared to 2018 primarily due to the sales growth noted above, coupled with favorable product mix, strategic pricing actions, lower warranty costs and operational productivity improvements. For 2019, warranty costs of $10.1 million (net of supplier and insurance recoveries of $3.0 million), including $2.7 million of charges for adjustments to preexisting warranties, declined by $8.5 million as compared to 2018 warranty costs of $18.6 million (net of supplier recoveries of $1.1 million), including $3.8 million of charges for adjustments to preexisting warranties. The 2019 warranty costs included $0.6 million of charges related to specific engine supplier quality issues, for which the Company is actively seeking cost reimbursement.

Research, Development and Engineering Expenses

Research, development and engineering expenses in 2019 were $24.9 million, a decrease of $3.7 million, or 13%, from 2018 levels, primarily as a result of decreased spending on project activity during the year.

Selling, General and Administrative Expenses

Selling, general and administrative (“SG&A”) decreased in 2019 by $5.5 million, or 9%, compared to 2018. The decrease in SG&A expenses is largely attributable to lower incremental financial reporting and government investigation expenses, which were $15.1 million in 2019, a decrease of $9.1 million, as compared to $24.2 million in 2018. Lower incremental financial reporting and government investigation expenses were primarily due to a decrease in professional services expenses related to the restatement and audit of the 2017 and prior year restated financial statements filed in May 2019. In addition, key employee retention program expenses, strategic alternatives and strategic review expenses and stock-based compensation were lower by $2.1 million, $0.2 million, and $0.2 million, respectively, in 2019. These decreases were partially offset by higher wages, benefits, and incentive compensation expense in 2019 as compared to 2018. The Company also incurred severance and post-employment costs of $2.0 million in 2019 as compared to an absence of these costs in 2018. As a percentage of net sales, SG&A expenses were 9.9% and 12.0% in 2019 and 2018, respectively.

Asset Impairment Charges

Asset impairment charges decreased in 2019 as immaterial impairment charges were recorded during the year related to certain long-lived assets that were no longer in service. In the fourth quarter of 2018, based on uncertainty of the market for the conversion of certain gasoline engines to alternative fuel engines, the Company concluded that the projected future cash flows were not sufficient to recover the carrying value of certain developed technology intangible assets acquired from AGA Systems, LLC (“AGA”). As a result, the Company recorded an impairment charge of $2.2 million to write off the remaining book value of the intangible assets.

Interest Expense

Interest expense increased $0.3 million to $7.9 million in 2019 from $7.6 million in 2018.

The Wells Fargo Base and London Interbank Offered Rate - “LIBOR” interest rates were 6.3% and 5.0% per annum, respectively, at December 31, 2019, and the Base and LIBOR interest rates were 7.3% and 6.0% at December 31, 2018, respectively. The interest rate on the Unsecured Senior Notes was 6.5% at January 1, 2018, and increased to 8.5% in October 2018. The interest rate on the Unsecured Senior Notes declined to 7.5% in May 2019 upon the filing of the Company’s Annual Report on Form 10-K for the year ended December 31, 2017.

Loss from Change in Value and Exercise of Warrants

The Company recognized a loss of $1.4 million and $10.4 million in 2019 and 2018, respectively, from the change in the value of the Weichai Warrant. The Weichai Warrant was exercised in April 2019 and the impact of the exercise is reflected in the 2019 loss of $1.4 million. See Note 3. *Weichai Transactions* and Note 8. *Fair Value of Financial Instruments*, included in Item 8. *Financial Statements and Supplementary Data*, for additional information.

Other Income, Net

Other income, net increased by $0.5 million in 2019 principally as a result of improved performance in the Company’s joint venture with Doosan which is accounted for as an equity method investment. See Note 15. *Related Party Transactions* included in Item 8. *Financial Statements and Supplementary Data*, for additional information.

Income Tax Expense

The Company recorded income tax expense of $0.4 million in 2019, as compared to $0.2 million for 2018. The Company’s pretax income was $8.7 million in 2019 compared to a pretax loss of $54.6 million in 2018. There was no significant change in the Company’s tax provision as the Company continues to record a full valuation allowance against deferred tax assets. See Note 11. *Income Taxes*, included in Item 8. *Financial Statements and Supplementary Data*, for additional information related to the Company’s income tax provision.

Non-GAAP Financial Measures

In addition to the results provided in accordance with accounting principles generally accepted in the United States ("U.S. GAAP") above, this report also includes non-GAAP (adjusted) financial measures. Non-GAAP financial measures provide insight into selected financial information and should be evaluated in the context in which they are presented. These non-GAAP financial measures have limitations as analytical tools and should not be considered in isolation from, or as a substitute for, financial information presented in compliance with U.S. GAAP, and non-GAAP financial measures as reported by the Company may not be comparable to similarly titled amounts reported by other companies. The non-GAAP financial measures should be considered in conjunction with the consolidated financial statements, including the related notes, and Item 7. *Management's Discussion and Analysis of Financial Condition and Results of Operations* included in this report. Management does not use these non-GAAP financial measures for any purpose other than the reasons stated below.

Non-GAAP Financial Measure	Comparable GAAP Financial Measure
Adjusted net income (loss)	Net income (loss)
Adjusted earnings (loss) per share	Earnings (loss) per common share – diluted
EBITDA	Net income (loss)
Adjusted EBITDA	Net income (loss)

The Company believes that Adjusted net income (loss), Adjusted earnings (loss) per share, EBITDA, and Adjusted EBITDA provide relevant and useful information, which is widely used by analysts, investors and competitors in its industry as well as by the Company's management in assessing the performance of the Company. Adjusted net income (loss) is defined as net income as adjusted for certain items that the Company believes are not indicative of its ongoing operating performance. Adjusted earnings (loss) per share is a measure of the Company's diluted net earnings (loss) per share adjusted for the impact of special items. EBITDA provides the Company with an understanding of earnings before the impact of investing and financing charges and income taxes. Adjusted EBITDA further excludes the effects of other non-cash and certain other items that do not reflect the ordinary earnings of the Company's operations.

Adjusted net income (loss), Adjusted earnings (loss) per share, EBITDA, and Adjusted EBITDA are used by management for various purposes, including as a measure of performance of the Company's operations and as a basis for strategic planning and forecasting. Adjusted net income (loss), Adjusted earnings (loss) per share, and Adjusted EBITDA may be useful to an investor because these measures are widely used to evaluate companies' operating performance without regard to items excluded from the calculation of such measures, which can vary substantially from company to company depending on the accounting methods, the book value of assets, the capital structure and the method by which the assets were acquired, among other factors. They are not, however, intended as an alternative measure of operating results or cash flow from operations as determined in accordance with U.S. GAAP.

The following table presents a reconciliation from Net income (loss) to Adjusted net income (loss):

(in thousands)	For the Year Ended December 31,	
	2019	2018
Net income (loss)	$ 8,248	$ (54,726)
Changes in value of warrants [1]	1,352	10,400
Stock-based compensation [2]	988	1,229
Asset impairment charges [3]	1	2,234
Key employee retention program [4]	422	2,567
Strategic alternatives and strategic review expenses [5]	—	247
Severance [6]	1,995	—
Incremental financial reporting and government investigation expenses [7]	15,106	24,229
Adjusted net income (loss)	$ 28,112	$ (13,820)

The following table presents a reconciliation from Earnings (loss) per common share – diluted to Adjusted earnings (loss) per share:

	For the Year Ended December 31,	
	2019	**2018**
Earnings (loss) per common share – diluted	$ 0.38	$ (2.94)
Changes in value of warrants [1]	0.06	0.56
Stock-based compensation [2]	0.05	0.07
Asset impairment charges [3]	—	0.12
Key employee retention program [4]	0.02	0.14
Strategic alternatives and strategic review expenses [5]	—	0.01
Severance [6]	0.09	—
Incremental financial reporting and government investigation expenses [7]	0.70	1.30
Adjusted earnings (loss) per share – diluted	$ 1.30	$ (0.74)
Diluted shares (in thousands)	21,530	18,585

The following table presents a reconciliation from Net income (loss) to EBITDA and Adjusted EBITDA:

(in thousands)	For the Year Ended December 31,	
	2019	**2018**
Net income (loss)	$ 8,248	$ (54,726)
Interest expense	7,871	7,628
Income tax expense	409	169
Depreciation	5,161	5,196
Amortization of intangible assets	3,638	5,008
EBITDA	25,327	(36,725)
Changes in value of warrants [1]	1,352	10,400
Stock-based compensation [2]	988	1,229
Asset impairment charges [3]	1	2,234
Key employee retention program [4]	422	2,567
Strategic alternatives and strategic review expenses [5]	—	247
Severance [6]	1,995	—
Incremental financial reporting and government investigation expenses [7]	15,106	24,229
Adjusted EBITDA	$ 45,191	$ 4,181

1. Amounts consist of changes in the value, including the impact of the exercise in April 2019, of the Weichai Warrant.
2. Amounts reflect non-cash stock-based compensation expense (2019 and 2018 amounts excludes $0.3 million and $1.4 million, respectively, associated with the retention programs, see note 4 below).
3. Amount in 2018 primarily reflects impairment of developed technology assets acquired from AGA as discussed further in Item 8. Financial Statements and Supplementary Data, Note 5. *Goodwill and Other Intangibles*.
4. Amount represents incremental compensation costs (including $0.3 million and $1.4 million in 2019 and 2018, respectively, of stock-based compensation) incurred to provide retention benefits to certain employees.
5. Represents professional services expenses incurred in connection with the evaluation of strategic alternatives and financing options.
6. Amounts represent severance and other post-employment costs for certain former employees of the Company.
7. Amounts represent professional services fees related to the Company’s efforts to restate prior period financial statements, prepare, audit and file delinquent financial statements, and remediate internal control material weaknesses as well as fees and reserves related to the SEC and USAO investigations. The amounts exclude $1.2 million and $1.6 million of professional services fees related to the audit of the Company’s financial statements and ongoing internal control remediation in 2019 and 2018, respectively.

Cash Flows

Cash was impacted as follows:

(in thousands)	For the Year Ended December 31,			
	2019	2018	Change	% Change
Net cash provided by (used in) operating activities	$ 18,157	$ (6,168)	$ 24,325	NM
Net cash used in investing activities	(3,658)	(10,239)	6,581	(64)%
Net cash (used in) provided by financing activities	(14,550)	16,461	(31,011)	NM
Net (decrease) increase in cash and restricted cash	$ (51)	$ 54	$ (105)	NM
Capital expenditures	$ (3,681)	$ (3,645)	$ (36)	1 %

2019 Cash Flows

Cash Flow from Operating Activities

Net cash provided by operations was $18.2 million in 2019 compared to net cash used in operations of $6.2 million in 2018 resulting in an increase of $24.3 million in cash provided by operating activities year-over-year. This was primarily due to improvement in net income of $63.0 million, partially offset by a decline in non-cash adjustments of $16.2 million and cash generated from working capital of $22.5 million. During 2019, working capital requirements resulted in a cash outflow of $2.9 million compared to a cash inflow of $19.5 million in 2018. The net cash outflow from working capital in 2019 was primarily due to higher inventory related to the GM 6.0L engines purchased for Freightliner and lower accounts payable partially offset by higher accrued expenses and other liabilities.

Cash Flow from Investing Activities

Net cash used in investing activities was $3.7 million in 2019 compared to net cash used in investing activities of $10.2 million in 2018 resulting in a decrease of $6.6 million of net cash used in investing activities year-over-year. Cash flows from investing activities in 2019 primarily consisted of capital expenditures of $3.7 million which was consistent with capital expenditures in 2018. There was no cash used for asset acquisitions in 2019 compared to $6.6 million used in 2018.

Cash Flow from Financing Activities

The Company used $14.6 million in cash for financing activities in 2019 compared to $16.5 million in cash generated by financing activities in 2018, resulting in an increase of $31.0 million used by financing activities year over year. Primary cash outflows in 2019 were $15.1 million in net repayments of the revolving line of credit.

Liquidity and Capital Resources

On April 2, 2020, the Company closed on its new senior secured revolving credit facility pursuant to the Credit Agreement with Standard Chartered, which allows the Company to borrow up to $130.0 million, and matures on March 26, 2021 with an optional 60-day extension subject to certain conditions and the payment of a 0.25% extension fee. Borrowings under the Credit Agreement shall bear interest at either the alternate base rate or LIBOR plus 2.00%, and the Company is required to pay a 0.25% commitment fee on the average daily unused portion of the revolving credit facility under the Credit Agreement. The Credit Agreement is secured by substantially all of the Company's assets and includes certain financial covenants as well as a change of control provision. On April 2, 2020, the Company borrowed $95.0 million under the Credit Agreement and utilized the funds to (i) repay the outstanding balance of $16.8 million under the Wells Fargo Credit Agreement, (ii) fully redeem and discharge $55.0 million in aggregate principal amount of the Unsecured Senior Notes and pay related interest, and (iii) for general corporate purposes. The Wells Fargo Credit Agreement was terminated in connection with the repayment of the outstanding balance. On April 29, 2020, the Company borrowed an additional $35.0 million under the Credit Agreement, which is the remaining portion of availability, providing the Company with greater financial flexibility. As of April 29, 2020, the Company had borrowings outstanding of $130.0 million under the Credit Agreement and a cash balance in excess of $45 million. These amounts reflect a net positive cash impact from customer prepayments of $11.8 million.

Significant uncertainties exist about the Company's ability to refinance, extend, or repay its outstanding indebtedness, maintain sufficient liquidity to fund its business activities, and maintain compliance with the covenants and other requirements under the Credit Agreement. Based on the Company's current forecasts, without additional financing, the Company anticipates that it will not have sufficient cash and cash equivalents to repay the Credit Agreement by the March 26, 2021 maturity date. Management currently plans to seek additional liquidity from its current or other lenders before March 26, 2021. There can be no assurance that the Company will be able to successfully complete a refinancing on or before March 26, 2021 on acceptable terms or repay this outstanding indebtedness when required or if at all.

Additionally, in early 2020, the global economy has experienced substantial turmoil including impacts from the world financial markets which have experienced a period of significant volatility and overall declines. In addition, in early March 2020, due to unprecedented decreases in demand, an oil price war, and economic uncertainty resulting from the COVID-19 pandemic, crude oil prices have declined precipitously. A significant portion of the Company's sales and profitability is derived from the sale of products that are used within the oil and gas industry. While the Company has yet to experience supply chain interruptions or material cancellations of orders, the potential impact of future disruptions, continued economic uncertainty, and continued depressed crude oil prices and declining rig count levels may have a significant adverse impact that may result in the recognition of material impairments or other related charges. Moreover, the full impact of the COVID-19 pandemic on the Company's operations and liquidity continues to evolve.

Due to uncertainties surrounding the Company's future ability to refinance, extend, or repay its outstanding indebtedness, maintain sufficient liquidity to fund its business activities, and maintain compliance with the covenants and other requirements under the Credit Agreement, substantial doubt exists as to its ability to continue as a going concern within one year after the date that these financial statements are issued. If the Company does not have sufficient liquidity to fund its business activities, it may be forced to limit its business activities or be unable to continue as a going concern, which would have a material adverse effect on its results of operations and financial condition.

As of December 31, 2019, the Company's total debt obligations under the Wells Fargo Credit Agreement and the Unsecured Senior Notes were $94.3 million in the aggregate, with available borrowing capacity of $14.9 million under the Wells Fargo Credit Agreement. In relation to last-time buys of GM 6.0L engines, the Company had a net positive impact from customer prepayments of approximately $5.6 million as of December 31, 2019.

The Wells Fargo Credit Agreement contained certain covenants for which a failure to satisfy could have resulted in a default under the Credit Agreement. See Item 8. *Financial Statements and Supplementary Data* Note 6. *Debt* for additional information related to a waiver obtained from Wells Fargo on May 16, 2019 that waived the failure to satisfy financial information covenants through December 31, 2019.

Off-Balance Sheet Arrangements

At December 31, 2019, the Company had seven outstanding letters of credit totaling $3.0 million. See Item 8. *Financial Statements and Supplementary Data*, Note 10. *Commitments and Contingencies* for additional information related to the Company's off-balance sheet arrangements and the outstanding letters of credit.

Commitments and Contingencies

Legal matters are further discussed in Note 10. *Commitments and Contingencies*, included in Item 8. *Financial Statements and Supplementary Data*. See Part I. Item 1A. *Risk Factors* for further discussion of legal risks to the Company.

Critical Accounting Policies and Estimates

The Company's consolidated financial statements are prepared in accordance with U.S. GAAP. Preparation of these financial statements requires the Company to make estimates, assumptions and judgments that affect the reported amounts of assets, liabilities, revenues and expenses, and related disclosure of contingent assets and liabilities. The Company's most critical accounting policies and estimates are those most important to the portrayal of its financial condition and results of operations and which require the Company to make its most difficult and subjective judgments, often as a result of the need to make estimates regarding matters that are inherently uncertain. The Company has identified the following as its most critical accounting policies and judgments. Although management believes that its estimates and assumptions are reasonable, they are based on information available when they are made and, therefore, may differ from estimates made under different assumptions or conditions.

The Company's significant accounting policies are discussed in Note 1. *Summary of Significant Accounting Policies and Other Information*, included in Item 8. *Financial Statements and Supplementary Data*, and should be reviewed in connection with the following discussion of accounting policies that require difficult, subjective and complex judgments.

Revenue Recognition

The Company determines the amount of revenue to be recognized through the following steps:

- identification of the contract, or contracts with a customer;
- identification of the performance obligations in the contract;
- determination of the transaction price;
- allocation of the transaction price to the performance obligations in the contract; and
- recognition of revenue when, or as, the Company satisfies the performance obligations.

Revenue for the Company is generated from contracts that may include a single performance obligation or multiple performance obligations. A performance obligation is a promise in a contract to transfer a distinct good or service to the customer and is the unit of account for revenue recognition. Revenue is measured at the transaction price which is based on the amount of consideration that the Company expects to receive in exchange for transferring the promised goods or services to the customer. The transaction price is allocated to each distinct performance obligation and recognized as revenue when, or as, the performance obligation is satisfied. The Company is required to estimate the total consideration expected to be received from contracts with customers. The consideration expected to be received may be variable based on the specific terms of the contract and the Company's past practices.

For contracts with multiple performance obligations, the Company allocates the total transaction price to distinct performance obligations based on directly observable data, if available, or the Company's best estimate of the stand-alone selling price of each distinct performance obligation. The primary method used to estimate the stand-alone selling price is the cost plus a margin approach.

The Company applies significant judgment in order to identify and determine the number of performance obligations, determine the total transaction price, allocate the transaction price to each performance obligation, and determine the appropriate timing of revenue recognition.

The Company's payment terms are less than one year, and its sales arrangements do not contain any significant financing components.

Timing of revenue recognition. The Company recognizes revenue related to performance obligations in its contracts with customers when control passes to the customer. Control passes to the customer when the customer has the ability to direct the use of and obtain substantially all of the remaining benefits from the asset. For the majority of the Company's products, revenue is recognized at a point in time when the products are shipped or delivered to the customer based on the shipping terms as that is the point in time when control passes to the customer.

The Company also recognizes revenue over time primarily when the Company's performance obligations include: enhancing a customer-controlled asset (generally when an engine is provided by the customer), constructing an asset with no alternative future use and the Company has an enforceable right to payment throughout the period as the services are performed or providing an extended warranty beyond the Company's standard warranty. The Company recognizes revenue throughout the manufacturing process when constructing an asset based on labor hours incurred because the customer receives the benefit of the asset as the product is constructed. The Company believes labor hours incurred relative to total estimated labor hours at completion faithfully depicts the transfer of control to the customer. The Company recognizes revenue related to extended warranty programs based on the passage of time over the extended warranty period.

Variable consideration. Variable consideration primarily includes rebates and discounts. The Company estimates the projected amount of rebates and discounts based on current assumptions, customer-specific information and historical experience. Variable consideration is recorded as a reduction of revenue to the extent that it is probable that there will not be significant changes to the Company's estimate of variable consideration when any uncertainties are settled.

Inventories

The Company's inventories consist primarily of engines and parts. Engines are valued at the lower of cost plus estimated freight-in or net realizable value. Parts are valued at the lower of cost (first-in, first out) or net realizable value. Net realizable value approximates replacement cost.

It is the Company's policy to review inventories on a continuous basis for obsolete, excess and slow-moving items and to record valuation adjustments for such items in order to eliminate non-recoverable costs from inventory. The Company writes down inventory for an estimated amount equal to the difference between the cost of the inventory and the estimated realizable value. Additionally, an inventory reserve is provided based upon the Company's estimate of future demand for the quantity of inventory on hand. In determining an estimate of future demand, multiple factors are taken into consideration, including (i) customer purchase orders and customer projected demand, (ii) historical sales/usage for each inventory item and (iii) utilization within a current or anticipated future power system. These factors are primarily based upon quantifiable information, and therefore the Company has not experienced significant differences in inventory valuation due to variances in the Company's estimation of future demand.

Goodwill Impairment

Goodwill represents the excess of purchase price and related costs over the values assigned to the net tangible and identifiable intangible assets of businesses acquired. Goodwill is not amortized, but instead it is tested for impairment annually, or more frequently if circumstances indicate that a possible impairment may exist.

The Company performs its annual impairment test using the discounted cash flow method which involves the Company's management making estimates with respect to a variety of factors that will significantly impact the future performance of the business, including the following:

- future volume projections;
- estimated margins on sales;
- estimated growth rate for SG&A costs;
- future effective tax rate; and
- weighted-average cost of capital ("WACC") used to discount future performance of the Company.

Because these estimates form a basis for the determination of whether or not the impairment charge should be recorded, these estimates are considered to be critical accounting estimates.

As of December 31, 2019, the Company has $29.8 million of goodwill. Future goodwill impairment charges may be required for certain reporting units if the reporting units suffer declines in profitability due to changes in volume, market pricing, cost or the business environment. Significant adverse changes to the Company's business environment and future cash flows could cause the recognition of impairment charges, which could be material, in future periods.

As a result of the recent COVID-19 pandemic and its impacts on the global economy, it is reasonably possible that the Company will be adversely impacted in future periods which may result in the recognition of material goodwill impairment charges.

Impairment of Long-Lived Assets

Long-lived assets, other than goodwill which is separately tested for impairment, are evaluated for impairment whenever events indicate that the carrying amount of such assets may not be recoverable. Potential indicators of impairment may include a deteriorating business climate, an asset remaining idle for more than a short period of time, advances in technology, or plans to discontinue use of, or change, in the business model for the operation in which a long-lived asset is used. The Company evaluates long-lived assets for impairment by comparing the carrying value of the long-lived assets with the estimated future net undiscounted cash flows expected to result from the use of the assets, including cash flows from disposition. If the future net undiscounted cash flows are less than the carrying value, the Company then calculates an impairment loss. The impairment loss is calculated by comparing the long-lived asset's carrying value with its estimated fair value, which may be based on estimated future discounted cash flows. The Company also periodically reevaluates the useful lives of its long-lived assets due to advances and changes in its technologies.

The Company's impairment loss calculations contain critical estimates because they require the Company's management to make assumptions and to apply judgment to estimate future cash flows and long-lived asset fair values, including forecasting useful lives of the long-lived assets and selecting discount rates.

If actual results are not consistent with the assumptions used, the Company could experience an impairment triggering event and be exposed to losses that could be material. As a result of the recent COVID-19 pandemic and its impacts on the global economy, it is reasonably possible that the Company will be adversely impacted in future periods which may result in the recognition of material impairment charges related to its long-lived assets.

During 2019, the Company incurred immaterial impairment charges related to certain assets no longer in service. During 2018, the Company recognized an impairment charge of $2.2 million which primarily related to developed technology acquired in the AGA acquisition. See Note 5. *Goodwill and Other Intangibles*, included in Item 8. *Financial Statements and Supplementary Data*.

Warranty

The Company offers a standard limited warranty on the workmanship of its products that in most cases covers defects for a defined period. Warranties for certified emission products are mandated by the EPA and/or the CARB and are generally longer than the Company's standard warranty on certain emission-related products. The Company's products may also carry limited warranties from suppliers. The Company's warranties generally apply to engines fully manufactured by the Company and to the modifications the Company makes to supplier base products. Costs related to supplier warranty claims are often times borne by the supplier and passed through to the end customer. The Company estimates and records a liability and related charges to income for its warranty program at the time products are sold to customers. Estimates are based on historical experience and reflect management's best estimates of expected costs at the time products are sold. As of December 31, 2019, the Company had warranty reserves of $25.5 million.

The Company records adjustments to preexisting warranties for changes in its estimate of warranty costs for products sold in prior fiscal years in the period in which it is determined that actual costs may differ from the Company's initial or previous estimates. Such adjustments typically occur when new information received by the Company indicates claims experience deviates from historical and expected trends. During 2019, the Company recognized a charge for adjustments to preexisting warranties of $2.7 million compared to a charge of $3.8 million in 2018.

When the Company identifies cost effective opportunities to address issues in products sold or corrective actions for safety issues, it initiates product recalls or field campaigns. As a result of the uncertainty surrounding the nature and frequency of product recalls and field campaigns, the liability for such actions is generally recorded when the Company commits to a product recall or field campaign. In each subsequent quarter after a recall or field campaign is initiated, the recorded warranty liability balance is analyzed, reviewed and adjusted, if necessary, to reflect any changes in the anticipated average cost of repair or number of repairs to be completed prospectively.

When collection is reasonably assured, the Company also estimates the amount of warranty claim recoveries to be received from its suppliers. Warranty costs and recoveries are included in *Cost of sales* in the Consolidated Statements of Operations.

Weichai Warrants

The Weichai Warrants were measured at fair value based on unobservable inputs and, therefore, were classified as Level 3 in the fair-value hierarchy.

The Weichai Warrant was issued in March 2017 and is further discussed in Note 3. *Weichai Transactions*, included in Item 8. *Financial Statements and Supplementary Data*. The monetary value of the Weichai Warrant was dependent both on variations in the fair value of the Company's Common Stock and on the estimated number of shares required to settle its terms. The fair value of the Weichai Warrant liability was estimated using the Black-Scholes option pricing model and Monte Carlo simulations. Significant inputs into the valuation includes the market value of the Company's Common Stock, the estimated exercise price of the warrant (including a price adjustment) and the estimated price volatility. Given the unobservable nature of certain inputs to the valuation of the Weichai Warrant, the Weichai Warrant was classified as Level 3 in the fair-value hierarchy. Significant changes in the estimates of these inputs could result in material changes to the liability, with the changes in value recorded in the Consolidated Statements of Operations. The Weichai Warrant was exercised in April 2019.

Deferred Tax Asset Valuation Allowance

The Company accounts for income taxes under the asset and liability method, which requires the recognition of deferred tax assets and liabilities for the expected future tax consequences of events that have been included in the financial statements. Under this method, deferred tax assets and liabilities are determined based on the differences between the financial statements and tax basis of assets and liabilities using enacted tax rates in effect for the year in which the differences are expected to be settled or realized. The effect of a change in tax rates on deferred tax assets and liabilities is recognized in income in the period that includes the enactment date.

The Company records net deferred tax assets to the extent that the Company believes the assets will more likely than not be realized. In making such a determination, the Company considers all available positive and negative evidence, including future reversals of existing taxable temporary differences, projected future taxable income, tax-planning strategies and results of recent operations. Valuation allowances are established when, based on currently available information, it is more likely than not that all or a portion of a deferred tax asset will not be realized. The ultimate recovery of deferred tax assets is dependent upon the amount and timing of future taxable income and other factors such as the taxing jurisdiction in which the asset is to be recovered. A high degree of judgment is required to determine if, and the extent to which, valuation allowances should be recorded against deferred tax assets.

As of December 31, 2019 and 2018, the Company recorded a deferred tax asset valuation allowance of $41.7 million and $44.4 million, respectively. Although the Company believes that its approach to estimates and judgments as described herein is reasonable, actual results could differ, and the Company may be exposed to increases or decreases in income taxes that could be material. See Note 11. *Income Taxes*, included in Item 8. *Financial Statements and Supplementary Data*, for additional information regarding the deferred tax valuation allowance.

Uncertain Tax Positions

The Company records uncertain tax positions on the basis of a two-step process whereby (i) the Company determines whether it is more likely than not that the tax positions will be sustained based on the technical merits of the position and (ii) for those tax positions that meet the more-likely-than-not recognition threshold, the Company recognizes the largest amount of tax benefit that is greater than 50% likely to be realized upon ultimate settlement with the related tax authority. The Company recognizes interest and penalties related to uncertain tax positions as part of income tax expense. As of December 31, 2019 and 2018, the Company had unrecognized tax benefits of $1.4 million and $1.4 million, respectively, for uncertain tax positions. See Note 11. *Income Taxes*, included in Item 8. *Financial Statements and Supplementary Data*, for additional information regarding uncertain tax provisions.

Impact of New Accounting Standards

For information about recently issued accounting pronouncements, see Note 1. *Summary of Significant Accounting Policies and Other Information*, included in Item 8. *Financial Statements and Supplementary Data*.

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

The Company is a smaller reporting company as defined by Rule 12b-2 of the Exchange Act and is not required to provide the information under this item.

Item 8. Financial Statements and Supplementary Data.

The following consolidated financial statements are included in Item 8 of this Form 10-K.

Index to Consolidated Financial Statements

REPORT OF INDEPENDENT REGISTERED PUBLIC ACCOUNTING FIRM

Stockholders and Board of Directors
Power Solutions International, Inc.
Wood Dale, Illinois

Opinion on the Consolidated Financial Statements

We have audited the accompanying consolidated balance sheets of Power Solutions International, Inc. (the "Company") as of December 31, 2019 and 2018, the related consolidated statements of operations, stockholders' equity (deficit), and cash flows for the years then ended, and the related notes (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, 2019 and 2018, and the results of its operations and its cash flows for the years then ended**,** in conformity with accounting principles generally accepted in the United States of America.

Going Concern Uncertainty

The accompanying consolidated financial statements have been prepared assuming that the Company will continue as a going concern. As discussed in Note 1 to the consolidated financial statements, significant uncertainties exist about the Company's ability to refinance, extend, or repay outstanding indebtedness and maintain sufficient liquidity to fund its business activities. These factors raise substantial doubt about the Company's ability to continue as a going concern. Management's plans in regard to these matters are also described in Note 1. The consolidated financial statements do not include any adjustments that might result from the outcome of this uncertainty.

Change in Accounting Method Related to Leases

As discussed in Note 1 to the consolidated financial statements, the Company has changed its method for accounting for leases in 2019 due to the adoption of Accounting Standards Codification Topic 842 *Leases*.

Basis for Opinion

These consolidated financial statements are the responsibility of the Company's management. Our responsibility is to express an opinion on the Company's consolidated financial statements based on our audits. We are a public accounting firm registered with the Public Company Accounting Oversight Board (United States) ("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 consolidated financial statements are free of material misstatement, whether due to error or fraud. The Company is not required to have, nor were we engaged to perform, an audit of its internal control over financial reporting. As part of our audits, we are required to obtain an understanding of internal control over financial reporting but not for the purpose of expressing an opinion on the effectiveness of the Company's internal control over financial reporting. Accordingly, we express no such opinion.

Our audits included performing procedures to assess the risks of material misstatement of the consolidated 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 consolidated 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 consolidated financial statements. We believe that our audits provide a reasonable basis for our opinion.

/s/ BDO USA, LLP
We have served as the Company's auditor since 2018.
Chicago, Illinois
May 4, 2020

POWER SOLUTIONS INTERNATIONAL, INC.

CONSOLIDATED BALANCE SHEETS

(in thousands, except par values)	As of December 31, 2019	As of December 31, 2018
ASSETS		
Current assets:		
Cash and cash equivalents	$ 3	$ 54
Accounts receivable, net of allowances of $3,561 and $2,596 as of December 31, 2019 and December 31, 2018, respectively	104,515	86,471
Income tax receivable	1,055	973
Inventories, net	108,839	105,614
Prepaid expenses and other current assets	8,110	22,917
Total current assets	222,522	216,029
Property, plant and equipment, net	23,194	24,266
Intangible assets, net	13,372	17,010
Goodwill	29,835	29,835
Other noncurrent assets	24,749	2,742
TOTAL ASSETS	$ 313,672	$ 289,882
LIABILITIES AND STOCKHOLDERS' EQUITY (DEFICIT)		
Current liabilities:		
Accounts payable	$ 75,835	$ 85,218
Current maturities of long-term debt	195	80
Revolving line of credit	39,527	54,613
Warrant liability	—	35,100
Other accrued liabilities	66,030	45,700
Total current liabilities	181,587	220,711
Deferred income taxes	1,105	647
Long-term debt, net of current maturities	55,657	55,088
Noncurrent contract liabilities	17,998	14,611
Other noncurrent liabilities	28,828	17,403
TOTAL LIABILITIES	$ 285,175	$ 308,460
STOCKHOLDERS' EQUITY (DEFICIT)		
Preferred stock – $0.001 par value. Shares authorized: 5,000. No shares issued and outstanding at all dates.	$ —	$ —
Common stock – $0.001 par value; 50,000 shares authorized; 23,117 and 19,067 shares issued; 22,857 and 18,638 shares outstanding at December 31, 2019 and December 31, 2018, respectively	23	19
Additional paid-in capital	165,527	126,412
Accumulated deficit	(126,912)	(135,160)
Treasury stock, at cost, 260 and 429 shares at December 31, 2019 and December 31, 2018, respectively	(10,141)	(9,849)
TOTAL STOCKHOLDERS' EQUITY (DEFICIT)	28,497	(18,578)
TOTAL LIABILITIES AND STOCKHOLDERS' EQUITY (DEFICIT)	$ 313,672	$ 289,882

See Notes to Consolidated Financial Statements

POWER SOLUTIONS INTERNATIONAL, INC.

CONSOLIDATED STATEMENTS OF OPERATIONS

(in thousands, except per share amounts)	For the Year Ended December 31,	
	2019	2018
Net sales	$ 546,076	$ 496,038
Cost of sales	446,188	437,269
Gross profit	99,888	58,769
Operating expenses:		
Research, development and engineering expenses	24,932	28,601
Selling, general and administrative expenses	54,114	59,631
Asset impairment charges	1	2,234
Amortization of intangible assets	3,638	5,008
Total operating expenses	82,685	95,474
Operating income (loss)	17,203	(36,705)
Other expense:		
Interest expense	7,871	7,628
Loss from change in value and exercise of warrants	1,352	10,400
Other income, net	(677)	(176)
Total other expense	8,546	17,852
Income (loss) before income taxes	8,657	(54,557)
Income tax expense	409	169
Net income (loss)	$ 8,248	$ (54,726)
Weighted-average common shares outstanding:		
Basic	21,512	18,585
Diluted	21,530	18,585
Earnings (loss) per common share:		
Basic	$ 0.38	$ (2.94)
Diluted	$ 0.38	$ (2.94)

See Notes to Consolidated Financial Statements

POWER SOLUTIONS INTERNATIONAL, INC.

CONSOLIDATED STATEMENTS OF STOCKHOLDERS' EQUITY (DEFICIT)

(in thousands)	Common Stock	Additional Paid-in Capital	Accumulated Deficit	Treasury Stock	Total Stockholders' Equity (Deficit)
Balance at December 31, 2017	$ 19	$ 123,838	$ (82,147)	$ (9,538)	$ 32,172
Net loss	—	—	(54,726)	—	(54,726)
Stock-based compensation expense	—	2,974	—	(311)	2,663
Payment of withholding taxes for net settlement of stock-based awards	—	(400)	—	—	(400)
Cumulative effect of adoption of ASC 606	—	—	1,713	—	1,713
Balance at December 31, 2018	19	126,412	(135,160)	(9,849)	(18,578)
Net income	—	—	8,248	—	8,248
Stock-based compensation expense	—	1,540	—	(292)	1,248
Payment of withholding taxes for net settlement of stock-based awards	—	(489)	—	—	(489)
Issuance of common stock to Weichai	4	38,064	—	—	38,068
Balance at December 31, 2019	$ 23	$ 165,527	$ (126,912)	$ (10,141)	$ 28,497

See Notes to Consolidated Financial Statements

POWER SOLUTIONS INTERNATIONAL, INC.

CONSOLIDATED STATEMENTS OF CASH FLOWS

(in thousands)	For the Year Ended December 31, 2019	2018
Cash provided by (used in) operating activities		
Net income (loss)	$ 8,248	$ (54,726)
Adjustments to reconcile net income (loss) to net cash provided by (used in) operating activities:		
Amortization of intangible assets	3,638	5,008
Depreciation	5,161	5,196
Change in value and exercise of warrants	1,352	10,400
Stock-based compensation expense	1,248	2,663
Amortization of financing fees	698	1,497
Deferred income taxes	457	(56)
Asset impairment charges	1	2,234
Other non-cash adjustments, net	276	2,085
Changes in operating assets and liabilities:		
Accounts receivable, net	(18,095)	(17,890)
Inventory, net	(3,977)	(26,202)
Prepaid expenses and other assets	17,125	(761)
Accounts payable	(9,494)	33,968
Accrued expenses	13,948	11,630
Other noncurrent liabilities	(2,429)	18,786
Net cash provided by (used in) operating activities	18,157	(6,168)
Cash used in investing activities		
Capital expenditures	(3,681)	(3,645)
Asset acquisitions	—	(6,595)
Other investing activities, net	23	1
Net cash used in investing activities	(3,658)	(10,239)
Cash (used in) provided by financing activities		
Proceeds from revolving line of credit	544,146	516,440
Repayments of revolving line of credit	(559,232)	(498,881)
Proceeds from Weichai Warrant exercise	1,616	—
Other financing activities, net	(1,080)	(1,098)
Net cash (used in) provided by financing activities	(14,550)	16,461
Net (decrease) increase in cash and restricted cash	(51)	54
Cash and restricted cash at beginning of the year	54	—
Cash and restricted cash at end of the year	$ 3	$ 54

See Notes to Consolidated Financial Statements

Note 1. Summary of Significant Accounting Policies and Other Information

Nature of Business Operations

Power Solutions International, Inc. (“Power Solutions,” “PSI” or the “Company”), a Delaware corporation, is a global producer and distributor of a broad range of high-performance, certified, low-emission power systems, including alternative-fueled power systems for original equipment manufacturers (“OEMs”) of off-highway industrial equipment and certain on-road vehicles and large custom-engineered integrated electrical power generation systems.

The Company’s customers include large, industry-leading and multinational organizations. The Company’s products and services are sold predominantly to customers throughout North America as well as to customers located throughout the Pacific Rim and Europe. The Company’s power systems are highly engineered, comprehensive systems which, through the Company’s technologically sophisticated development and manufacturing processes, including its in-house design, prototyping, testing and engineering capabilities and its analysis and determination of the specific components to be integrated into a given power system (driven in large part by emission standards and cost considerations), allow the Company to provide its customers with power systems customized to meet specific OEM application requirements, other technical customers’ specifications and requirements imposed by environmental regulatory bodies.

The Company’s power system configurations range from a basic engine integrated with appropriate fuel system components to completely packaged power systems that include any combination of cooling systems, electronic systems, air intake systems, fuel systems, housings, power takeoff systems, exhaust systems, hydraulic systems, enclosures, brackets, hoses, tubes and other assembled componentry. The Company also designs and manufactures large, custom-engineered integrated electrical power generation systems for both standby and prime power applications. The Company purchases engines from third-party suppliers and produces internally designed engines, all of which are then integrated into its power systems.

Of the other components that the Company integrates into its power systems, a substantial portion consist of internally designed components and components for which it coordinates significant design efforts with third-party suppliers, with the remainder consisting largely of parts that are sourced off-the-shelf from third-party suppliers. Some of the key components (including purchased engines) embody proprietary intellectual property of the Company’s suppliers. As a result of its design and manufacturing capabilities, the Company is able to provide its customers with a power system that can be incorporated into a customer’s specified application. In addition to the certified products described above, the Company sells diesel, gasoline and non-certified power systems and aftermarket components.

Stock Ownership and Control

In March 2017, the Company executed a share purchase agreement (the “SPA”) with Weichai America Corp., a wholly owned subsidiary of Weichai Power Co., Ltd. (HK2338, SZ000338) (herein collectively referred to as “Weichai”). Under the terms of the SPA, Weichai invested $60.0 million in the Company purchasing a combination of newly issued Common and Preferred Stock as well as a stock purchase warrant (the “Weichai Warrant”).

With the exercise of the Weichai Warrant in April 2019, Weichai owns a majority of the outstanding shares of the Company’s Common Stock. As a result, Weichai is able to exercise control over matters requiring stockholders’ approval, including the election of the directors, amendment of the Company’s Charter and approval of significant corporate transactions. This control could have the effect of delaying or preventing a change of control of the Company or changes in management and will make the approval of certain transactions impractical without the support of Weichai.

Weichai also entered into an Investor Rights Agreement (the “Rights Agreement”) with the Company upon execution of the SPA. The Rights Agreement provides Weichai with representation on the Company’s Board of Directors (the “Board”) and management representation rights. Weichai currently has three representatives on the Board. According to the Rights Agreement, once Weichai exercised the Weichai Warrant and became the majority owner of the Company’s outstanding shares of Common Stock calculated on a fully diluted as-converted basis (excluding certain excepted issuances), the Company became required to appoint to the Board an additional individual designated by Weichai or such additional numbers of individuals so that Weichai designees constitute the majority of the directors serving on the Board. As of the date of this filing, Weichai has not designated an additional representative to the Board. According to the Rights Agreement, during any period when the Company is a “controlled company” within the meaning of the NASDAQ Stock Market (“NASDAQ”) Listing Rules, it will take such measures as to avail itself of the “controlled company” exemptions available under Rule 5615 of the NASDAQ Listing Rules of Rules 5605(b), (d) and (e).

Going Concern Considerations

On April 2, 2020, the Company closed on its new senior secured revolving credit facility pursuant to that credit agreement dated March 27, 2020 between the Company and Standard Chartered Bank ("Standard Chartered"), as administrative agent (the "Credit Agreement"). The Credit Agreement, which allows the Company to borrow up to $130.0 million, matures on March 26, 2021 with an optional 60-day extension subject to certain conditions and payment of a 0.25% extension fee. See Note 6. *Debt* for further discussion of the Credit Agreement.

Significant uncertainties exist about the Company's ability to refinance, extend, or repay its outstanding indebtedness, maintain sufficient liquidity to fund its business activities, and maintain compliance with the covenants and other requirements under the Credit Agreement. Based on the Company's current forecasts, without additional financing, the Company anticipates that it will not have sufficient cash and cash equivalents to repay the Credit Agreement by March 26, 2021. Management plans to seek additional liquidity from its current or other lenders before March 26, 2021. There can be no assurance that the Company's management will be able to successfully complete a financing on acceptable terms or repay this outstanding indebtedness, when required or if at all. The consolidated financial statements included in this Form 10-K do not include any adjustments that might result from the outcome of the Company's efforts to address these issues.

Furthermore, if the Company cannot raise capital on acceptable terms, it may not, among other things, be able to do the following:

- continue to expand the Company's research and product investments and sales and marketing organization;
- expand operations both organically and through acquisitions; and
- respond to competitive pressures or unanticipated working capital requirements.

Additionally, as discussed in Note 16. *Subsequent Events*, in January 2020, the World Health Organization ("WHO") announced a global health emergency because of a new strain of coronavirus (the "COVID-19 outbreak") and the risks to the international community as the virus spreads globally. In March 2020, the WHO classified the COVID-19 outbreak as a global pandemic (the "COVID-19 pandemic"), based on the rapid increase in exposure globally. The potential impact of future disruptions, continued economic uncertainty, and continued depressed crude oil prices and declining rig count levels may have a material adverse impact on the results of operations, financial position, and liquidity of the Company.

The Company's management has concluded that, due to uncertainties surrounding the Company's future ability to refinance, extend, or repay its outstanding indebtedness, maintain sufficient liquidity to fund its business activities, and maintain compliance with the covenants and other requirements under the Credit Agreement, substantial doubt exists as to its ability to continue as a going concern within one year after the date that these financial statements are issued. The Company's plans to alleviate the substantial doubt about its ability to continue as a going concern may not be successful, and it may be forced to limit its business activities or be unable to continue as a going concern, which would have a material adverse effect on its results of operations and financial condition.

The consolidated financial statements included herein have been prepared assuming that the Company will continue as a going concern and contemplating the realization of assets and the satisfaction of liabilities and commitments in the normal course of business. The Company's ability to continue as a going concern is dependent on generating profitable operating results, having sufficient liquidity, maintaining compliance with the covenants and other requirements under the Credit Agreement and refinancing or repaying the indebtedness outstanding under this agreement.

Basis of Presentation and Consolidation

The consolidated financial statements include the accounts of Power Solutions International, Inc. and its wholly owned subsidiaries. The Company's consolidated financial statements were prepared in accordance with generally accepted accounting principles in the United States ("U.S. GAAP") and include the assets, liabilities, sales and expenses of all wholly owned subsidiaries and majority-owned subsidiaries in which the Company exercises control. All intercompany balances and transactions have been eliminated in consolidation.

The Company operates as one business and geographic operating segment. Operating segments are defined as components of a business that can earn revenues and incur expenses for which discrete financial information is available that is evaluated on a regular basis by the chief operating decision maker ("CODM"). The Company's CODM is its principal executive officer, who decides how to allocate resources and assess performance. A single management team reports to the CODM, who manages the entire business. The Company's CODM reviews consolidated statements of operations to make decisions, allocate resources and assess performance, and the CODM does not evaluate the profit or loss from any separate geography or product line.

Reclassifications

Certain amounts recorded in the prior-period consolidated financial statements presented have been reclassified to conform to the current-period financial statement presentation. These reclassifications had no effect on previously reported results of operations.

Concentrations

The following table presents customers individually accounting for more than 10% of the Company's net sales:

	For the Year Ended December 31,	
	2019	2018
Customer A	17%	11%
Customer B	13%	15%

The following table presents customers individually accounting for more than 10% of the Company's accounts receivable:

	As of December 31,	
	2019	2018
Customer A	49%	25%
Customer B	**	15%

** Less than 10% of the total

The following table presents suppliers individually accounting for more than 10% of the Company's purchases:

	For the Year Ended December 31,	
	2019	2018
Supplier A	25%	19%
Supplier B	13%	13%

Use of Estimates

The preparation of consolidated financial statements in conformity with U.S. GAAP requires that management make estimates and assumptions that affect the reported amounts of assets and liabilities and disclosure of contingent assets and liabilities at the date of the consolidated financial statements and the reported amounts of revenue and expenses during the reporting period. Significant estimates and assumptions include the valuation of allowances for uncollectible receivables, inventory reserves, warranty reserves, stock-based compensation, evaluation of goodwill, other intangibles, plant and equipment for impairment, and determination of useful lives of long-lived assets. Actual results could materially differ from those estimates.

Cash and Cash Equivalents

Cash equivalents consist of short-term, highly liquid investments that mature within three months or less. Such investments are stated at cost, which approximates fair value. The Company's revolving credit agreement with Wells Fargo Bank, N.A. ("Wells Fargo") included a "lockbox" arrangement that received all receipts and from which the Company could request increases in the revolver borrowings. On April 2, 2020, the Company entered into the Credit Agreement with Standard Chartered. The Credit Agreement does not include a "lockbox" arrangement. See Note 6. *Debt* for additional information regarding the Wells Fargo Credit Agreement (the "Wells Fargo Credit Agreement") and the Credit Agreement.

Research and Development

Research and development ("R&D") expenses are expensed when incurred. R&D expenses consist primarily of wages, materials, testing and consulting related to the development of new engines, parts and applications. These costs were $23.3 million and $26.8 million for 2019 and 2018, respectively.

Income Taxes

The Company accounts for income taxes under the asset and liability method, which requires the recognition of deferred tax assets and liabilities for the expected future tax consequences of events that have been included in the financial statements. Under this method, deferred tax assets and liabilities are determined based on the differences between the financial statement and tax basis of assets and liabilities using enacted tax rates in effect for the year in which the differences are expected to be settled or realized. The effect of a change in tax rates on deferred tax assets and liabilities is recognized in income in the period that includes the enactment date.

The Company records net deferred tax assets to the extent that it believes these assets will more likely than not be realized. In making such a determination, the Company considers all available positive and negative evidence, including future reversals of existing taxable temporary differences, projected future taxable income, tax-planning strategies and results of recent operations.

The Company records uncertain tax positions in accordance with accounting guidance, on the basis of a two-step process whereby (i) it determines whether it is more likely than not that the tax positions will be sustained based on the technical merits of the position and (ii) for those tax positions that meet the more-likely-than-not recognition threshold, the Company recognizes the largest amount of tax benefit that is greater than 50% likely to be realized upon ultimate settlement with the related tax authority. Tax benefits related to uncertain tax positions taken or expected to be taken on a tax return are recorded when such benefits meet a more-likely-than-not threshold. Otherwise, these tax benefits are recorded when a tax position has been effectively settled, which means that the appropriate taxing authority has completed its examination even though the statute of limitations remains open, or the statute of limitation has expired. Interest and penalties related to uncertain tax positions are recognized as part of income tax expense and are accrued beginning in the period that such interest and penalties would be applicable under relevant tax law until such time that the related tax benefits are recognized.

Accounts Receivable and Allowance for Doubtful Accounts

Trade accounts receivable represent amounts billed to customers and not yet collected. Trade accounts receivable are recorded at the invoiced amount, which approximates net recoverable value, and generally do not bear interest. The allowance for doubtful accounts is the Company’s best estimate of the amount of probable credit losses in the existing accounts receivable and is established through a charge to selling, general and administrative expenses. The allowance is primarily determined based on historical collection experience and reviews of customer creditworthiness. Trade accounts receivable and the allowance for doubtful accounts are reviewed on a regular basis. When necessary, an allowance for the full amount of specific accounts deemed uncollectible is recorded. Accounts receivable losses are deducted from the allowance and the account balance is written off when the customer receivable is deemed uncollectible. Recoveries of previously written off balances are recognized when received. An allowance associated with anticipated future sales returns is also included in the allowance for doubtful accounts.

Insurance Recoveries

The Company records insurance recoveries related to amounts recorded as estimated losses on events covered by the Company’s insurance policies when management determines that the recovery is probable and the amount can be reasonably determined. As of December 31, 2019 and 2018, the Company had recorded assets related to insurance recoveries of $3.6 million and $16.0 million, respectively, primarily related to litigation reserves and related legal fees.

Inventories

The Company’s inventories consist primarily of engines and parts. Engines are valued at the lower of cost plus estimated freight-in or net realizable value. Parts are valued at the lower of cost or net realizable value. Net realizable value approximates replacement cost. Cost is principally determined using the first-in, first-out method and includes material, labor and manufacturing overhead. It is the Company’s policy to review inventories on a continuing basis for obsolete, excess and slow-moving items and to record valuation adjustments for such items in order to eliminate non-recoverable costs from inventory. Valuation adjustments are recorded in an inventory reserve account and reduce the cost basis of the inventory in the period in which the reduced valuation is determined. Inventory reserves are established based on quantities on hand, usage and sales history, customer orders, projected demand and utilization within a current or future power system. Specific analysis of individual items or groups of items is performed based on these same criteria, as well as on changes in market conditions or any other identified conditions.

Inventories consist of the following:

(in thousands)	As of December 31,	
Inventories	**2019**	**2018**
Raw materials	$ 90,677	$ 90,877
Work in process	2,007	2,390
Finished goods	19,119	18,077
Total inventories	111,803	111,344
Inventory allowance	(2,964)	(5,730)
Inventories, net	$ 108,839	$ 105,614

Activity in the Company's inventory allowance was as follows:

(in thousands)	For the Year Ended December 31,	
Inventory Allowance	**2019**	**2018**
Balance at beginning of period	$ 5,730	$ 6,227
Charged to expense	677	2,153
Write-offs	(3,443)	(2,650)
Balance at end of period	$ 2,964	$ 5,730

Property, Plant and Equipment

Property, plant and equipment is carried at cost and presented net of accumulated depreciation and impairments. Depreciation is computed using the straight-line method over the estimated useful lives of the assets. Property, plant and equipment is evaluated periodically to determine if an adjustment to depreciable lives is warranted. Such evaluation is based principally on the expected utilization of the long-lived assets.

Repairs and maintenance costs are charged directly to expense as incurred. Major renewals or replacements that substantially extend the useful life of an asset are capitalized and depreciated.

Estimated useful lives by each type of asset category are as follows:

	Years
Buildings	Up to 39
Leasehold improvements	Lesser of (i) expected useful life of improvement or (ii) life of lease (including likely extension thereof)
Machinery and equipment	1 to 10

Intangible Assets

The Company's intangible assets include customer relationships, developed technology, trade names and trademarks. Intangible assets are amortized on an accelerated basis over a period of time that approximates the pattern over which the Company expects to gain the estimated economic benefits, and such period generally ranges between three years and 15 years.

Impairment of Long-Lived Assets

The Company assesses potential impairments to its long-lived assets or asset groups, excluding goodwill which is separately tested for impairment, whenever events indicate that the carrying amount of such assets may not be recoverable. Long-lived assets are evaluated for impairment by comparing the carrying value of the asset or asset group with the estimated future net undiscounted cash flows expected to result from the use of the asset or asset group, including cash flows from disposition. If the future net undiscounted cash flows are less than the carrying value, an impairment loss is calculated. An impairment loss is determined by the amount that the asset's or asset group's carrying value exceeds its estimated fair value. Estimated fair value is generally measured by discounting estimated future cash flows. If an impairment loss is recognized, the adjusted balance becomes the new cost basis and is depreciated (amortized) over the remaining useful life. The Company also periodically reassesses the useful lives of its long-lived assets due to advances and changes in technologies.

In 2019, the Company incurred immaterial impairment charges related to certain long-lived assets removed from service during the year. In the fourth quarter of 2018, the Company recognized an impairment charge of $2.2 million related to developed technology. See Note 5. *Goodwill and Other Intangibles* for further discussion.

As a result of the recent COVID-19 pandemic and its impacts on the global economy, it is reasonably possible that the Company will be adversely impacted in future periods which may result in the recognition of material impairment charges related to its long-lived assets.

Goodwill

Goodwill represents the excess of the cost of an acquired business over the amounts assigned to the net acquired assets. Goodwill is not amortized but is tested for impairment at the reporting unit level, on an annual basis or more frequently, if events occur or circumstances change indicating potential impairment. The Company annually tests goodwill for impairment on October 1.

In evaluating goodwill for impairment, the Company may first assess qualitative factors to determine whether it is more likely than not (i.e., there is a likelihood of more than 50%) that the Company's fair value is less than its carrying amount. Qualitative factors that the Company considers include, but are not limited to, macroeconomic and industry conditions, overall financial performance and other relevant entity-specific events. If the Company bypasses the qualitative assessment, or if the Company concludes that it is more likely than not that the fair value of a reporting unit is less than its carrying value, then the Company performs a two-step goodwill impairment test to identify potential goodwill impairment and measures the amount of goodwill impairment it will recognize, if any.

In the first step of the two-step goodwill impairment test, the Company compares the estimated fair value of the reporting unit with its related carrying value. The Company has two reporting units: PSI and Professional Power Products, Inc. (“3PI”). If the estimated fair value exceeds the carrying amount, no further analysis is needed. If, however, the reporting unit’s estimated fair value is less than its carrying amount, the Company proceeds to the second step and calculates the implied fair value of goodwill to determine whether any impairment is required.

The Company calculates its estimated fair value using the income and market approaches when feasible, or an asset approach when neither the income nor the market approach has sufficient data. For the income approach, a discounted cash flow method, the Company uses internally developed discounted cash flow models that include the following assumptions, among others: projections of revenues, expenses and related cash flows based on assumed long-term growth rates and demand trends, expected future investments to grow new units, and estimated discount rates. The Company based these assumptions on its historical data and experience, industry projections, and micro and macro general economic condition projections and expectations. The market approach, also called the Guideline Public Company Approach, compares the value of an entity to similar publicly traded companies. The asset approach estimates the selling price the unit could achieve under assumed market conditions.

If the fair value of a reporting unit exceeds its carrying amount, goodwill of the reporting unit is considered not impaired, and the second step of the impairment test is unnecessary. If the carrying amount of a reporting unit exceeds its fair value, the second step of the goodwill impairment test is performed to measure the amount of impairment loss, if any. The second step compares the implied fair value of the reporting unit goodwill with the carrying amount of that goodwill. If the carrying amount of reporting unit goodwill exceeds the implied fair value of that goodwill, an impairment loss is recognized in an amount equal to that excess.

During the years ended December 31, 2019 and 2018, the Company performed a Step 1 assessment and determined that the estimated fair value of the reporting units exceeded the carrying value; as such, no impairment charges were recognized.

As a result of the recent COVID-19 pandemic and its impacts on the global economy, it is reasonably possible that the Company will be adversely impacted in future periods which may result in the recognition of material goodwill impairment charges.

Other Accrued Liabilities

Other accrued liabilities consisted of the following:

(in thousands)	As of December 31,	
Other Accrued Liabilities	**2019**	**2018**
Accrued product warranty	$ 17,142	$ 9,767
Litigation reserves *	5,020	16,139
Contract liabilities	26,898	4,897
Accrued compensation and benefits	6,599	4,520
Operating lease liabilities	3,789	—
Accrued interest expense	1,087	1,175
Other	5,495	9,202
Total	$ 66,030	$ 45,700

* As of December 31, 2019, litigation reserves primarily consisted of reserves related to ongoing government investigations and the settlement of the Federal Derivative Litigation. As of December 31, 2018, litigation reserves primarily consisted of accruals for the settlement of the Securities Litigation, Federal Derivative Litigation, and the Cohen matter. The Company concluded that insurance recovery was probable related to $1.9 million and $14.0 million of the litigation reserves as of December 31, 2019 and 2018, respectively, and recognized full recovery of the settlement amounts in *Prepaid expenses and other current assets*. See Note 10. *Commitments and Contingencies* for additional information.

Warranty Costs

The Company offers a standard limited warranty on the workmanship of its products that in most cases covers defects for a defined period. Warranties for certified emission products are mandated by the U.S. Environmental Protection Agency (the “EPA”) and / or the California Air Resources Board (the “CARB”) and are longer than the Company’s standard warranty on certain emission-related products. The Company’s products also carry limited warranties from suppliers. The Company’s warranties generally apply to engines fully manufactured by the Company and to the modifications the Company makes to supplier base products. Costs related to supplier warranty claims are generally borne by the supplier and passed through to the end customer.

Warranty estimates are based on historical experience and represent the projected cost associated with the product. A liability and related expense are recognized at the time products are sold. The Company adjusts estimates when it is determined that actual costs may differ from initial or previous estimates.

The Company records adjustments to preexisting warranties for changes in its estimate of warranty costs for products sold in prior fiscal years in the period in which new information is received and the information indicates that actual costs may differ from the Company's initial or previous estimates. Such adjustments typically occur when claims experience deviates from historic and expected trends. During 2019, the Company recognized a charge for adjustments to preexisting warranties of $2.7 million compared to charges of $3.8 million in 2018.

When the Company identifies cost effective opportunities to address issues in products sold or corrective actions for safety issues, it initiates product recalls or field campaigns. As a result of the uncertainty surrounding the nature and frequency of product recalls and field campaigns, the liability for such actions is generally recorded when the Company commits to a product recall or field campaign. In each subsequent quarter after a recall or field campaign is initiated, the recorded warranty liability balance is analyzed, reviewed and adjusted, if necessary, to reflect any changes in the anticipated average cost of repair or number of repairs to be completed prospectively.

When collection is reasonably assured, the Company also estimates the amount of warranty claim recoveries to be received from its suppliers. Warranty costs and recoveries are included in *Cost of sales* in the Consolidated Statements of Operations.

Accrued product warranty activities are presented below:

(in thousands)	For the Year Ended December 31,	
Accrued Product Warranty	**2019**	**2018**
Balance at beginning of year	$ 23,102	$ 12,628
Current year provision	10,349	15,840
Changes in estimates for preexisting warranties *	2,730	3,842
Payments made during the period	(10,680)	(9,208)
Balance at end of year	25,501	23,102
Less: Current portion	17,142	9,767
Noncurrent accrued product warranty	$ 8,359	$ 13,335

* Change in estimates for preexisting warranties reflect changes in the Company's estimate of warranty costs for products sold in prior periods. Such adjustments typically occur when claims experience deviates from historic and expected trends. The Company's warranty liability is generally affected by failure rates, repair costs and the timing of failures. Future events and circumstances related to these factors could materially change the estimates and require adjustments to the warranty liability. In addition, new product launches require a greater use of judgment in developing estimates until historical experience becomes available. In the first quarter of 2019, the Company recorded a charge for changes in estimates of $2.7 million, or $0.13 per diluted share.

Revenue Recognition

On January 1, 2018, the Company adopted the new revenue recognition guidance, Financial Accounting Standards Board ("FASB") Accounting Standards Codification ("ASC") Topic 606, *Revenue from Contracts with Customers* ("ASC 606"), on a modified retrospective basis. See Note 2. *Revenue* for additional information the Company's policy related to revenue recognition.

Recently Issued Accounting Pronouncements – Adopted

In February 2016, the FASB issued Accounting Standards Update ("ASU") 2016-02, *Leases,* which created ASC Topic 842, *Leases*, and superseded the existing guidance in ASC 840, *Leases.* See Note 7. *Leases* for additional information on the Company's policy related to leases.

Recently Issued Accounting Pronouncements – Not Yet Adopted

In August 2018, the FASB issued ASU 2018-15, *Intangibles – Goodwill and Other – Internal Use Software: Customer's Accounting for Implementation Costs Incurred in a Cloud Computing Arrangement That Is a Service Contract*. This guidance requires the use of existing accounting guidance applicable to software developed for internal use to be applied to cloud computing service contracts' implementation costs. The costs capitalized would be amortized over the life of the agreement, including renewal option periods likely to be used. This guidance is effective for fiscal 2020, with early adoption permitted. The Company will adopt the standard effective January 1, 2020 on a prospective basis and does not anticipate that this guidance will have a material impact on its Consolidated Balance Sheet and Consolidated Statement of Operations.

In August 2018, the FASB issued ASU 2018-13, *Fair Value Measurement: Disclosure Framework – Changes to the Disclosure Requirements for Fair Value Measurement*, which both reduces and expands selected disclosure requirements. The principal changes expected to impact the Company's disclosure are requirements to disclose the range and weighted average of each of the significant unobservable items and the way the weighted average of a range is calculated for items in the "table of significant unobservable inputs." The guidance also requires disclosure of changes in unrealized gains and losses in other comprehensive income and removes requirements regarding, among other items, disclosure of the valuation process for Level 3 measurements. This guidance is effective for fiscal 2020. The Company plans to implement the guidance when it becomes effective and does not currently anticipate that this guidance will have a material impact on its Consolidated Balance Sheet and Consolidated Statement of Operations.

In January 2017, the FASB issued ASU 2017-04, *Intangibles – Goodwill and Other: Simplifying the Test for Goodwill Impairment*, which eliminated the requirement to calculate the implied fair value of goodwill to measure a goodwill impairment charge. Instead, entities will record an impairment charge based on the excess of a reporting unit's carrying amount over its fair value. The ASU is effective for annual and interim impairment tests performed in periods beginning after December 15, 2019; early adoption is permitted for annual and interim goodwill impairment testing dates after January 1, 2017. The amendments in this ASU are to be applied on a prospective basis. The Company currently plans on adopting the guidance on January 1, 2020 when it becomes effective and does not expect the guidance to have a material impact on its financial statements.

In June 2016, the FASB issued ASU 2016-13, *Financial Instruments – Credit Losses: Measurement of Credit Losses on Financial Instruments*, which applies primarily to the Company's accounts receivable impairment loss allowances. The guidance provides a revised model whereby the current expected credit losses are used to compute impairment of financial instruments. The new model requires evaluation of historical experience and various current and expected factors, which may affect the estimated amount of losses and requires determination of whether the affected financial instruments should be grouped in units of account. The guidance, as originally issued, was effective for fiscal years beginning after December 15, 2019. In November 2019, the FASB issued ASU 2019-10, *Financial Instruments – Credit Losses (Topic 326), Derivatives and Hedging (Topic 815), and Leases (Topic 842) Effective Dates*, which deferred the effective dates of these standards for certain entities. Based on the guidance, the effective date of ASU 2016-13 is deferred for the Company until fiscal year 2023. The Company currently plans to adopt the guidance on January 1, 2023 when it becomes effective. The Company is continuing to assess the impact of the standard on its financial statements.

Note 2. Revenue

Revenue Recognition

The Company determines the amount of revenue to be recognized through the following steps:

- identification of the contract, or contracts with a customer;
- identification of the performance obligations in the contract;
- determination of the transaction price;
- allocation of the transaction price to the performance obligations in the contract; and
- recognition of revenue when, or as, the Company satisfies the performance obligations.

Revenue for the Company is generated from contracts that may include a single performance obligation (generally, a single type of engine) or multiple performance obligations (which may include an engine with aftermarket parts, different types of engines, etc.). A performance obligation is a promise in a contract to transfer a distinct good or service to the customer and is the unit of account for revenue recognition. Revenue is measured at the transaction price which is based on the amount of consideration that the Company expects to receive in exchange for transferring the promised goods or services to the customer. The transaction price is allocated to each distinct performance obligation and recognized as revenue when, or as, the performance obligation is satisfied. The Company is required to estimate the total consideration expected to be received from contracts with customers. The consideration expected to be received may be variable based on the specific terms of the contract and the Company's past practices.

For contracts with multiple performance obligations, the Company allocates the total transaction price to distinct performance obligations based on directly observable data, if available, or the Company's best estimate of the stand-alone selling price of each distinct performance obligation. The primary method used to estimate stand-alone selling price is the cost plus a margin approach.

The Company applies significant judgment in order to identify and determine the number of performance obligations, determine the total transaction price, allocate the transaction price to each performance obligation, and determine the appropriate timing of revenue recognition.

Taxes collected from customers and remitted to governmental authorities are presented on a net basis; that is, such taxes are excluded from revenues.

The Company's payment terms are generally 60 days or less and its sales arrangements do not contain any significant financing components.

Timing of revenue recognition. The Company recognizes revenue related to performance obligations in its contracts with customers when control passes to the customer. Control passes to the customer when the customer has the ability to direct the use of and obtain substantially all of the remaining benefits from the asset. For the majority of the Company's products, revenue is recognized at a point in time when the products are shipped or delivered to the customer based on the shipping terms as that is the point in time when control passes to the customer. For the years ended December 31, 2019 and 2018, the Company recognized revenue of $489.0 million and $449.8 million, respectively, related to products shipped or delivered at a point in time.

The Company also recognizes revenue over time primarily when the Company's performance obligations include enhancing a customer-controlled asset (generally when an engine is provided by the customer), constructing an asset with no alternative future use and the Company has an enforceable right to payment throughout the period as the services are performed, or providing an extended warranty beyond the Company's standard warranty. The Company recognizes revenue throughout the manufacturing process when constructing an asset based on labor hours incurred because the customer receives the benefit of the asset as the product is constructed. The Company believes labor hours incurred relative to total estimated labor hours at completion faithfully depicts the transfer of control to the customer. The Company recognizes revenue related to extended warranty programs based on the passage of time over the extended warranty period. For the years ended December 31, 2019 and 2018, the Company recognized revenue of $57.1 million and $46.2 million, respectively, for products manufactured over time.

Shipping and handling costs. The Company accounts for shipping and handling costs as fulfillment costs which are recorded in *Cost of sales* in the Consolidated Statements of Operations. This includes shipping and handling costs incurred after control of the asset has transferred to the customer as the Company has elected the practical expedient in ASC 606.

Variable consideration. Variable consideration primarily includes rebates and discounts. The Company estimates the projected amount of rebates and discounts based on current assumptions, customer-specific information and historical experience. Variable consideration is recorded as a reduction of revenue to the extent that it is probable that there will not be significant changes to the Company's estimate of variable consideration when any uncertainties are settled.

Costs to obtain and fulfill a contract. The Company has elected the practical expedient in ASC 606 to recognize incremental costs to obtain a contract (primarily commissions) as expense when incurred since the amortization period of the asset that the Company otherwise would have recognized is one year or less.

Disaggregation of Revenue

The following table summarizes net sales by end market:

(in thousands)	For the Year Ended December 31,	
End Market	**2019**	**2018**
Energy	$ 222,779	$ 185,685
Industrial	180,111	201,196
Transportation	143,186	109,157
Total	$ 546,076	$ 496,038

The following table summarizes net sales by geographic area:

(in thousands)	For the Year Ended December 31,	
Geographic Area	**2019**	**2018**
North America	$ 483,302	$ 436,068
Pacific Rim	39,180	42,071
Europe	16,562	13,743
Other	7,032	4,156
Total	$ 546,076	$ 496,038

Contract Balances

Most of the Company’s contracts are for a period of less than one year; however, certain long-term manufacturing and extended warranty contracts extend beyond one year. The timing of revenue recognition may differ from the time of invoicing to customers and these timing differences result in contract assets, or contract liabilities on the Company’s Consolidated Balance Sheet. Contract assets include amounts related to the contractual right to consideration for completed performance when the right to consideration is conditional. The Company records contract liabilities when cash payments are received or due in advance of performance. Contract assets and contract liabilities are recognized at the contract level.

(in thousands)	As of December 31,	
	2019	**2018**
Short-term contract assets (included in *Prepaid expenses and other current assets*)	$ 694	$ 2,926
Short-term contract liabilities (included in *Other accrued liabilities*)	(26,898)	(4,897)
Long-term contract liabilities (included in *Noncurrent contract liabilities*)	(17,998)	(14,611)
Net contract liabilities	$ (44,202)	$ (16,582)

During the year ended December 31, 2019, the Company recognized $6.7 million of revenue upon satisfaction of performance obligations related to amounts that were included in the net contract liabilities balance as of December 31, 2018. The increase in the contract liabilities from December 31, 2018 to December 31, 2019 is primarily related to the prepayment for certain engines by a customer under a long-term supply agreement.

Remaining Performance Obligations

The Company has elected the practical expedient to not disclose remaining performance obligations that have expected original durations of one year or less. For performance obligations that extend beyond one year, the Company had $41.8 million of remaining performance obligations as of December 31, 2019 primarily related to a long-term manufacturing contract with a customer and extended warranties. The Company expects to recognize revenue related to these remaining performance obligations of approximately $23.8 million in 2020, $15.6 million in 2021, $0.7 million in 2022, $0.7 million in 2023 and $1.0 million in 2024 and beyond.

Note 3. Weichai Transactions

In March 2017, the Company and Weichai executed the SPA in which the Company issued stock and a warrant to Weichai for aggregate proceeds of $60.0 million (the “Weichai Transactions”), composed of the following:

- 2,728,752 shares of Common Stock;
- 2,385,624 shares of Series B Redeemable Convertible Preferred Stock (“Series B Convertible Preferred Stock”) that was converted into 4,771,248 shares of Common Stock in November 2017; and
- the Weichai Warrant as discussed further below.

The Company used proceeds from the sale of the above securities pursuant to the SPA and borrowings under the Wells Fargo Credit Agreement to pay off the outstanding TPG Term Loan (the “TPG Term Loan”) with TPG Specialty Lending, Inc. (“TPG”).

Weichai Warrant

In September 2018, the Weichai Warrant was amended under the terms of a second amended and restated warrant (“Amended and Restated Warrant”) to defer its exercise date to a 90-day period commencing April 1, 2019, to adjust the exercise price to a price per share of the Company’s Common Stock equal to the lesser of (i) 50% of the Volume-Weighted Average Price (“VWAP”) during the 20 consecutive trading day period preceding October 1, 2018 and (ii) 50% of the VWAP during the 20 consecutive trading day period preceding the date of exercise, subject to an adjustment that could reduce the exercise price by up to $15.0 million. In the event that the adjustment exceeded the exercise price, the excess would be due to the warrant holder.

On April 23, 2019, Weichai exercised the Weichai Warrant resulting in the Company issuing 4,049,759 shares of the Company’s Common Stock and Weichai becoming the owner of 51.5% of the outstanding shares of the Company’s Common Stock, as of such date. The exercise proceeds for the warrants of $1.6 million were based on 50% of the VWAP during the 20 consecutive trading day period preceding April 23, 2019 and the $15.0 million reduction in the exercise price described above. The Company recorded net expense of $1.4 million related to the Weichai Warrant during 2019 including the impact of the exercise.

Weichai Collaboration Arrangement and Related Party Transactions

The Company and Weichai executed a strategic collaboration agreement (the “Collaboration Agreement”) on March 20, 2017, in order to achieve their respective strategic objectives and enhance the strategic cooperation alliance to share experiences, expertise and resources. Among other things, the collaboration arrangement established a joint steering committee, permitted Weichai to second a limited number of certain technical, marketing, sales, procurement and finance personnel to work at the Company and established several collaborations, related to stationary natural-gas applications and Weichai diesel engines. The collaboration arrangement provided for the steering committee to create various sub-committees with operating roles and otherwise governs the treatment of intellectual property of parties prior to the collaboration and the intellectual property developed during the collaboration. The Collaboration Agreement had a term of three years that was set to expire in March 2020. On March 26, 2020, the Collaboration Agreement was extended for an additional term of three years.

The Company evaluates whether an arrangement is a collaborative arrangement at its inception based on the facts and circumstances specific to the arrangement. The Company also reevaluates whether an arrangement qualifies or continues to qualify as a collaborative arrangement whenever there is a change in either the roles of the participants or the participants' exposure to significant risks and rewards dependent on the ultimate commercial success of the endeavor. For those collaborative arrangements where it is determined that the Company is the principal participant, costs incurred and revenue generated from third parties are recorded on a gross basis in the financial statements. For the years ended December 31, 2019 and 2018, the Company sales to and outstanding receivables from Weichai were immaterial. The Company purchased $4.4 million and $3.5 million of inventory from Weichai during 2019 and 2018, respectively. As of December 31, 2019 and 2018, the Company had outstanding payables to Weichai of $5.9 million and $3.7 million, respectively.

Note 4. Property, Plant and Equipment

Property, plant and equipment by type were as follows:

(in thousands)	As of December 31,	
Property, Plant and Equipment	**2019**	**2018**
Leasehold improvements	$ 6,745	$ 6,405
Machinery and equipment	41,243	38,454
Construction in progress	1,679	1,241
Total property, plant and equipment, at cost	49,667	46,100
Accumulated depreciation	(26,473)	(21,834)
Property, plant and equipment, net	$ 23,194	$ 24,266

In April 2018, the Company finalized the purchase of emissions testing assets and the sublease of an emissions testing facility from Ricardo, Inc., a subsidiary of the strategic engineering and environmental consultancy, Ricardo Plc., for $5.6 million in cash. The Company accounted for the acquisition as an asset acquisition and recorded property, plant and equipment of $6.9 million, included within machinery and equipment in the table above, and an asset retirement obligation of $1.3 million as a result of the transaction. The fair value of the asset retirement obligation was estimated using Level 3 inputs. The asset retirement obligation is recorded in *Other noncurrent liabilities* in the Company's Consolidated Balance Sheets.

Note 5. Goodwill and Other Intangibles

Goodwill

The carrying amount of goodwill at both December 31, 2019 and 2018 was $29.8 million. Accumulated impairment losses at both December 31, 2019 and 2018 were $11.6 million.

Other Intangible Assets

In March 2018, the Company acquired intellectual property ("IP") from AGA Systems, LLC ("AGA") for the conversion of certain gasoline engines to alternative fuel engines. The Company paid cash of $1.5 million ($1.0 million in 2018 and $0.5 million in 2017) to acquire the IP assets and provided a minimum guaranteed payment of an additional $1.2 million to be paid over a three-year period from the date of acquisition. If certain milestones related to future sales are met, the Company could pay up to an additional $3.3 million to AGA. The acquisition was accounted for as an asset acquisition because the gross assets acquired were concentrated within a group of similar identifiable assets. The Company recorded developed technology of $2.7 million related to the acquired IP and a liability of $1.2 million related to the guaranteed payment. The sales-based milestone payments are recorded as they are earned and the milestones are probable of being achieved. The developed technology was being depreciated over an estimated useful life of approximately three years. In the fourth quarter of 2018, based on uncertainty of the market for the conversion of certain gasoline engines to alternative fuel engines, the Company concluded that the forecasted future cash flows were not sufficient to recover the carrying value of the assets. As a result, the Company recorded an impairment charge of $2.2 million to write off the remaining book value of the intangible assets.

Components of intangible assets are as follows:

(in thousands)	As of December 31, 2019		
	Gross Carrying Value	Accumulated Amortization	Net Book Value
Customer relationships	$ 34,940	$ (22,236)	$ 12,704
Developed technology	700	(605)	95
Trade names and trademarks	1,700	(1,127)	573
Total	$ 37,340	$ (23,968)	$ 13,372

(in thousands)	As of December 31, 2018		
	Gross Carrying Value	Accumulated Amortization	Net Book Value
Customer relationships	$ 34,940	$ (18,816)	$ 16,124
Developed technology	700	(537)	163
Trade names and trademarks	1,700	(977)	723
Total	$ 37,340	$ (20,330)	$ 17,010

Estimated future amortization expense for intangible assets as of December 31, 2019 is as follows:

(in thousands)	
Year Ending December 31,	**Estimated Amortization**
2020	$ 3,053
2021	2,535
2022	2,124
2023	1,746
2024	1,459
2025 and beyond	2,455
Total	$ 13,372

Note 6. Debt

The Company’s outstanding debt consisted of the following:

(in thousands)	As of December 31,	
	2019	2018
Short-term financing:		
Wells Fargo revolving credit facility	$ 39,527	$ 54,613
Long-term debt:		
Unsecured senior notes	$ 55,000	$ 55,000
Finance leases and other debt	1,087	456
Unamortized debt issuance costs *	(235)	(288)
Total long-term debt and finance leases	55,852	55,168
Less: Current maturities of long-term debt and finance leases	195	80
Long-term debt	$ 55,657	$ 55,088

* Unamortized financing costs and deferred fees on the Wells Fargo Revolving Credit Facility are not presented in the above table as they are classified in *Prepaid expenses and other current assets* on the Consolidated Balance Sheets. Debt issuance costs incurred, including gross waiver fees (primarily paid to the lenders), were $0.3 million and $1.0 million in 2019 and 2018, respectively.

The Company paid $6.9 million and $6.1 million in cash for interest in 2019 and 2018, respectively.

The Company’s debt includes restrictive covenants that, if not met, could lead to renegotiation of its revolving credit facility, notes and indentures, a requirement to repay the Company’s borrowings and/or a significant increase in the cost of financing. These restrictive covenants may include, among other items, financial covenants pertaining to availability, permitted indebtedness, restrictions on dividends and various events of default.

Certain events of default (including delinquent filing of annual and periodic reports with the Securities and Exchange Commission ("SEC") and material weaknesses in the control environment) occurred with respect to the Company's credit agreements. While waivers were obtained or debt was renegotiated with the respective lenders, absent such waivers the debt would have been in breach of covenants. The Company pledged substantially all of its tangible and intangible assets, including inventory, receivables and fixed assets, as collateral under the Wells Fargo Credit Agreement.

Wells Fargo Credit Agreement

In June 2013, the Company entered into the Wells Fargo Credit Agreement. The Wells Fargo Credit Agreement enabled the Company to borrow under a revolving credit facility secured by substantially all of the Company's tangible and intangible assets, including inventory, receivables and fixed assets. The Wells Fargo Credit Agreement has been amended several times since June 28, 2013, including in June 2016 when the agreement was amended and restated. Below are some of the current key terms of the Wells Fargo Credit Agreement:

- matures on the earlier of March 31, 2021 or 60 days prior to the final maturity of the Unsecured Senior Notes (which currently mature on June 30, 2020 resulting in a current maturity date of May 1, 2020 for the Wells Fargo Credit Agreement);
- includes a maximum $75.0 million revolving line of credit to the Company less a reserve of $9.0 million;
- bears interest at Wells Fargo's prime rate plus a margin ranging from 1.25% to 1.75% per annum or at the London Interbank Offered Rate ("LIBOR") plus a margin ranging from 2.75% to 3.25% per annum at the Company's option; interest rate margin will decrease by 1% per annum upon the Company becoming current with its SEC filings;
- has an unused line fee of 0.25%;
- contains restrictive covenants that, among other things, limit the ability of the Company and its subsidiaries to incur additional debt, prepay subordinated indebtedness, or make certain distributions on capital stock; and
- limits borrowings to the lesser of the maximum revolving line of credit and the borrowing base, which is defined as a percentage of the Company's eligible accounts receivable and inventory.

Information regarding amounts borrowed under the Wells Fargo Credit Agreement includes the following:

(in thousands, except interest rate)	Year ended December 31,	
Description	**2019**	**2018**
Average borrowings under Wells Fargo Revolving Credit Facility	$ 48,235	$ 47,031
Average Interest Cost on Wells Fargo Revolving Credit Facility	6.30%	6.51%

(in thousands, except interest rate)	As of December 31,	
Description	**2019**	**2018**
Accrued and unpaid interest	$ 400	$ 174
LIBOR loan interest rate	5.00%	5.97%
Wells Fargo Prime Rate (Base Rate) loan interest rate	6.25%	7.25%

As of December 31, 2019 and 2018, the Company had available borrowing capacity under the revolving line of credit of $14.9 million and $8.9 million, respectively.

Significant changes to the Wells Fargo Credit Agreement since January 1, 2018 are summarized in the table below:

Amendment Date and Title	Reason for Amendment	Significant Changes/Notes Regarding Amendment to the Wells Fargo Credit Agreement
March 29, 2018. Sixth Amendment and Waiver to the June 28, 2016 Agreement	To consider implications of various events of default	• Increased the maximum borrowing under the revolving credit facility to $75.0 million from $65.0 million • Modified the reserve against the maximum borrowing under the revolving credit facility to the greater of $6.5 million and 10% of borrowing base, but no more than $7.5 million on or prior to September 30, 2018 and thereafter equal to $9.0 million • Extended the maturity date of the facility to the earlier of March 31, 2021 or 60 days prior to the final maturity of the Unsecured Senior Notes, which were extended to January 1, 2020, resulting in a maturity date of November 2, 2019 on the Wells Fargo revolving credit facility • The revolving credit facility will continue to bear interest at a per annum rate equal to 100 basis points (1%) above the per annum rate otherwise applicable under the credit agreement until the Company is current with its SEC filings • The Company paid an amendment fee of $0.8 million.
May 16, 2019. Waiver to the June 28, 2016 Agreement	To consider implications of various events of default	• Waived any defaults that would arise from the failure to timely deliver annual audited financial statements for the fiscal year ended December 31, 2018 and the associated compliance certificate and the information required with it; provided that the financial statements and compliance certificate were delivered on or before December 31, 2019.

The aforementioned amendments, consents and waivers related to the Wells Fargo Credit Agreement in 2019 and 2018 were accounted for as debt modifications. There were no debt issuance costs or third-party fees incurred in 2019 related to the debt modifications during the year. The Company incurred fees of $0.8 million in 2018 related to the modification which were deferred and amortized through the anticipated maturity date of the Wells Fargo Credit Agreement. As of December 31, 2019, all deferred debt issuance costs related to the Wells Fargo Credit Agreement had been amortized.

The Wells Fargo revolving credit facility is presented as a current liability on the Consolidated Balance Sheets as of December 31, 2019 and 2018 because of a subjective acceleration clause and a “lockbox” arrangement that sweeps cash receipts to pay down the revolver balance, without requiring the Company’s specific consent, and provides advances up to current limits to cover outlays.

Unsecured Senior Notes

In April 2015, the Company entered into an agreement with certain institutional investors for a private sale of its Unsecured Senior Notes for the aggregate amount of $55.0 million with an interest rate of 5.50% per annum. Concurrently, in connection with the issuance of the Unsecured Senior Notes, the Company entered into an indenture agreement (“Indenture”), by and among the Company and its subsidiaries as guarantors and the Bank of New York Mellon, as Trustee. The Company received net proceeds of $53.5 million after financing costs of $1.5 million. As discussed previously in Note 1. *Summary of Significant Accounting Policies and Other Information*, the Company has presented issuance costs associated with its Unsecured Senior Notes as a direct deduction from the carrying value of the obligation on its Consolidated Balance Sheets.

The Unsecured Senior Notes are unsecured debt of the Company and are effectively subordinated to its existing and future secured debt, including the debt in connection with the Wells Fargo Credit Agreement. The following are some of the current key provisions of the Unsecured Senior Notes:

- mature on June 30, 2020;
- accrue interest at 7.50% per annum (reduced from 8.50% upon filing the 2017 Annual Report on Form 10-K in May 2019), payable semiannually in arrears on May 1 and November 1 of each year;
- redeemable by the holders in whole or in part upon a change in control at a purchase price of 101% of the principal amount, plus accrued and unpaid interest;
- contain restrictive covenants that, among other things, limit the ability of the Company and its subsidiaries to incur additional debt, prepay subordinated indebtedness, pay dividends or make other distributions on capital stock; and
- provide for customary events of default (subject in certain cases to customary grace and cure periods).

Significant amendments to the Unsecured Senior Notes since January 1, 2018 are included in the table below:

Amendment Date and Title	Reason for Amendment	Significant Changes/Notes Related to Amendment to the Unsecured Senior Notes
April 19, 2018. Fourth Supplemental Indenture	To amend certain covenants and waive certain events of default	• Extended the maturity date to January 1, 2020 • Waived defaults with respect to the failure to file with the Trustee and the SEC for 2015 through 2019 • Increased the interest rate from 6.50% to 8.50% per annum effective October 1, 2018. The interest rate decreased to 7.50% per annum upon filing the 2017 Form 10-K with the SEC • the Company paid a consent fee of $0.3 million.
October 30, 2019. Fifth Supplemental Indenture	To extend the maturity date	• Extended maturity date to June 30, 2020 • The Company paid a fee of $0.3 million

Debt issuance costs of $0.3 million and $0.3 million incurred in 2019 and 2018, respectively, were deferred and amortized to interest expense through the anticipated maturity date of the Unsecured Senior Notes.

The interest rate on the Unsecured Senior Notes decreased to 7.50% per annum upon filing the 2017 Form 10-K with the SEC in May 2019. In addition, on October 30, 2019, the maturity date of the Unsecured Senior Notes was extended to June 30, 2020. By extending the maturity date of the Unsecured Senior Notes, the maturity date of the Wells Fargo Credit Agreement is extended to May 1, 2020.

The Unsecured Senior Notes are presented as a noncurrent liability on the Consolidated Balance Sheets as of December 31, 2019 and 2018. As of December 31, 2019 and 2018, the accrued, but unpaid, interest on the Unsecured Senior Notes was $0.7 million and $0.8 million, respectively.

Credit Agreement

On April 2, 2020, the Company closed on its new senior secured revolving credit facility pursuant to the Credit Agreement with Standard Chartered. The Credit Agreement allows the Company to borrow up to $130.0 million and matures on March 26, 2021 with an optional 60-day extension subject to certain conditions and payment of a 0.25% extension fee. Borrowings under the Credit Agreement shall bear interest at either the alternate base rate or LIBOR plus 2.00%, and the Company is required to pay a 0.25% commitment fee on the average daily unused portion of the revolving credit facility under the Credit Agreement. The Credit Agreement is secured by substantially all of the Company's assets and includes certain financial covenants as well as a change of control provision. On April 2, 2020, the Company borrowed $95.0 million under the Credit Agreement and utilized the funds to (i) repay the outstanding balance of $16.8 million under the Wells Fargo Credit Agreement, (ii) fully redeem and discharge $55.0 million in aggregate principal amount of the Unsecured Senior Notes and pay related interest and (iii) for general corporate purposes. The Wells Fargo Credit Agreement was terminated in connection with the repayment of the outstanding balance. The Company will recognize a loss on the extinguishment of the Wells Fargo Credit Agreement and the Unsecured Senior Notes of $0.1 million related to unamortized debt issuance costs and will defer additional debt issuance costs related to the closing of the Credit Agreement of $2.0 million. The Wells Fargo Credit Agreement maturity date was the earlier of March 31, 2021, or 60 days prior to the final maturity of the Unsecured Senior Notes, which were to mature on June 30, 2020, resulting in a maturity date of May 1, 2020 for the Wells Fargo Credit Agreement.

The below schedule of remaining maturities of long-term debt excludes finance leases (refer to Note 7. *Leases*) and additional debt drawn under the Credit Agreement in April 2020 but reflects the Unsecured Senior Notes as due in 2021 due to the execution of the Credit Agreement in April 2020 and refinancing of the Unsecured Senior Notes.

(in thousands)

Year Ending December 31,	**Maturities of Long-Term Debt**
2020	$ 107
2021	55,107
2022	101
2023	91
2024	91
Total	$ 55,497

Note 7. Leases

On January 1, 2019, the date of initial application, the Company adopted ASC 842 using the modified retrospective transition method whereby prior comparative periods have not been restated and continue to be reported under the accounting standards in effect for the prior period. The Company elected the package of practical expedients permitted under the transition guidance for all leases, which allowed the Company to adopt ASC 842 without reassessing whether arrangements contain leases, the lease classification, and the determination of initial direct costs.

Upon adoption on January 1, 2019, the Company recognized right-of-use ("ROU") assets inclusive of finance leases, net of prepaids, incentives, and impairments, of $24.6 million and lease liabilities of $25.1 million in the Consolidated Balance Sheet. At adoption, there was no impact to the Consolidated Statement of Operations, Consolidated Statement of Cash Flows or Consolidated Statement of Stockholders' Equity (Deficit).

Lease Policies

The Company determines if an arrangement contains a lease in whole or in part at the inception of the contract. ROU assets represent the right to use an underlying asset for the lease term while lease liabilities represent the obligation to make lease payments arising from the lease. All leases with an expected term greater than twelve months result in the recognition of a ROU asset and a liability at the lease commencement date based on the present value of the lease payments over the lease term. The Company uses its incremental borrowing rate based on the information available at the lease commencement date to determine the present value of the lease payments unless the implicit rate in the lease is readily determinable. The incremental borrowing rate is determined considering factors such as the lease term, the Company's credit standing and the economic environment of the location of the lease.

The lease term includes all non-cancellable periods and may include options to extend (or to not terminate) the lease when it is reasonably certain that the Company will exercise the option. Leases that have a term of 12 months or less at the commencement date are expensed on a straight-line basis over the lease term and do not result in the recognition of a ROU asset or lease liability.

The Company classifies leases as finance leases when (i) there is a transfer of ownership of the underlying asset by the end of the lease term, (ii) the lease contains an option to purchase the asset that the Company is reasonably certain will be exercised, (iii) the lease term is for the majority of the remaining economic life of the asset, or (iv) the present value of the lease payments and any residual value guarantee equals or substantially exceeds the fair value of the asset.

Lease expense for operating leases is recognized on a straight-line basis over the lease term. Lease expense for finance leases is generally front-loaded as the finance lease ROU asset is depreciated on a straight-line basis, but interest expense on the lease liability is recognized using the interest method which results in more expense during the early years of the lease. Variable lease payments are expensed in the period in which the obligation for those payments is incurred. The Company has elected to combine lease and non-lease components, such as fixed maintenance costs, as a single lease component in calculating ROU assets and lease liabilities for all classes of leased assets.

Leases

The Company has obligations under lease arrangements primarily for facilities, equipment and vehicles. These leases have original lease periods expiring between March 2020 and August 2039. For the year ended December 31, 2019, the Company recorded lease expense of $6.9 million within *Cost of sales*, $0.7 million within *Research, development and engineering*, $0.3 million within *SG&A* and less than $0.1 million within *Interest expense* on the Consolidated Statement of Operations.

The following table summarizes the components of lease expense:

(in thousands)		For the Year Ended December 31, 2019
Operating lease cost	$	5,472
Finance lease cost:		
Amortization of ROU asset		170
Interest expense		49
Short-term lease cost		492
Variable lease cost		1,675
Total lease cost	$	7,858

For the year ended December 31, 2018, rent expense related to operating leases under previous accounting guidance was $5.1 million.

The following table presents supplemental cash flow information related to leases:

(in thousands)		For the Year Ended December 31, 2019
Cash paid for amounts included in the measurement of lease liabilities		
Operating cash flows paid for operating leases	$	5,181
Operating cash flows paid for interest portion of finance leases		49
Financing cash flows paid for principal portion of finance leases		152
Right-of-use assets obtained in exchange for lease obligations		
Operating leases		280
Finance leases		536

As of December 31, 2019, the weighted-average remaining lease term was 6.7 years for operating leases and 4.5 years for finance leases. The weighted-average discount rate was 7.2% for operating leases and 6.8% for finance leases. The following table presents supplemental balance sheet information related to leases as of December 31, 2019:

(in thousands)	Operating Leases	Finance Leases
ROU assets, net [1]	$ 20,677	$ 777
Lease liabilities, current [2]	3,789	195
Lease liabilities, non-current [3]	17,679	617
Total lease liabilities	$ 21,468	$ 812

1. Included in *Other noncurrent assets* for operating leases and *Property, plant and equipment, net* for finance leases on the Consolidated Balance Sheet.
2. Included in *Other accrued liabilities* for operating leases and *Current maturities of long-term debt* for finance leases on the Consolidated Balance Sheet.
3. Included in *Other noncurrent liabilities* for operating leases and *Long-term debt, net of current maturities* for finance leases on the Consolidated Balance Sheet.

The following table presents maturity analysis of lease liabilities as of December 31, 2019:

(in thousands) **Year Ending December 31,**	Operating Leases	Finance Leases
2020	$ 5,210	$ 243
2021	4,827	243
2022	4,668	175
2023	3,247	101
2024	1,813	82
Thereafter	7,389	96
Total undiscounted lease payments	27,154	940
Less: imputed interest	5,686	128
Total lease liabilities	$ 21,468	$ 812

The future minimum lease payments due under operating and capital leases in effect, as amended and extended, as of December 31, 2018, under the previous lease guidance, were as follows:

(in thousands)	Operating	Capital
2019	$ 5,071	$ 80
2020	5,175	63
2021	4,724	67
2022	4,681	50
2023	3,104	13
2024 and beyond	3,694	—
Total	$ 26,449	$ 273

Note 8. Fair Value of Financial Instruments

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

- Level 1 – based on quoted prices in active markets for identical assets or liabilities;
- Level 2 – based on other significant observable inputs for the assets or liabilities through corroborations with market data at the measurement date; and
- Level 3 – based on significant unobservable inputs that reflect management's best estimate of what market participants would use to price the assets or liabilities at the measurement date.

Financial Instruments Measured at Carrying Value

Current Assets

Cash and cash equivalents are measured at carrying value, which approximates fair value because of the short-term maturities of these instruments.

Debt

The Company measures the Wells Fargo Credit Agreement and the Unsecured Senior Notes at original carrying value including accrued interest, net of unamortized deferred financing costs and fees. The fair value of the revolving credit facility approximates carrying value, as it consists of short-term variable rate loans.

The fair value measurement of the Unsecured Senior Notes is defined as Level 3 in the three-level fair value hierarchy, as the inputs to their valuation are not all market observable.

(in thousands)	As of December 31, 2019			
		Fair Value		
	Carrying Value	Level 1	Level 2	Level 3
Wells Fargo Credit Agreement	$ 39,527	$ —	$ 39,527	$ —
Unsecured Senior Notes	54,765	—	—	54,600

(in thousands)	As of December 31, 2018			
		Fair Value		
	Carrying Value	Level 1	Level 2	Level 3
Wells Fargo Credit Agreement	$ 54,613	$ —	$ 54,613	$ —
Unsecured Senior Notes	54,712	—	—	52,700

Other Financial Assets and Liabilities

In addition to the methods and assumptions used for the financial instruments discussed above, accounts receivable, net, income tax receivable, and accounts payable and certain accrued expenses are measured at carrying value, which approximates fair value because of the short-term maturities of these instruments.

Financial Instruments Measured at Fair Value

The Company's warrant liability was measured at fair value based on unobservable inputs and was, thus, considered a Level 3 financial instrument in the three-level valuation hierarchy.

(in thousands)	As of December 31, 2018			
		Fair Value		
	Carrying Value	Level 1	Level 2	Level 3
Warrant liability	$ 35,100	$ —	$ —	$ 35,100

Warrants

The following table summarizes changes in the estimated fair value of the Company's warrant liability:

(in thousands)	As of December 31,	
	2019	2018
Balance at beginning of year	$ 35,100	$ 24,700
Change in value of warrants *	1,352	10,400
Settlement of warrants	(36,452)	—
Balance at end of year	$ —	$ 35,100

* The change in value of the warrant liability for each year is presented in *Loss from change in value and exercise of warrants* in the Company's Consolidated Statements of Operations. The change in value for the year ended December 31, 2019 includes the impact of Weichai exercising the warrant in April 2019.

Weichai Warrant Liability

The Company estimated the fair value of the Weichai Warrant financial instrument using a publicly traded stock pricing approach with a Black-Scholes option pricing model and a Monte Carlo simulation. Given the unobservable nature of the inputs to the pricing models, the Weichai Warrant was classified as a Level 3 instrument.

The inputs of the Black-Scholes option pricing model were as follows:

Assumptions	As of December 31, 2018
Market value of the Common Stock	$ 9.25
Exercise price	varies
Risk-free interest rate	2.6%
Estimated price volatility	55.0%
Contractual term	0.5 years

The estimated price volatility represents the upper end of the range of implied volatility of publicly traded call options of benchmark companies.

Note 9. Defined Contribution Plans

As of December 31, 2018, the Company had not contributed to the plans and recorded a liability of $0.7 million for 2018 contributions. During 2019, the Company made contributions of $0.7 million (primarily related to the contribution for 2018) and had recorded a liability of $0.5 million as of December 31, 2019 for additional 2019 contributions.

Note 10. Commitments and Contingencies

Legal Contingencies

The legal matters discussed below and others could result in losses, including damages, fines, civil penalties and criminal charges, which could be substantial. The Company records accruals for these contingencies to the extent the Company concludes that a loss is both probable and reasonably estimable. Regarding the matters disclosed below, unless otherwise disclosed, the Company has determined that liabilities associated with these legal matters are reasonably possible; however, unless otherwise stated, the possible loss or range of possible loss cannot be reasonably estimated. Given the nature of the litigation and investigations and the complexities involved, the Company is unable to reasonably estimate a possible loss for all such matters until the Company knows, among other factors the following information:

- what claims, if any, will survive dispositive motion practice;
- the extent of the claims, particularly when damages are not specified or are indeterminate;
- how the discovery process will affect the litigation;
- the settlement posture of the other parties to the litigation; and
- any other factors that may have a material effect on the litigation or investigation.

However, the Company could incur judgments, enter into settlements or revise its expectations regarding the outcome of certain matters, and such developments could have a material adverse effect on the Company’s results of operations in the period in which the amounts are accrued and/or liquidity in the period in which the amounts are paid.

Securities and Exchange Commission and United States Attorney’s Office for the Northern District of Illinois Investigations

In August 2016, the Chicago Regional Office of the SEC commenced an investigation focused on, among other things, the Company’s financial reporting, misapplication of U.S. GAAP, revenue recognition practices and related conduct, which resulted in the accounting errors giving rise to the financial restatements reported in prior SEC filings. In 2016, the United States Attorney's Office for the Northern District of Illinois (the “USAO”) began conducting a parallel investigation regarding these matters. The Company is fully cooperating with the SEC and the USAO in their investigations. The Company is engaged in ongoing discussions with the SEC and the USAO regarding resolutions of these matters. If the SEC or the USAO determines that the Company violated federal securities or other laws and institutes civil enforcement or criminal proceedings, the Company may become subject to civil or criminal sanctions, including, but not limited to, criminal or civil charges, fines, other monetary penalties, injunctive relief and compliance conditions imposed by a court or agreement, which may have a material adverse effect on the financial condition, results of operations or cash flows of the Company.

Securities Litigation

In August 2016, Sumit Gupta filed a putative stockholder class-action complaint against the Company, Gary S. Winemaster, Michael P. Lewis and Daniel P. Gorey in the U.S. District Court for the Northern District of Illinois (the "*Gupta* Action"). The complaint alleged violations of Sections 10(b) and 20(a) of the Securities Exchange Act of 1934, as amended (the "Exchange Act") arising from public filings made between May 2015 and August 2016. In October 2016, Peter Stout initiated a second suit, asserting similar claims against the same defendants (the "*Stout* Action").

In January 2017, the court consolidated the *Gupta* Action and the *Stout* Action and appointed Richard Giunta as lead plaintiff. The consolidated case is captioned *Giunta v. Power Solutions International, Inc.*, No. 1:16-cv-09599 (N.D. Ill.) (the "*Giunta* Action"). The plaintiffs then filed an Amended Class Action Complaint (the "Amended Complaint") against the Company and certain current and former officers and directors. The Amended Complaint alleges violations of Sections 10(b) and 20(a) of the Exchange Act arising from public filings, press releases and conference calls between February 2014 and February 2017. In January 2019, the parties executed a Stipulation and Agreement of Settlement (the "Settlement") to resolve the *Giunta* Action. Under the terms of the Settlement, a payment of $8.5 million would be made by the Company and/or its insurers in exchange for the release of claims against the defendants and other released parties by the lead plaintiff and all settlement class members and for the dismissal of the *Giunta* Action with prejudice. The payment of the $8.5 million was placed into escrow by the Company's insurers in February 2019. In May 2019, the court granted final approval of the settlement. The Company accrued for the settlement in *Other accrued liabilities* and for the full insurance recovery of the settlement amount in *Prepaid expenses and other current assets* as of December 31, 2018. See Note 1. *Summary of Significant Accounting Policies and Other Information* for additional information related to the Company's insurance proceeds receivable and litigation reserves. No further action or impact to the Company's results of operations, financial condition or cash flows is expected.

Federal Derivative Litigation

In February 2017, Travis Dorvit filed a putative stockholder derivative action in the U.S. District Court for the Northern District of Illinois, captioned *Dorvit v. Winemaster, et al.*, No. 1:17-cv-01097 (N.D. Ill.) (the "*Dorvit* Action"), against certain of the Company's current and former officers and directors. The complaint asserted claims for breach of fiduciary duty and unjust enrichment arising from the same matters at issue in the *Giunta* Action. In April 2018, Michael Martin filed a second putative stockholder derivative action, captioned *Martin v. Winemaster, et al.*, No. 18-CV-2386 (N.D. Ill.) (the "*Martin* Action"), in the same court against certain of the Company's current and former officers and directors. In July 2018, the court consolidated the *Martin* Action and the *Dorvit* Action.

In July 2018, the plaintiffs in the consolidated *Dorvit* and *Martin* Actions filed an amended consolidated complaint (the "Second Amended Complaint") against certain of the Company's current and former officers and directors, who are indemnified by the Company as to their legal fees and defense costs. The Second Amended Complaint asserts claims for breach of fiduciary duty, unjust enrichment, corporate waste and failure to hold an annual stockholders' meeting, and it seeks an unspecified amount of damages, an order compelling the Company to hold an annual stockholders' meeting and an award of costs, including reasonable attorneys' fees and expenses. In April 2019, the parties reached an agreement in principle to settle the litigation for approximately $1.9 million ("Settlement Amount"), half of which will be used to pay certain defense costs on behalf of the Company, and the remaining half of which the plaintiffs sought as an award of their attorneys' fees and expenses in connection with the benefit conferred by the settlement. The settlement was approved by the court in August 2019 over two objections, including from the plaintiffs in the *McClenney* Action (defined below). Plaintiffs in the *McClenney* Action appealed the court's order approving the settlement. On February 28, 2020, the U.S. Court of Appeals for the Seventh Circuit affirmed the district court's approval of the settlement. Absent an extension, the plaintiffs in the *McClenney* Action plaintiffs have until July 27, 2020 to seek further review in the U.S. Supreme Court. The Company's insurers made a payment of half of the Settlement Amount in September 2019 toward the fulfillment of the plaintiff's award of attorneys' fees and expenses, and the insurers have allocated the remaining half of the Settlement Amount toward the payment of certain defense costs consistent with the terms of the settlement. The Company had accrued for the settlement in *Other accrued liabilities* and for the full insurance recovery of the Settlement Amount in *Prepaid expenses and other current assets* as of December 31, 2018.

State Derivative Litigation

In May 2017, Lewis McClenney filed a putative stockholder derivative action in the Chancery Division of the Circuit Court of Cook County, Illinois, captioned *McClenney v. Winemaster, et al.*, No. 2017-CH-06481 (the "*McClenney* Action"), against certain of the Company's current and former officers and directors. The *McClenney* Action asserted claims for breach of fiduciary duty, unjust enrichment, abuse of control, gross mismanagement and corporate waste arising from the same matters at issue in the *Giunta* Action. On the same day that the *McClenney* Action was filed, Sara Rebscher also filed a putative stockholder derivative action in the same court, captioned *Rebscher v. Winemaster, et al.*, No. 2017-CH-06517 (the "*Rebscher* Action"). The *Rebscher* Action asserts claims for breach of fiduciary duty and unjust enrichment against certain of the Company's current and former officers and directors, arising from the same matters at issue in the *Giunta* Action. Additionally, the complaint in the *Rebscher* Action asserts a claim for professional negligence and accounting malpractice against the Company's former auditor, RSM U.S. LLP ("RSM").

In July 2017, the court consolidated the *McClenney* Action and the *Rebscher* Action. Subsequently, the court appointed Rebscher as lead plaintiff and designated the *Rebscher* Action as the operative complaint. In November 2018, the court granted the Company's motion to dismiss the consolidated case with prejudice on the grounds that it is duplicative of the *Dorvit* and *Martin* Actions. Plaintiffs moved for reconsideration of the court's decision, which the court denied in January 2019. In February 2019, plaintiffs filed a notice of appeal from the court's order dismissing the case. In December 2019, the Illinois Appellate Court affirmed the dismissal of the *McClenney* Action. Plaintiffs did not seek rehearing in the Illinois Appellate Court and did not petition for leave to appeal to the Illinois Supreme Court.

Jerome Treadwell v. the Company

In October 2018, a putative class-action complaint was filed against the Company and NOVAtime Technology, Inc. ("NOVAtime") in the Circuit Court of Cook County, Illinois. In December 2018, NOVAtime removed the case to the U.S. District Court for the Northern District of Illinois, Eastern Division under the Class Action Fairness Act. Plaintiff has since voluntarily dismissed NOVAtime from the lawsuit without prejudice and filed an amended complaint in April 2019. The operative, amended complaint asserts violations of the Illinois Biometric Information Privacy Act ("BIPA") in connection with employees' use of the time clock to clock in and clock out using a finger scan and seeks statutory damages, attorneys' fees, and injunctive and equitable relief. An aggrieved party under BIPA may recover (i) $1,000 per violation if the Company is found to have negligently violated BIPA or (ii) $5,000 per violation if the Company is found to have intentionally or recklessly violated BIPA plus reasonable attorneys' fees. In May 2019, the Company filed its motion to dismiss the plaintiff's amended complaint. In December 2019, the court denied the Company's motion to dismiss. In January 2020, the Company moved for reconsideration of the court's order denying the motion to dismiss, or in the alternative, to stay the case pending the Illinois Appellate Court's ruling in *McDonald v. Symphony Healthcare* on a legal question that would be potentially dispositive in this matter. In February 2020, the court denied the Company's motion for reconsideration, but required the parties to submit additional briefing on the Company's motion to stay. On April 1, 2020, the Court granted the Company's motion to stay and stayed the case pending the Illinois Appellate Court's ruling in *McDonald v. Symphony Healthcare*. The Company intends to vigorously defend against this action. At this time, the Company is unable to predict the ultimate outcome of this matter or meaningfully quantify how the final resolution of this matter may impact its results of operations, financial condition or cash flows.

Don Wilkins v. the Company

In April 2017, Don Wilkins, former VP of Advanced Product Development for the Company, filed a two-count complaint alleging breach of contract by the Company and violation of the Illinois Wage Payment and Collections Act ("IWPCA") by the Company and its former CEO, Gary Winemaster (the "Wilkins Complaint"). The Wilkins Complaint claims the Company did not have cause to terminate Mr. Wilkins' Employment and Confidentiality Agreement ("Agreement"), executed January 6, 2012, and that the Company and Mr. Winemaster violated the IWPCA by failing to pay him accrued but unpaid vacation and earned commissions. The Wilkins Complaint seeks damages including a $2.0 million bonus entitlement in the Agreement, guaranteed annual salary to increase at 1.5 times the Consumer Price Index per year from the termination date to the end-date of the Agreement, December 31, 2020, and 20,000 shares of restricted stock granted to him in 2013 with a vesting schedule through 2020. In June 2017, the Company and Mr. Winemaster answered the complaint and asserted numerous defenses. The Company also asserted counterclaims against Wilkins including violation of the Illinois Trade Secrets Act, breach of the Agreement, breach of fiduciary duty, and spoliation. In January 2019, Mr. Wilkins voluntarily dismissed with prejudice his claims for unpaid commissions and vacation against the Company and Mr. Winemaster, subject to the parties' confidential settlement agreement of those claims. Discovery is ongoing and no trial date has been set. In February 2020, the Company filed a motion for protective order or to stay the litigation, which the Court denied on April 7, 2020. On April 22, 2020, the parties reached an agreement in principle to settle all remaining claims for a $1.1 million payment ("Wilkins Settlement Amount") to Mr. Wilkins. The Company will contribute $0.9 million of the Wilkins Settlement Amount which was reserved during the first quarter of 2019. The parties are working on the final settlement documents. The parties will stipulate to the dismissal of the litigation with prejudice within 7 days after payment of the Wilkins Settlement Amount.

Other Commitments

Letters of Credit

At December 31, 2019, the Company had seven outstanding letters of credit totaling $3.0 million. The letters of credit primarily serve as collateral for the Company for certain facility leases and insurance policies.

Guaranteed Minimum Commission Payment

As a result of the AGA asset acquisition discussed in Note 5. *Goodwill and Other Intangibles*, the Company agreed to make quarterly commission payments to the former owners with a guaranteed minimum commission payment of $1.2 million. At December 31, 2019 and 2018, $0.4 million and $1.0 million, respectively, remained outstanding related to the guaranteed minimum commission payment.

Supply Agreements

In October 2019, the Company entered into an addendum (the "Addendum") to a supply agreement (the "Supply Agreement"), dated December 11, 2007, with a key supplier. The Addendum extends the Supply Agreement to December 31, 2023 with automatic annual extensions thereafter unless notice of termination is provided. The Addendum extends the Company's exclusivity for the prescribed territory, but carves out of the restriction the competing engine products supplied by General Motors Company and Weichai. The Company committed to maximize sales and service opportunities on both the key supplier and Weichai engine products, recognizing their different value proposition and target markets. The Addendum also updates the minimum product purchase commitments for the period 2019 through 2023 to $40.0 million per year, subject to reductions based on market declines in oil prices and defined prescribed payments to the key supplier triggered by shortfalls in purchases made by the Company during each annual calendar period. The Company made product purchases of $47.2 million and $44.9 million in 2019 and 2018, respectively.

Given the significant decline in oil prices in early 2020, the Company is evaluating the impact of potential future purchasing volume reductions. As of December 31, 2019, no liability has been established for any possible purchasing shortfall payments.

Note 11. Income Taxes

Income tax expense was as follows:

(in thousands)	For the Year Ended December 31,	
	2019	2018
Current tax (benefit) expense		
Federal	$ (238)	$ 198
State	91	27
Foreign	99	—
Total current tax (benefit) expense	$ (48)	$ 225
Deferred tax expense (benefit)		
Federal	$ 329	$ (149)
State	128	93
Total deferred tax expense (benefit)	457	(56)
Total tax expense	$ 409	$ 169

The Company received net cash refunds for income taxes of $0.3 million and $0.2 million in 2019 and 2018, respectively.

A reconciliation between the Company's effective tax rate on income (loss) before income taxes and the statutory tax rate is as follows:

(in thousands)	For the Year Ended December 31,			
	2019		2018	
	Amount	Percent	Amount	Percent
Income tax expense (benefit) at federal statutory rate	$ 1,818	21.0 %	$ (11,457)	21.0 %
State income tax, net of federal benefit	618	7.1 %	(1,762)	3.2 %
Non-deductible warrant expense	284	3.3 %	2,184	(4.0)%
Other permanent differences	46	0.5 %	70	(0.1)%
Research and development tax credits	(715)	(8.3)%	(1,058)	1.9 %
Other tax credits	1	— %	(934)	1.7 %
Tax reserve reassessment	25	0.3 %	196	(0.4)%
Change in valuation allowance	(2,696)	(31.1)%	12,856	(23.5)%
Return adjustment	752	8.7 %	—	— %
Stock-based compensation	279	3.2 %	96	(0.2)%
Other, net	(3)	— %	(22)	0.1 %
Income tax expense	$ 409	4.7 %	$ 169	(0.3)%

For the year ended December 31, 2019, the Company recognized pretax income of $8.7 million, which included $1.4 million of permanently excludable loss associated with the change in the valuation and exercise of the Weichai Warrant. For the year ended December 31, 2018, the Company recognized a pretax loss of $54.6 million, which included $10.4 million of permanently excludable loss associated with the change in the valuation of the Weichai Warrant.

The Company generates R&D tax credits as a result of its R&D activities, which reduce the Company's effective income tax rate. In general, these credits are general business credits and may be carried forward up to 20 years to be offset against future taxable income.

Significant components of deferred income tax assets and liabilities consisted of the following:

(in thousands)	As of December 31,	
	2019	**2018**
Deferred tax assets:		
Net operating loss carryforwards	$ 16,389	$ 19,006
Research and development credits	4,398	3,858
Other state credits	1,922	1,923
Inventory	1,718	2,203
Allowances and bad debts	1,009	840
Accrued warranty	6,344	5,732
Accrued wages and benefits	1,294	413
Other accrued expenses	1,393	5,281
Stock-based compensation	205	649
Capitalized research and development costs	486	770
163(j) disallowed interest	1,688	1,643
Intangible amortization	1,855	2,240
Contract liabilities	3,583	495
Operating lease liability	5,989	—
Other	356	847
Total deferred tax assets	48,629	45,900
Valuation allowance	(41,709)	(44,405)
Total deferred tax assets, net of valuation allowance	$ 6,920	$ 1,495
Deferred tax liabilities:		
ROU operating lease asset	$ (5,652)	$ —
Tax depreciation in excess of book depreciation on property, plant and equipment	(2,373)	(2,142)
Total deferred tax liabilities	$ (8,025)	$ (2,142)
Net deferred tax liability	$ (1,105)	$ (647)

The Company's net deferred tax liability is presented as a separate line item in the Consolidated Balance Sheets.

A valuation allowance is required to be established or maintained when, based on currently available information, it is more likely than not that all or a portion of a deferred tax asset will not be realized. The guidance on accounting for income taxes provides important factors in determining whether a deferred tax asset will be realized, including whether there has been sufficient taxable income in recent years and whether sufficient income can reasonably be expected in future years in order to utilize the deferred tax asset.

The Company evaluated the need to maintain a valuation allowance for deferred tax assets based on an assessment of whether it is more likely than not that deferred tax benefits will be realized through the generation of future taxable income. Appropriate consideration is given to all available evidence, both positive and negative, in assessing the need for a valuation allowance. As a result of this evaluation, the Company concluded that the negative evidence outweighed the positive evidence and that a full valuation allowance should be maintained against its net deferred tax assets as of December 31, 2019 and 2018. The Company's net deferred tax liability of $1.1 million and $0.6 million as of December 31, 2019 and 2018, respectively, represents the deferred tax liability related to indefinite-lived assets which cannot serve as a source of income for the realization of deferred tax assets.

As of December 31, 2019, the Company has, on a tax-effected basis, $6.3 million in R&D and state tax credit carryforwards which begin to expire in 2020. The Company has $11.4 million and $5.0 million of federal and state (tax effected, net of federal tax benefit) net operating loss carryforwards that are available to offset taxable income in the future. The federal and state net operating loss carryforwards begin to expire in 2037 and 2026, respectively. On April 23, 2019, Weichai exercised the Weichai Warrant resulting in the Company issuing 4.0 million shares of the Company's Common Stock and Weichai becoming the owner of 51.5% of the outstanding shares of the Company's Common Stock. The Company believes that this will constitute an "ownership change" as defined in Section 382 of the Internal Revenue Code. Consequently, all pre-ownership change tax attributes are subject to an annual Section 382 limitation. Based on the current estimated annual Section 382 limitation, the Company believes all tax attributes subject to Section 382 will be utilized prior to their expiration dates, if any.

The change in unrecognized tax benefits excluding interest and penalties were as follows:

(in thousands)	For the Year Ended December 31,	
	2019	**2018**
Balance at beginning of year	$ 1,421	$ 1,307
Additions based on tax positions related to the current year	144	193
Reductions for tax positions of prior years	(135)	(79)
Balance at end of year	$ 1,430	$ 1,421

The Company recognizes interest and penalties related to unrecognized tax benefits in *Income tax expense*. As of December 31, 2019 and 2018, the amount accrued for interest and penalties was not material. The Company reflects the liability for unrecognized tax benefits as *Other noncurrent liabilities* in its Consolidated Balance Sheets. The amounts included in "reductions for tax positions of prior years" represent decreases in the unrecognized tax benefits relating to settlements reached with taxing authorities during each year shown.

As of December 31, 2019, the Company believes the liability for unrecognized tax benefits, excluding interest and penalties, could decrease by an immaterial amount in 2020 due to lapses in the statute of limitations. Due to the various jurisdictions in which the Company files tax returns, it is possible that there could be other significant changes in the amount of unrecognized tax benefits in 2020, but the amount cannot be estimated.

With few exceptions, the major jurisdictions subject to examination by the relevant tax authorities and open tax years, stated as the Company's fiscal years, are as follows:

Jurisdiction	**Open Tax Years**
U.S. Federal	2014 to 2019
U.S. States	2013 to 2019
Canada	2018 to 2019

The Company is currently under federal income tax audit for tax years 2014, 2015 and 2016. The Company is currently under Illinois income tax audit for tax years 2013 and 2014.

Coronavirus Aid, Relief, and Economic Security Act

On March 27, 2020, President Trump signed into law the *Coronavirus Aid, Relief, and Economic Security Act* (the "CARES Act"). Among the changes to the U.S. federal income tax rules, the CARES Act modified net operating loss carryback rules that were eliminated by the 2017 *Tax Cuts and Jobs Act*, restored 100% bonus depreciation for qualified improvement property, increased the limit on the deduction for net interest expense and accelerated the time frame for refunds of alternative minimum tax credits. The Company's ability to carryback the net operating losses to earlier years is expected to result in a tax benefit of $0.8 million. There is no net impact to the Company's deferred tax assets due to the full valuation allowance. The Company will continue to evaluate the effects of the CARES Act as additional legislative guidance becomes available.

Note 12. Stockholders' Equity

Common and Treasury Stock

The changes in shares of Common and Treasury Stock are as follows:

(in thousands)	Common Shares Issued	Treasury Stock Shares	Common Shares Outstanding
Balance as of December 31, 2017	19,067	634	18,433
Net shares issued for stock awards	—	(205)	205
Balance as of December 31, 2018	19,067	429	18,638
Net shares issued for Stock awards	—	(169)	169
Shares issued to Weichai	4,050	—	4,050
Balance as of December 31, 2019	23,117	260	22,857

Preferred Stock

The Company is authorized to issue 5,000,000 shares of Preferred stock, par value $0.001 per share. The Preferred stock may be designated into one or more series as determined by the Board. As of December 31, 2019, the Board had authorized two series of Preferred stock. At December 31, 2019 and 2018, there were no shares of Preferred stock outstanding.

Weichai Warrant

On April 23, 2019, Weichai exercised the Weichai Warrant resulting in the Company issuing 4,049,759 shares of the Company's Common Stock and Weichai becoming the owner of 51.5% of the outstanding shares of the Company's Common Stock, as of such date. See Note 3. *Weichai Transactions* for additional information.

Note 13. Stock-Based Compensation

The Company has an incentive compensation plan (the "2012 Plan"), which authorizes the granting of a variety of different types of awards including, but not limited to, non-qualified stock options, incentive stock options, Stock Appreciation Rights ("SARs"), Restricted Stock Awards ("RSAs"), deferred stock and performance units to its executive officers, employees, consultants and Directors. The 2012 Plan is administered by the Compensation Committee of the Board.

Under the 2012 Plan, 830,925 shares were initially made available for awards, with 700,000 additional shares added to the 2012 Plan in 2013. Forfeited shares are added back to the pool of shares available for future awards.

As of December 31, 2019, the Company had 16,174 shares available for issuance of future awards. To date, the Company's granted awards have generally been either RSAs or SARs.

SAR awards entitle the recipients to receive, upon exercise, a number of shares of Common Stock equal to (i) the number of shares for which the SAR is being exercised multiplied by the value of one share of Common Stock on the date of exercise (determined as provided in the SAR award agreement), less (ii) the number of shares for which the SAR is being exercised multiplied by the applicable exercise price, divided by (iii) the value of one share of Common Stock on the date of exercise (determined as provided in the SAR award agreement). The exercised SAR is to be settled only in whole shares of Common Stock, and the value of any fractional share of Common Stock is forfeited.

RSA grants represent Common Stock issued subject to forfeiture or other restrictions that will lapse upon satisfaction of specified conditions.

Both SAR awards and RSA grants are time-based awards that generally vest over a 2 to 3-year vesting schedule (except grants to members of the Board which have a 1-year vesting schedule). SAR awards generally have a term of ten years. Compensation expense for recipients of these time-based awards is recognized on a straight-line basis over the vesting period from the date of grant. The Company accounts for forfeitures as they occur rather than apply an estimated forfeiture rate. Stock-based compensation expense is primarily recorded is *Selling, general and administrative expenses* in the Consolidated Statements of Operations.

RSAs are valued based on the fair value of the common stock at grant date.

For all SAR award assumptions, the Company used rates on the grant date of zero-coupon government bonds with maturities over periods covering the term of the awards. The Company considered the historical volatility of its stock price over a term similar to the expected life of the awards in determining expected volatility. The expected term is the period that the awards granted are expected to remain outstanding. The Company has never declared or paid a cash dividend on its Common Stock and has no plans to pay cash dividends in the foreseeable future.

The following table represents stock-based compensation expense and the related income tax benefits:

(in thousands)	For the Year Ended December 31, 2019	For the Year Ended December 31, 2018
Stock-based compensation expense	$ 1,248	$ 2,663
Income tax benefit	$ 279	$ 96

SAR Awards

The Company granted 9,000 and 60,000 SAR awards in 2019 and 2018, respectively. The assumptions used for determining the fair value of the SARs included the following:

	For the Year Ended December 31, 2019	For the Year Ended December 31, 2018
Market closing price of the Common Stock	$ 7.00	$ 7.92
Exercise price	$ 7.30	$ 7.92
Risk-free interest rate	2.5%	2.6%
Estimated price volatility	77.8%	78.5%
Expected term	6.51 years	6.58 years
Dividend yield	—%	—%
Weighted average fair value	$ 4.89	$ 5.63

SAR activity consisted of the following:

Number of Shares under SARs	Shares	Weighted-Average Exercise Price	Weighted-Average Remaining Contractual Term (years)	Aggregate Intrinsic Value (in thousands)
Outstanding at December 31, 2017	83,720	$ 11.02	8.21	$ 1
Granted	60,000	7.92		—
Exercised	—	—		—
Forfeited	(1,000)	11.25		—
Expired	(4,700)	11.25		—
Outstanding at December 31, 2018	138,020	9.66	8.05	89
Granted	9,000	7.30		—
Exercised	—	—		—
Forfeited	(7,334)	9.81		—
Expired	(9,616)	10.70		—
Outstanding at December 31, 2019	130,070	9.41	7.21	11
Exercisable at December 31, 2018	87,370	$ 11.14	6.21	$ 5
Exercisable at December 31, 2019	86,736	$ 10.33	5.91	$ 5

The total fair value of SARs that vested during 2019 and 2018 was $0.1 million and $0.2 million, respectively. Unrecognized compensation expense related to SARs as of December 31, 2019 and 2018 was $0.2 million. As of December 31, 2019, the weighted-average period over which the unrecognized compensation cost is expected to be recognized was approximately 1.6 years.

Restricted Stock Awards

Restricted stock activity consisted of the following:

	Shares	Weighted-Average Grant Date Fair Value
December 31, 2017	496,273	$ 12.20
Granted	50,000	10.92
Forfeited	(32,547)	25.95
Vested	(254,440)	10.14
Balance as of December 31, 2018	259,286	$ 12.25
Granted	48,000	9.72
Forfeited	(11,226)	14.16
Vested	(230,374)	9.83
Balance as of December 31, 2019	65,686	$ 18.58

The total grant date fair value of restricted stock that vested during 2019 and 2018 was $2.3 million and $2.6 million, respectively. Unrecognized compensation expense related to RSAs as of December 31, 2019 and 2018 was $0.9 million and $1.7 million, respectively. As of December 31, 2019, the weighted-average period over which the unrecognized compensation cost is expected to be recognized was approximately 2.8 years.

Note 14. Earnings (Loss) Per Share

The Company computes basic earnings (loss) per share by dividing net income (loss) by the weighted-average common shares outstanding during the year. Diluted earnings (loss) per share is calculated to give effect to all potentially dilutive common shares that were outstanding during the year. Weighted-average diluted common shares outstanding primarily reflect the additional shares that would be issued upon the assumed exercise of stock options and the assumed vesting of unvested share awards. The treasury stock method has been used to compute diluted earnings (loss) per share for 2019 and 2018.

The Company issued warrants that represent the right to purchase shares of Common Stock, SARs and RSAs, all of which have been evaluated for their potentially dilutive effect under the treasury stock method. See Note 3. *Weichai Transactions* for additional information on the Weichai Warrants and Note 13. *Stock-Based Compensation* for additional information on the SARs and the RSAs.

The computations of basic and diluted earnings (loss) per share are as follows:

(in thousands, except per share basis)	For the Year Ended December 31,	
	2019	**2018**
Numerator:		
Net income (loss) – basic and diluted	$ 8,248	$ (54,726)
Denominator:		
Shares used in computing net income (loss) per share		
Weighted-average common shares outstanding - basic	21,512	18,585
Effect of dilutive securities	18	—
Weighted-average common shares outstanding – diluted	21,530	18,585
Earnings (loss) per common share		
Earnings (loss) per share of common stock – basic	$ 0.38	$ (2.94)
Earnings (loss) per share of common stock – diluted	$ 0.38	$ (2.94)

The aggregate number of shares excluded from the diluted earnings (loss) per share calculations because they would have been anti-dilutive were 1.4 million and 3.9 million shares in 2019 and 2018, respectively.

Note 15. Related Party Transactions

Weichai Transactions

See Note 3. *Weichai Transactions* for information regarding the Weichai SPA and Collaboration Agreement**.**

Transactions with Joint Ventures

MAT-PSI Holdings, LLC

In December 2012, the Company and MAT Holdings, Inc. ("MAT") entered into an agreement to create MAT-PSI Holdings, LLC ("MAT-PSI"), which was intended to be a holding company of its 100% Chinese wholly-owned foreign entity, referred to as Green Power. The Company invested $0.9 million for its 50% share of MAT-PSI, which was formed to manufacture, assemble and supply natural gas, gas and alternative-fueled power systems to Chinese and Asian forklift customers. The venture established a production facility in Dalian and also sourced base engines from a local Chinese factory. As MAT-PSI was not profitable, the venture was closed in 2017; however, the Company is currently in dispute with Green Power related to the wind up of the joint venture and outstanding receivables. The dispute is currently in arbitration but is not expected to have a material impact on the Company's financial statements.

Doosan-PSI, LLC

In 2015, the Company and Doosan Infracore Co., Ltd. ("Doosan"), a subsidiary of Doosan Group, entered into an agreement to form Doosan-PSI, LLC. The Company invested $1.0 million to acquire 50% of the venture, which was formed to operate in the field of developing, designing, testing, manufacturing, assembling, branding, marketing, selling, distributing and providing support for industrial gas engines and all components and materials required for assembly of the gas engines to the global power generation market outside of North America and South Korea. In the fourth quarter of 2019, Doosan and the Company agreed to wind down and dissolve the joint venture. This is expected to be completed in the second quarter of 2020.

Joint Venture Operating Results

The Company's investments in joint ventures are accounted for under the equity method of accounting. The Company's Consolidated Statement of Operations included income from these investments of $0.7 million in 2019 related to the Company's portion of the joint ventures earnings for the year. In 2018, the earnings were immaterial. The joint venture operating results are presented in *Other income, net* in the Company's Consolidated Statements of Operations.

Transactions with Related Individuals

Industrial Electronic Controls

The Company purchased $0.4 million of products in 2018 from Industrial Electronic Controls, a supplier of custom throttles, sensors, and custom electronics. Gary S. Winemaster, former Chairman of the Board, Chief Executive Officer and President and non-executive Chief Strategy Officer divested his 50% of Industrial Electronic Controls during 2018.

Note 16. Subsequent Events

As a result of the COVID-19 pandemic, the global economy has experienced substantial turmoil including impacts from the world financial markets which have experienced a period of significant volatility and overall declines. In addition, as of the date of this 2019 Annual Report, due to unprecedented decreases in demand, an oil price war, and economic uncertainty resulting from the COVID-19 pandemic, crude oil prices declined precipitously. A significant portion of the Company's sales and profitability is derived from the sale of products that are used within the oil and gas industry. While the Company has yet to experience significant supply chain interruptions or material cancellations of orders, the potential impact of future disruptions, continued economic uncertainty, and continued depressed crude oil prices and declining rig count levels may have a significant adverse impact on the results of future operations, financial position, and liquidity of the Company. Further, it is reasonably possible that these potential adverse impacts may result in the recognition of material impairments or other related charges.

The Company is aggressively beginning the execution of contingency actions as a result of the expected significant negative impacts of these factors. The Company is reviewing operating expenses as part of the contingency planning process, including prioritizing certain R&D investments in support of the Company's long-term growth objectives. As of the date of this 2019 Annual Report, the Company has implemented the following temporary cost reduction measures designed to mitigate the operating and financial impacts of the COVID-19 pandemic on its business:

- reduced the hours of operations of the Company's production facilities;
- reduced the work week for all office employees;
- reduced pay for salaried employees by between 10% and 30%, depending on the employee's position;
- suspended the Company's 401(k) plan match;
- deferred spending on certain R&D programs;
- implemented a hiring freeze;
- restricted all non-essential travel; and
- minimized discretionary expenses and consulting services.

On March 27, 2020, President Trump signed into law the CARES Act. The CARES Act, among other things, includes provisions relating to refundable payroll tax credits, deferment of employer side social security payments and income taxes. The income tax implications are discussed within Note 11. *Income Taxes*.

Item 9. Changes in and Disagreements with Accountants on Accounting and Financial Disclosures.

On March 14, 2018, the Audit Committee appointed BDO USA, LLP as the Company's new independent registered public accounting firm and dismissed Frazier & Deeter, LLC as the Company's independent registered public accounting firm. The information contained in the second paragraph of the Company's Current Report on Form 8-K as filed with the SEC on March 19, 2018, and in the third paragraph of the Company's Current Report on Form 8-K/A as filed with the Commission on March 20, 2018, is herein incorporated by reference.

Item 9A. Controls and Procedures.

Evaluation of Disclosure Controls and Procedures

The term "disclosure controls and procedures" is defined in Rule 13a-15(e) of the Exchange Act, as "controls and other procedures of an issuer that are designed to ensure that information required to be disclosed by the issuer in the reports that it files or submits under the Act are recorded, processed, summarized and reported, within the time periods specified in the SEC rules and forms." The Company's disclosure controls and procedures are designed to ensure that material information relating to the Company and its consolidated subsidiaries is accumulated and communicated to its management, including its Chief Executive Officer and its Chief Financial Officer, as appropriate to allow timely decisions regarding required disclosures.

The Company's management, with the participation of its Chief Executive Officer and Chief Financial Officer, conducted an evaluation of the effectiveness of its disclosure controls and procedures as of December 31, 2019. Based upon that evaluation, the Company's Chief Executive Officer and Chief Financial Officer have concluded that the Company's disclosure controls and procedures were not effective as of December 31, 2019, because of the previously reported material weaknesses in internal control over financial reporting described below.

Management's Report on Internal Control over Financial Reporting

Management is responsible for establishing and maintaining adequate internal control over financial reporting. As defined in Rules 13a-15(f) and 15d(f) under the Exchange Act, internal control over financial reporting is a process designed to provide reasonable assurance regarding the reliability of the Company's financial reporting and the preparation of financial statements for external purposes in accordance with U.S. GAAP. Because of its inherent limitations, the Company's internal control over financial reporting may not prevent or detect all misstatements, including the possibility of human error, the circumvention or overriding of controls, or fraud. Effective internal control can provide only reasonable assurance with respect to the preparation and fair presentation of financial statements. 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.

A material weakness is a control deficiency, or a combination of control deficiencies in internal control over financial reporting, such that there is a reasonable possibility that a material misstatement of the Company's annual or interim financial statements will not be prevented or detected on a timely basis.

Management assessed the effectiveness of the Company's internal control over financial reporting as of December 31, 2019 based on the criteria established by the Internal Control-Integrated Framework (2013) issued by the Committee of Sponsoring Organizations of the Treadway Commission ("COSO Framework").

As a result of management's review of the Company's financial and accounting records and the other work completed by the management team and its advisers, management concluded that, as of December 31, 2019, the Company had material weaknesses relating to certain internal controls. These material weaknesses are summarized below, and remediation efforts completed or underway are outlined in the "*Remediation of Material Weaknesses in Internal Control over Financial Reporting*" section below. These material weaknesses were previously reported in the Annual Report on Form 10-K for the fiscal year ended December 31, 2018.

Control Environment, Risk Assessment, Information and Communication, and Monitoring

The Company's control environment, which is the responsibility of management and is subject to the oversight of the Audit Committee and the Board, establishes the tone of the organization, influences the control consciousness of its officers and employees and is the foundation for all other components of internal control over financial reporting.

As of December 31, 2019, the Company did not maintain an effective control environment, primarily attributable to the following identified material weaknesses:

Control Environment: The Company was unable to demonstrate that it had maintained a corporate culture that (i) instilled an adequate enterprise-wide attitude of control consciousness supporting the Code of Business Conduct and Ethics, (ii) promoted accountability and timely communication across the organization and the Board and (iii) had sufficiently robust processes or focus to identify or address internal control weaknesses. This weakness in the control environment likely contributed to many of the other material weaknesses disclosed herein.

Skillset and Competency: The Company did not have sufficient resources with appropriate levels of information technology ("IT") knowledge to adequately support the organization including, but not limited to, the design and implementation of robust IT general controls ("ITGC") to support internal control over financial reporting, the oversight of the Company's applications, systems and related training to the IT system user group.

Policies and Procedures: The Company did not maintain adequate policies or procedures, contributing to a breakdown in related controls, including the following:

- Accounting policies and procedures were not appropriately designed, established, published or maintained. There was no formalized process for determining, documenting, communicating, implementing and monitoring the Company's accounting policies and procedures, including updates for new accounting pronouncements and guidance.

- Enterprise-wide policies and procedures related to record retention and the delegation of authority policy were not updated, approved or communicated across the organization.

- IT policies and procedures were neither broadly enforced nor did they directly support a sustainable ITGC framework.

Segregation of Duties: The Company did not maintain effective policies, procedures or controls in aggregate to ensure adequate segregation of duties within its business processes, financial applications and IT systems. Specifically, the Company did not have appropriate controls in place to adequately assess the segregation of job responsibilities and system user access for initiating, authorizing and recording transactions. In addition, the Company did not have adequate mitigating or monitoring controls in place.

Control Activities

As of December 31, 2019, the material weaknesses described above contributed to the control activity level material weaknesses described below:

Revenue Accounting: The Company did not maintain effective policies, procedures or controls to ensure that revenue recognition criteria were met prior to recognizing sales transactions. Specifically, the Company did not do the following:

- timely or accurately communicate information to the accounting department including, but not limited to, terms of sales agreements, including rebates and other contractual discounts.

- perform adequate review and approval controls for recording manual revenue entries, including revenue-related reserves (such as sales allowances).

Capitalization: The Company did not have defined policies, procedures or controls to consistently review capitalization of costs incurred on capital asset projects and accounting treatment for research and development activities.

Complex and Nonroutine Transactions: The Company did not have defined policies, procedures or controls to identify and determine the appropriate accounting treatment for certain complex and nonroutine transactions, including, but not limited to, identification of reporting units and triggering events that could impact the assessment of potential impairments of property, plant and equipment, intangibles and goodwill, accounting for debt transactions, purchase accounting for business combinations and lease classification.

Reserves and Accruals: The Company did not have sufficiently defined policies, procedures or controls to ensure consistent recognition of accrued liabilities and reserve balances, including, but not limited to, excess and obsolete inventory and warranty reserves.

Period-End Close/Accounting Documentation: The Company did not maintain effective policies, procedures or controls in aggregate over the period-end financial close and reporting process to enable timely reporting of complete and accurate financial information. Specifically, it lacked controls to define financial statement review thresholds, consistently review journal entries prior to posting, review procedures related to taxes and inventory in-transit, and consistently prepare, approve and retain adequate supporting documentation for balance sheet account reconciliations. Additionally, the Company did not have an effective Section 302 certification process to support the completeness and accuracy of required financial statement disclosures.

Information Technology: The Company's ITGC framework was not adequately designed and implemented to support the effective operation of internal control over financial reporting. Specifically, ITGCs were not designed to ensure that logical access was appropriately segregated and restricted based on business needs, and controls were not consistently implemented to support timely and effective changes to financial systems and applications. The aggregated IT deficiencies impact each ITGC domain and in-scope application, and the pervasive nature and lack of adequate compensating controls limited management's ability to rely on the completeness and accuracy of data processed by and reports generated from financial applications.

Data Maintenance: The Company did not have defined procedures or controls, in aggregate, to validate the completeness and accuracy of information maintained, input or edited within master and transaction files, including, but not limited to, customer and vendor master files, employee data files, perpetual inventory records, stock compensation agreements and debt arrangements. Additionally, the Company did not have compensating controls to review and validate the underlying data maintained.

Ongoing Remediation of Material Weaknesses in Internal Control over Financial Reporting

Management is committed to the continued implementation of remediation efforts to address the material weaknesses. The remediation efforts summarized below, which have been or will be implemented, are intended both to address the identified material weaknesses and to enhance the Company's overall internal control environment.

Control Environment, Risk Assessment, Information and Communication, and Monitoring

Control Environment:

Since 2017, the Company has either replaced or appointed new Board and Audit Committee members, a Chief Executive Officer, a Chief Financial Officer, a Chief Commercial Officer and a Vice President, Internal Audit. These changes, along with the actions of these individuals and other senior management, have collectively improved the tone of integrity, transparency and support of the Company's updated Code of Business Conduct and Ethics.

The Company has updated its Code of Business Conduct and Ethics and has initiated an ongoing training program to help ensure employees understand and comply with the Code. The Company continues to enhance the program to provide extensive communications and training to employees across the entire organization regarding the importance of integrity and accountability.

The Company has established a process to identify and address internal control weaknesses through the internal control function.

Skillset and Competency:

The Company continues to assess the level of and technical skills in the IT function to support the design and implementation of ITGCs. The IT function has been reorganized under the leadership of the Chief Financial Officer, and the Company is actively recruiting for a Chief Information Officer as well as certain technical IT positions. The Company has supplemented a portion of the IT resources with temporary resources to assist with performing certain technical IT activities.

Policies and Procedures:

- The Company is in the process of implementing a revised delegation of authority policy that appoints tiered approvers based upon risk and materiality of the transaction.
- The Company has identified a central repository to maintain all the Company's policies, is providing training to users and is developing a framework to establish responsibility and accountability for executing and monitoring policies and procedures.
- The Company is in the process of issuing critical accounting and IT policies; as well as drafting a policy for record retention.
- The Company continues to create a culture of continuous improvement and design a framework for management to proactively and openly self-identify, document, reassess, report and remediate policies, procedures and control issues.

Segregation of Duties:

- The Company is establishing standards governing the segregation of incompatible duties across the organization.
- The Company has implemented a technical upgrade to its Enterprise Resource Planning System ("ERP System") and is redesigning system access roles across the Company to improve the segregation of incompatible duties.
- The Company is designing various accounting processes and application and system controls to adequately segregate job responsibilities and system access throughout the organization and to implement applicable mitigating internal controls.

Control Activities

As part of the overall remediation plan, the Company is designing and implementing review and approval controls over data utilized in various accounting processes. These controls will address the accuracy, timely recording and completeness of data used in the determination of significant accounting estimates, reserves and valuations as well as impacted presentation and disclosures in accordance with U.S. GAAP.

Revenue Accounting:

- The Company is designing and implementing policies and procedures to ensure that critical inputs affecting the accuracy and timeliness of revenue recognition and related reserves and sales allowances are communicated to the accounting department on a timely basis.
- The Company has established and has begun implementing improved review and approval controls across the Company to ensure that revenue, including that of nonroutine revenue transactions, is recognized consistently in accordance with U.S. GAAP.
- The Company has developed sales transaction review procedures to review certain key transaction attributes.

Capitalization:

The Company is designing and implementing policies, procedures and controls over capitalization, including, but not limited to, the capitalization of costs incurred on capital asset projects and accounting treatment for research and development activities.

Complex and Nonroutine Transactions:

The Company is designing and implementing policies, procedures and controls over the evaluation, review and approval of complex and nonroutine transactions, including, but not limited to, identification of reporting units and triggering events that could impact the assessment of potential impairments of property, plant and equipment, intangibles and goodwill, accounting for debt transactions, purchase accounting for business combinations and lease classification.

Reserves and Accruals:

The Company is in the process of issuing policies and implementing procedures and controls over the review and approval of key reserves and accruals, including, but not limited to, warranty reserves and excess and obsolete inventory.

Period-End Close/Accounting Documentation:

- The Company is designing and implementing policies, procedures and controls over the period-end close process and related documentation including, but not limited to, period-end checklists, review and approval of journal entries, taxes, inventory in-transit, account roll forwards and reconciliations, general-ledger account maintenance and financial statement analysis / thresholds.
- The Company has implemented a formal Section 302 disclosure and certification program that requires management to complete representation letters and disclosure sub-certification questionnaires in connection with SEC filings.

Information Technology:

- The Company has reconstructed its ITGC framework to focus on controls that mitigate key financial reporting risks.
- The Company has designed and is implementing controls over access, change management and IT operations to ensure that access rights are restricted to appropriate individuals, and that data integrity is maintained via effective change controls over system updates and over the flow of data between systems.
- The Company has completed a technical upgrade and is planning a re-implementation of its ERP System to further improve and automate ITGC's as well as other business process controls.

Data Maintenance:

- The Company is designing and implementing procedures and controls to appropriately identify and assess changes made to data repositories that could significantly impact data integrity and the internal control framework, including, but not limited to, (i) creating centralized, complete and accurate data repositories, (ii) maintaining customer and vendor master files, employee data files, perpetual inventory records, inventory cycle counts, stock compensation agreements and debt arrangements and (iii) communicating an enterprise data management policy and record retention policy.
- The Company is developing procedures to review and validate underlying data supporting the internal controls. When fully implemented and operational, the Company believes the measures described above will remediate the control deficiencies that have led to the material weaknesses it has identified and will strengthen its internal control over financial reporting. The Company is committed to continuing to improve its internal control processes and it will continue to review its financial reporting controls and procedures. As the Company continues to evaluate and work to improve its internal control over financial reporting, it may determine that a need exists to take additional measures to address control deficiencies or modify certain remediation measures described above.

Conclusion

As a result of the material weaknesses described above, management has concluded that, as of December 31, 2019, the Company's internal control over financial reporting was ineffective.

In light of the material weaknesses in internal control over financial reporting, prior to filing this Annual Report on Form 10-K, the Company completed substantive procedures, including extensive temporary manual procedures and other measures as needed, to assist with meeting the objectives otherwise fulfilled by effective internal control over financial reporting. These procedures included, but were not limited to, conducting additional analysis and substantive procedures. The Company also hired additional resources and retained outside consultants with relevant accounting experience, skills and knowledge, working under the Company's supervision and direction to assist with the account closing and financial statement preparation process. These additional procedures have allowed the Company to conclude that, notwithstanding the material weaknesses in its internal control over financial reporting described above, the consolidated financial statements included herein fairly present, in all material respects, the Company's financial condition, results of operations and cash flows for the periods presented in conformity with U.S. GAAP.

Changes in Internal Control over Financial Reporting

As previously disclosed under "Item 9A – Controls and Procedures" in the Company's Annual Report on Form 10-K for the fiscal year ended December 31, 2018, management concluded that its internal control over financial reporting was not effective based on the material weaknesses identified.

As reported in the Company's first and second quarter 2019 Quarterly Reports on Form 10-Q, it has completed remediation of the previously reported Accounting component of the "Skillset and Competency" material weakness and the "Internal Control Function" material weakness, respectively.

Other than the ongoing remediation efforts described above and the remediation of the material weaknesses described above, there have been no changes in the Company's internal control over financial reporting during the year ended December 31, 2019 that have materially affected, or are reasonably likely to materially affect, its internal control over financial reporting.

Item 9B. Other Information.

None.

PART III

Item 10. Directors, Executive Officers and Corporate Governance.

The information required by this item is incorporated by reference to the Amendment that was to be filed with the SEC no later than 120 days after the close of the Company’s fiscal year ended December 31, 2019. On April 29, 2020, relying the Order, the Company filed a Form 8-K extending the Amendment’s filing deadline 45 days to June 15, 2020. Also see *Information about the Company’s Executive Officers* in Part I of this Annual Report on Form 10-K.

Item 11. Executive Compensation.

The information required by this item is incorporated by reference to the Amendment that was to be filed with the SEC no later than 120 days after the close of the Company’s fiscal year ended December 31, 2019. On April 29, 2020, relying on the Order, the Company filed a Form 8-K extending the Amendment’s filing deadline 45 days to June 15, 2020.

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

The information required by this item is incorporated by reference to the Amendment that was to be filed with the SEC no later than 120 days after the close of the Company’s fiscal year ended December 31, 2019. On April 29, 2020, relying on the Order, the Company filed a Form 8-K extending the Amendment’s filing deadline 45 days to June 15, 2020.

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

The information required by this item is incorporated by reference to the Amendment that was to be filed with the SEC no later than 120 days after the close of the Company’s fiscal year ended December 31, 2019. On April 29, 2020, relying on the Order, the Company filed a Form 8-K extending the Amendment’s filing deadline 45 days to June 15, 2020.

Item 14. Principal Accounting Fees and Services.

The information required by this item is incorporated by reference to the Amendment that was to be filed with the SEC no later than 120 days after the close of the Company’s fiscal year ended December 31, 2019. On April 29, 2020, relying on the Order, the Company filed a Form 8-K extending the Amendment’s filing deadline 45 days to June 15, 2020.

PART IV

Item 15. Exhibits, Financial Statement Schedules.

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

EXHIBIT INDEX

The following documents listed below that have been previously filed with the SEC (1934 Act File No. 001-35944) are incorporated herein by reference:

			Incorporated by Reference Herein			
Exhibit No.		Exhibit Description	Form	Exhibit	Filing Date	File No.
2.1	†	Agreement and Plan of Merger dated April 29, 2011, by and among Format, Inc., PSI Merger Sub, Inc. and The W Group, Inc.	8-K	2.1	05/05/2011	000-52213
2.2		Stock Purchase Agreement, dated as of April 1, 2014, by and among Power Solutions International, Inc., Carl L. Trent, Kenneth C. Trent and CKT Holdings, Inc.	8-K	10.1	04/02/2014	001-35944
3.1		Certificate of Incorporation of Power Solutions International, Inc., a Delaware corporation, originally filed with the Secretary of State of the State of Delaware on August 12, 2011.	S-1/A	3.4	08/19/2011	333-174543
3.2		Amended and Restated Bylaws of Power Solutions International, Inc.	8-K	3.1	08/18/2015	001-35944
3.3		Form of Certificate of Designation of Series B Convertible Perpetual Preferred Stock of Power Solutions International, Inc.	8-K	3.1	03/27/2017	001-35944
4.1		Indenture dated as of April 29, 2015 by and among Power Solutions International, Inc., The Bank of New York Mellon, as Trustee, and the Guarantors party thereto, including form of 5.50% Senior Notes due 2018.	8-K	4.1	04/29/2015	001-35944
4.2		Osterweis Purchase Agreement dated as of April 29, 2015, by and among Power Solutions International, Inc. and the Osterweis Strategic Income Fund for purchase for cash of certain of Power Solutions International, Inc.'s Senior Notes due 2018.	8-K	10.1	04/29/2015	001-35944
4.3		First Supplemental Indenture dated as of November 2, 2015 to Indenture dated as of April 29, 2015 by and among Power Solutions International, Inc., The Bank of New York Mellon, as Trustee, and the Guarantors party thereto.	10-K	4.6	02/26/2016	001-35944
4.4		Second Supplemental Indenture dated as of April 1, 2016, to Indenture dated as of April 19, 2015, by and among Power Solutions International, Inc., The Bank of New York Mellon, as Trustee, and the Guarantors party thereto.	8-K	4.1	04/04/2016	001-35944
4.5		Third Supplemental Indenture, dated as of March 31, 2017, to the Indenture dated as of April 29, 2015, by and among Power Solutions International, Inc., The Bank of New York Mellon, as Trustee, and the Guarantors party thereto.	8-K	4.1	04/06/2017	001-35944
4.6		Fourth Supplemental Indenture, dated as of April 19, 2018, by and among Power Solutions International, Inc., The Bank of New York Mellon, as Trustee, and the Guarantors party thereto.	8-K	4.1	04/19/2018	001-35944
4.7		Form of Warrant to Purchase Shares of Power Solutions International, Inc.	8-K	10.2	03/27/17	001-35944
4.8		Amended and Restated Warrant to Purchase Shares of Power Solutions International, Inc., dated as of November 30, 2017.	8-K	10.2	12/05/17	001-35944
4.9		Second Amended and Restated Warrant to Purchase Shares of Power Solutions, Inc., dated as of September 30, 2018.	8-K	10.1	10/03/18	001-35944
4.10		Fifth Supplemental Indenture, dated as of October 30, 2019, by and among Power Solutions International, Inc., The Bank of New York Mellon, as Trustee, and the Guarantors party thereto.	8-K	4.1	10/31/2019	001-35944

			Incorporated by Reference Herein			
Exhibit No.		Exhibit Description	Form	Exhibit	Filing Date	File No.
4.11	*	Description of the registrant's securities registered pursuant to Section 12 of the Securities Exchange Act of 1934.				
10.1	††	Power Solutions International, Inc. 2012 Incentive Compensation Plan.	8-K	10.3	06/07/2012	000-52213
10.2	††	Amendment No. 1 to the Power Solutions International, Inc. 2012 Incentive Compensation Plan.	DEF14A	Appendix A	08/02/2013	001-35944
10.3	††	Form of Restricted Stock Agreement by and between Power Solutions International, Inc. and each eligible employee.	8-K	10.1	06/20/2013	001-35944
10.4		Guaranty and Security Agreement, dated as of June 28, 2013, by and among Wells Fargo, N.A. as agent for itself and other lenders party thereto, each of the lenders party thereto, Power Solutions International, Inc., The W Group, Inc., Power Solutions, Inc., Power Great Lakes, Inc., Auto Manufacturing, Inc., Torque Power Source Parts, Inc., Power Properties, L.L.C., Power Production, Inc., Power Global Solutions, Inc., PSI International, LLC and XI Sync LLC, and related documents.	8-K	10.2	07/02/2013	001-35944
10.5		Joinder No. 1 dated as of April 1, 2014 to Guaranty and Security Agreement dated as of June 28, 2013, by and among Wells Fargo Bank, N.A. as agent for itself and the other lenders party thereto, Power Solutions International, Inc., The W Group, Inc., Power Solutions, Inc., Power Great Lakes, Inc., Auto Manufacturing, Inc., Torque Power Source Parts, Inc., Power Properties, L.L.C., Power Production, Inc., Power Global Solutions, Inc., PSI International, LLC, XI Sync LLC, and Professional Power Products, Inc., joining Professional Power Products, Inc. as a party thereto.	8-K	10.4	04/02/2014	001-35944
10.6		Joinder No.2 dated as of November 2, 2015 to Guaranty and Security Agreement dated as of June 28, 2013, by and among Wells Fargo Bank, N.A. as agent for itself and the other lenders party thereto, Power Solutions International, Inc., The W Group, Inc., Power Solutions, Inc., Power Great Lakes, Inc., Auto Manufacturing, Inc., Torque Power Source Parts, Inc., Power Properties, L.L.C., Power Production, Inc., Power Global Solutions, Inc., PSI International, LLC, XI Sync LLC, Professional Power Products, Inc., and Bi-Phase Technologies, LLC and Powertrain Integration Acquisition, LLC, joining Bi-Phase Technologies, LLC and Powertrain Integration Acquisition, LLC.	10-K	10.6	05/16/2019	001-35944
10.7		First Amendment, dated as of June 28, 2016, to the Guaranty and Security Agreement dated as of June 28, 2013, by and among Wells Fargo Bank, N.A. as agent for itself and the other lenders party thereto, each of the lenders party thereto, Power Solutions International, Inc., The W Group, Inc., Power Solutions, Inc., Power Great Lakes, Inc., Auto Manufacturing, Inc., Torque Power Source Parts, Inc., Power Properties, L.L.C., Power Production, Inc., Power Global Solutions, Inc., PSI International, LLC, XI Sync LLC, Professional Power Products, Inc., Powertrain Integration Acquisition, LLC and Bi-Phase Technologies, LLC.	8-K	10.4	06/30/2016	001-35944
10.8		Credit Agreement, dated as of June 28, 2013, by and among Wells Fargo Bank, N.A. as agent for itself and the other lenders party thereto, each of the lenders party thereto, Power Solutions International, Inc., The W Group, Inc., Power Solutions, Inc., Power Great Lakes, Inc., Auto Manufacturing, Inc., Torque Power Source Parts, Inc., Power Properties, L.L.C., Power Production, Inc., Power Global Solutions, Inc., PSI International, LLC, and XI Sync LLC.	8-K	10.1	07/02/2013	001-35944
10.9		Amended and Restated Credit Agreement, dated as of April 1, 2014, by and among Wells Fargo Bank, N.A. as agent for itself and other lenders party thereto, each of the lenders party thereto, Power Solutions International, Inc., The W Group, Inc., Power Solutions, Inc., Power Great Lakes, Inc., Auto Manufacturing, Inc., Torque Power Source Parts, Inc., Power Properties, L.L.C., Power Production, Inc., Power Global Solutions, Inc., PSI International, LLC, XI Sync LLC and Professional Power Products, Inc.	8-K	10.3	04/02/2014	001-35944
10.10		First Amendment, dated as of September 30, 2014, to the Amended and Restated Credit Agreement, dated as of April 1, 2014, by and among Wells Fargo Bank, N.A. as agent for itself and other lenders party thereto, each of the lenders party thereto, Power Solutions International, Inc., The W Group, Inc., Power Solutions, Inc., Power Great Lakes, Inc., Auto Manufacturing, Inc., Torque Power Source Parts, Inc., Power Properties, L.L.C., Power Production, Inc., Power Global Solutions, Inc., PSI International, LLC, XI Sync LLC and Professional Power Products, Inc.	8-K	10.1	10/01/2014	001-35944

		Incorporated by Reference Herein			
Exhibit No.	**Exhibit Description**	**Form**	**Exhibit**	**Filing Date**	**File No.**
10.11	Second Amendment, dated as of February 11, 2015, to the Amended and Restated Credit Agreement, dated as of April 1, 2014, by and among Wells Fargo Bank, N.A. as agent for itself and other lenders party thereto, each of the lenders party thereto, Power Solutions International, Inc., The W Group, Inc., Power Solutions, Inc., Power Great Lakes, Inc., Auto Manufacturing, Inc., Torque Power Source Parts, Inc., Power Properties, L.L.C., Power Production, Inc., Power Global Solutions, Inc., PSI International, LLC, XI Sync LLC and Professional Power Products, Inc.	8-K	10.1	02/17/2015	001-35944
10.12	Third Amendment, dated as of April 29, 2015, to the Amended and Restated Credit Agreement, dated as of April 1, 2014, by and among Wells Fargo Bank, N.A. as agent for itself and other lenders party thereto, each of the lenders party thereto, Power Solutions International, Inc., The W Group, Inc., Power Solutions, Inc., Power Great Lakes, Inc., Auto Manufacturing, Inc., Torque Power Source Parts, Inc., Power Properties, L.L.C., Power Production, Inc., Power Global Solutions, Inc., PSI International, LLC, XI Sync LLC and Professional Power Products, Inc.	8-K	10.2	04/29/2015	001-35944
10.13	Joinder to Amended and Restated Credit Agreement, dated as of November 2, 2015, by and among Wells Fargo Bank, National Association, as agent for itself and other lenders party thereto, each of the lenders party thereto, Power Solutions International, Inc., and Professional Power Products, Inc. and the original borrowers, Powertrain Integration Acquisition, LLC and Bi-Phase Technologies, LLC as the new borrowers.	10-K	10.25	02/26/2016	001-35944
10.14	Second Amended and Restated Credit Agreement, dated as of June 28, 2016, by and among Wells Fargo Bank, N.A. as agent for itself and other lenders party thereto, each of the lenders party thereto, Power Solutions International, Inc., Professional Power Products, Inc., Powertrain Integration Acquisition, LLC and Bi-Phase Technologies, LLC.	8-K	10.3	06/30/2016	001-35944
10.15	First Amendment and Waiver, dated as of August 22, 2016, to the Second Amended and Restated Credit Agreement, dated as of June 28, 2016, by and between Power Solutions International, Inc., Professional Power Products, Inc. and Wells Fargo Bank, National Association, as agent for the lenders party thereto.	10-K	10.15	05/16/2019	001-35944
10.16	Second Amendment and Waiver, dated December 19, 2016, to the Second Amended and Restated Credit Agreement, dated June 28, 2016, by and between Power Solutions International, Inc., Professional Power Products, Inc., and Wells Fargo Bank, National Association, as agent for the lenders party thereto.	10-K	10.16	05/16/2019	001-35944
10.17	Third Amendment, Consent and Waiver, dated as of March 31, 2017, to the Second Amended and Restated Credit Agreement, dated as of June 28, 2016, by and among Wells Fargo Bank, N.A. as agent for itself and other lenders party thereto, each of the lenders party thereto, Power Solutions International, Inc., Professional Power Products, Inc., Powertrain Integration Acquisition, LLC and Bi-Phase Technologies, LLC.	8-K	10.1	04/06/2017	001-35944
10.18	Fourth Amendment, dated as of July 17, 2017, to the Second Amended and Restated Credit Agreement, dated as of June 28, 2016, by and among Wells Fargo Bank National Association, as agent for itself and other lenders party thereto, each of the lenders party thereto, Power Solutions International, Inc., Professional Power Products, Inc., Powertrain Integration Acquisition, LLC and Bi-Phase Technologies, LLC.	8-K	10.1	07/19/2017	001-35944
10.19	Consent and Fifth Amendment, dated as of October 3, 2017, to the Second Amended and Restated Credit Agreement, dated as of June 28, 2016, by and among Power Solutions International, Inc., Professional Power Products, Inc., Powertrain Integration Acquisition, LLC and Bi-Phase Technologies, LLC and Wells Fargo Bank, National Association, as agent for the lenders party thereto and the lenders party thereto.	8-K	10.1	10/10/2017	001-35944
10.20	Consent, Sixth Amendment and Waiver, dated as of March 29, 2018, to the Second Amended and Restated Credit Agreement, dated as of June 28, 2016, by and among Power Solutions International, Inc., Professional Power Products, Inc. Powertrain Integration Acquisition, LLC and Bi-Phase Technologies, LLC and Wells Fargo Bank, National Association, as agent for the lenders party thereto, and the lenders party thereto.	8-K	10.1	03/29/2018	001-35944
10.21	First Amendment and Waiver, dated August 22, 2016, to Credit Agreement, dated as of June 28, 2016, by and among Power Solutions International, Inc., Professional Power Products, Inc., Powertrain Integration Acquisition, LLC and Bi-Phase Technologies, LLC, and TPG Specialty Lending, Inc. and the lenders party thereto.	10-K	10.21	05/16/2019	001-35944

Exhibit No.		Exhibit Description	Incorporated by Reference Herein Form	Exhibit	Filing Date	File No.
10.22		Second Amendment and Waiver, dated December 19, 2016, to Credit Agreement, dated as of June 28, 2016, by and among Power Solutions International, Inc., Professional Power Products, Inc., Powertrain Integration Acquisition, LLC and Bi-Phase Technologies, LLC, and TPG Specialty Lending, Inc. and the lenders party thereto.	10-K	10.22	05/16/2019	001-35944
10.23	††	Form of Indemnification Agreement by and between Power Solutions International, Inc. and certain Indemnitees.	8-K	10.1	01/09/2014	001-35944
10.24		Amended and Restated Lease Agreement, dated as of April 1, 2014, by and between Professional Power Products, Inc. and 448 W. Madison LLC.	8-K	10.2	04/02/2014	001-35944
10.25		Lease Agreement, dated as of October 1, 2014, by and between Power Solutions International, Inc. and Hamilton Lakes Commerce Center #4 Limited Partnership.	8-K	10.2	10/01/2014	001-35944
10.26		Lease Agreement, dated as of December 1, 2017, by and between Power Solutions International, Inc. and James Campbell Company LLC.	10-K	10.26	05/16/2019	001-35944
10.27		First Lease Amendment, dated as of July 11, 2018, by and between Power Solutions International, Inc. and Centerpoint Properties Trust, in connection with that certain Industrial Building Lease dated as of March 13, 2012, with respect to that certain premises located at 101 Mittel Drive (formerly 801 EC Drive) in Wood Dale, Illinois.	8-K	10.1	07/18/2018	001-35944
10.28		Second Lease Amendment, dated as of July 11, 2018, by and between Power Solutions International, Inc. and CenterPoint Properties Trust, in connection with that certain Industrial Building Lease dated as of February 28, 2012, as further amended by that certain First Lease Amendment dated June 1, 2012, with respect to that certain premises located at 201 Mittel Drive, Wood Dale, Illinois.	8-K	10.2	07/18/2018	001-35944
10.29	†††	Addendum dated as of July 31, 2014, to Supply Agreement dated December 11, 2007, by and between Power Solutions International, Inc. and Doosan Infracore Co., Ltd., as amended.	8-K	10.1	08/06/2014	001-35944
10.30		Asset Purchase Agreement dated as of May 4, 2015 by and among Power Solutions International, Inc., Powertrain Integration Acquisition, LLC, as the Buyer, and Powertrain Integration, LLC and its principals, as the Seller.	8-K	10.1	05/06/2015	001-35944
10.31		Share Purchase Agreement dated as of March 20, 2017 among Power Solutions International, Inc. and Weichai America Corp., dated as of March 20, 2017.	8-K	10.1	03/27/2017	001-35944
10.32		Form of Investor Rights Agreement between Power Solutions International, Inc. and Weichai America Corp.	8-K	10.3	03/27/2017	001-35944
10.33		Shareholders Agreement by and among Power Solutions International, Inc., Weichai America Corp. and the Founding Stockholders, dated as of March 20, 2017.	8-K	10.4	03/27/2017	001-35944
10.34	†††	Strategic Collaboration Agreement between Weichai Power Co. Ltd. and Power Solutions International, Inc., dated March 20, 2017.	8-K	10.5	03/27/2017	001-35944
10.35		Securities Exchange Agreement, dated as of November 30, 2017, by and among Power Solutions International, Inc., and Weichai America Corp.	8-K	10.1	12/05/2017	001-35944
10.36	††	Employment Agreement, dated June 15, 2017, by and between Power Solutions International, Inc. and John P. Miller.	8-K/A	10.1	06/21/2017	001-35944
10.37	††	Employment Agreement, dated November 28, 2017, by and between Power Solutions International, Inc. and Kenneth Winemaster.	8-K	10.1	12/04/2017	001-35944
10.38	††	Employment Agreement, dated January 11, 2018, by and between Power Solutions International, Inc. and William A. Buzogany.	10-K	10.38	05/16/2019	001-35944
10.39	††	Employment Agreement, dated October 10, 2018, by and between Power Solutions International, Inc. and Charles F. Avery, Jr.	8-K/A	10.1	10/11/2018	001-35944
10.40		Amendment to the Power Solutions International, Inc. 2012 Incentive Compensation Plan (As Amended July 31, 2013).	10-K	10.40	05/16/2019	001-35944
10.41		Waiver, dated May 16, 2019, to Second Amended and Restated Credit Agreement, dated June 28, 2016, by and between Power Solutions International, Inc., Professional Power Products, Inc., and Wells Fargo Bank, National Association, as agent for the lenders party thereto.	10-K	10.41	05/16/2019	001-35944
10.42		Addendum #10, dated as of September 16, 2019, to Supply Agreement, dated as of December 11, 2007, by and between Power Solutions International, Inc. and Doosan Infracore Co., Ltd., as amended.	8-K	10.1	10/02/2019	001-35944
10.43		First Amendment to Strategic Collaboration Agreement, dated as of March 26, 2020, by and between the Company and Weichai Power.	8-K	10.1	04/01/2020	001-35944

			Incorporated by Reference Herein			
Exhibit No.		**Exhibit Description**	**Form**	**Exhibit**	**Filing Date**	**File No.**
10.44		Credit Agreement, dated as of March 27, 2020, between the Company and Standard Chartered Bank, as administrative agent.	8-K	10.1	04/06/2020	001-35944
10.45	††	Confidential Consulting Agreement.	10-Q	10.1	05/04/2020	001-35944
14.1		Code of Business Conduct and Ethics	10-K	14.1	05/16/2019	001-35944
16.2		Letter of Frazier & Deeter, LLC, Independent Registered Public Accounting Firm, dated March 19, 2018.	8-K/A	16.1	03/20/2018	001-35944
21.1	*	Subsidiaries of Power Solutions International, Inc.				
23.1	*	Consent of BDO USA, LLP				
31.1	*	Certification of Chief Executive Officer, as adopted pursuant to Section 302 of the Sarbanes-Oxley Act of 2002.				
31.2	*	Certification of Chief Financial Officer, as adopted pursuant to Section 302 of the Sarbanes-Oxley Act of 2002.				
32.1	**	Certification of Chief Executive Officer, pursuant to 18 U.S.C. Section 1350, as adopted pursuant to Section 906 of the Sarbanes-Oxley Act of 2002.				
32.2	**	Certification of Chief Financial Officer, pursuant to 18 U.S.C. Section 1350, as adopted pursuant to Section 906 of the Sarbanes-Oxley Act of 2002.				
101.INS	*	XBRL Instance Document.				
101.SCH	*	XBRL Taxonomy Extension Schema Document.				
101.CAL	*	XBRL Taxonomy Extension Calculation Linkbase Document.				
101.LAB	*	XBRL Taxonomy Extension Labels Linkbase Document.				
101.PRE	*	XBRL Taxonomy Extension Presentation Linkbase Document.				
101.DEF	*	XBRL Taxonomy Definition Linkbase Document.				

* Filed with this Report.

** This exhibit shall not be deemed “filed” for purposes of Section 18 of the Exchange Act, or otherwise subject to the liability of that Section. Such exhibit shall not be deemed incorporated into any filing under the Securities Act of 1933, as amended, or the Exchange Act.

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

†† Management contract or compensatory plan or arrangement.

††† Confidential treatment has been requested with respect to certain portions of this exhibit. Omitted portions have been separately filed with the SEC.

Item 16. Form 10-K Summary.

None.

SIGNATURES

Pursuant to the requirements of Section 13 or 15(d) of the Securities Exchange Act of 1934, the registrant has duly caused this Report to be signed on its behalf by the undersigned, thereunto duly authorized, on the 4th day of May, 2020.

POWER SOLUTIONS INTERNATIONAL, INC.

By:	/s/ Charles F. Avery, Jr.
Name:	**Charles F. Avery, Jr.**
Title:	Chief Financial Officer (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 indicated on the 4th day of May, 2020.

Signature	Title
/s/ John P. Miller **John P. Miller**	Chief Executive Officer and President (Principal Executive Officer)
/s/ Charles F. Avery, Jr. **Charles F. Avery, Jr.**	Chief Financial Officer (Principal Financial Officer)
/s/ Donald P. Klein **Donald P. Klein**	Corporate Controller (Principal Accounting Officer)
/s/ Shaojun Sun **Shaojun Sun**	Chairman of the Board and Director
/s/ Kui Jiang **Kui Jiang**	Director
/s/ Guogang Wu **Guogang Wu**	Director
/s/ Leslie A. Coolidge **Leslie A. Coolidge**	Director
/s/ Kenneth W. Landini **Kenneth W. Landini**	Director
/s/ Frank P. Simpkins **Frank P. Simpkins**	Director
/s/ Hong He **Hong He**	Director

Exhibit 4.11

DESCRIPTION OF THE REGISTRANT'S SECURITIES REGISTERED PURSUANT TO SECTION 12 OF THE SECURITIES EXCHANGE ACT OF 1934

The following summary of Power Solutions International, Inc.'s (the "Company") capital stock is based upon certain provisions of the Company's certificate of incorporation (the "Charter"), the Company's amended and restated bylaws (the "Bylaws") and certain provisions of Delaware law, does not purport to be complete and is subject to and qualified in its entirety by reference to the Charter, Bylaws and the General Corporation Law of the State of Delaware (the "DGCL"). The Charter and Bylaws are filed as exhibits to the Annual Report on Form 10-K of which this Exhibit 4.11 is a part. Unless the context requires otherwise, all references to the "Company" in this section refer solely to Power Solutions International, Inc. and not to its subsidiaries.

General

Under the Charter, the Company's authorized capital stock consists of 50,000,000 shares of common stock, par value $0.001 per share ("Common Stock"), and 5,000,000 shares of preferred stock, par value $0.001 per share ("Preferred Stock"). As of April 22, 2020, there were 22,857,602 shares of Common Stock issued and outstanding and no shares of Preferred Stock outstanding. All outstanding shares of Common Stock are fully-paid and non-assessable.

Common Stock is listed on the over-the-counter market ("OTCPink") under the symbol "PSIX."

Common Stock

Voting Rights. Except as otherwise provided by law, each holder of a share of Common Stock is entitled to one vote per share held on each matter to be considered by holders of Common Stock. The Charter does not provide for cumulative voting.

Dividend Rights. The holders of Common Stock are entitled to receive ratably, subject to the rights of any then outstanding shares of Preferred Stock, such dividends, if any, as may be declared by the Company's board of directors (the "Board") out of lawfully available funds.

Liquidation Rights. Upon any liquidation, dissolution or winding-up of the Company, the holders of Common Stock are entitled to share ratably in all of the Company's assets which are legally available for distribution, if any, remaining after payment of all debts and other liabilities and subject to the prior rights of any holders of Preferred Stock.

Other. The holders of Common Stock have no preemptive, subscription, redemption or conversion rights.

Preferred Stock

The Board has the authority, without further action by the Company's stockholders, to issue Preferred Stock from time to time, in one or more series, and to fix the number of shares, designations and other rights and qualifications, limitations or restrictions as the Board may authorize including:

- the distinctive designation or title of each series and the number of shares that will constitute the series;
- the voting powers, if any, of shares of the series;
- the dividend rate on the shares of the series, the dates on which dividends are payable, any restriction, limitation or condition upon the payment of dividends, whether dividends will be cumulative, and the dates from and after which dividends will accumulate;
- the prices at which, and the terms and conditions on which, the shares of the series may be redeemed, if the shares are redeemable;
- the terms and conditions of a sinking or purchase fund for the purchase or redemption of shares of the series, if such a fund is provided;
- any preferential amount payable upon shares of the series in the event of the liquidation, dissolution or winding up of, or upon the distribution of any of the Company's assets; and
- the prices or rates of conversion or exchange at which, and the terms and conditions on which, the shares of the series may be converted or exchanged into other securities, if the shares are convertible or exchangeable.

All Preferred Stock will, and when issued against full payment of their purchase price, be fully paid and nonassessable.

Anti-Takeover Effects of the Charter and Bylaws

Pursuant to the terms of the Charter, the Company has authorized but unissued shares of Common Stock which are available for future issuance without any further vote or action by the Company's stockholders. In addition, as discussed below, pursuant to the terms of the Charter, the Company is authorized to issue, without stockholder approval, up to an aggregate of 5,000,000 shares of Preferred Stock, in one or more series as may have been determined by the Board, which may have established from time to time the number of shares to be included in such series, and fixed the designations, powers, preferences and rights of the shares of such series and the qualifications, limitations or restrictions thereof. Any Preferred Stock so established and designated by the Board may rank senior to Common Stock with respect to the payment of dividends or amounts upon liquidation, dissolution or winding up of the Company.

Certain provisions in the Charter and the Bylaws, as well as the DGCL, may have the effect of discouraging transactions that involve an actual or threatened change in control of the Company. In addition, provisions of the Charter, the Bylaws and the DGCL may be deemed to have an anti-takeover effect and may delay, deter or prevent a tender offer or takeover attempt that a stockholder might consider to be in its best interests.

These shares of Common Stock and Preferred Stock may be utilized for a variety of corporate purposes, including future public offerings to raise additional capital, corporate acquisitions and employee benefit plans. The existence of authorized but unissued shares of Common Stock and Preferred Stock, and the Company's ability to fix the designations, powers, preferences and rights of shares of Preferred Stock, could render more difficult or discourage an attempt to obtain control over the Company by means of a proxy contest, tender offer or merger, or otherwise. It is not possible to state the actual effect of the issuance of any shares of Preferred Stock on the rights of holders of Common Stock until the Board determines the specific rights of that series of Preferred Stock.

Special Meetings of Stockholders. Special meetings of the stockholders of the Company may be called by the chairman of the Board, the chief executive officer or the Board pursuant to a resolution approved by a majority of directors then in office, or at the request in writing of stockholders owning at least 20% of the entire capital stock of the Company issued and outstanding and entitled to vote.

Advance Notice of Stockholder Action at a Meeting. Stockholders seeking to nominate directors or to bring business before a stockholder meeting must comply with certain timing requirements and submit certain information to the Company in advance of such meeting.

Business Combinations. The Company has expressly elected not to be governed by Section 203 of the DGCL.

Elimination of Liability in Certain Circumstances

The Charter eliminates the liability of the directors to the Company or the Company's stockholders for monetary damages resulting from breaches of their fiduciary duties as directors. Directors remain liable for breaches of their duty of loyalty to the Company or the Company's stockholders, as well as for acts or omissions not in good faith or that involve intentional misconduct or a knowing violation of law, and transactions from which a director derives improper personal benefit. The Charter does not absolve directors of liability for payment of dividends or stock purchases or redemptions by the Company in violation of Section 174 (or any successor provision) of the DGCL.

The effect of this provision is to eliminate the personal liability of directors for monetary damages for actions involving a breach of their fiduciary duty of care, including any such actions involving gross negligence. The Company does not believe that this provision eliminates the liability of directors to the Company or the Company's stockholders for monetary damages under the federal securities laws. The Charter and Bylaws also provide indemnification for the benefit of the Company's directors and officers to the fullest extent permitted by the DGCL as it may be amended from time to time, including most circumstances under which indemnification otherwise would be discretionary.

Transfer Agent and Registrar

The transfer agent and registrar for Common Stock is EQ Shareowner Services.

Exhibit 21.1

Power Solutions International, Inc.

and Consolidated Subsidiaries

100% Owned Subsidiaries of the Registrant

Name	Jurisdiction of Organization
Professional Power Products, Inc	An Illinois Corporation
Bi-Phase Technologies, LLC	A Minnesota Limited Liability Company
Powertrain Integration Acquisition, LLC	An Illinois Limited Liability Company
The W Group, Inc.	A Delaware Corporation
PSI Engines International Canada Ltd.	A Canadian Corporation

*Corporate joint ventures not shown by name in the above listing, if considered in the aggregate as a single subsidiary, would not constitute a significant subsidiary.

100% Owned Subsidiaries of The W Group, Inc.

Name	Jurisdiction of Organization
Power Solutions, Inc.	An Illinois Corporation
Power Great Lakes, Inc.	An Illinois Corporation
PSI International, LLC	An Illinois Limited Liability Company
XI SYNC LLC	An Illinois Limited Liability Company

Exhibit 23.1

CONSENT OF INDEPENDENT REGISTERED PUBLIC ACCOUNTING FIRM

Power Solutions International, Inc.
Wood Dale, Illinois

We hereby consent to the incorporation by reference in the Registration Statements on Form S-8 (No. 333-185096 and 333-191166) of Power Solutions International, Inc. of our report dated May 4, 2020, relating to the consolidated financial statements, which appears in this Form 10-K. Our report contains an explanatory paragraph regarding the Company's ability to continue as a going concern.

/s/ BDO USA, LLP
Chicago, Illinois

May 4, 2020

Exhibit 31.1

CERTIFICATION PURSUANT TO 17 CFR 240.13a-14 PROMULGATED UNDER SECTION 302 OF THE SARBANES-OXLEY ACT OF 2002

I, John P. Miller, certify that:

1. I have reviewed this annual report on Form 10-K of Power Solutions International, Inc.;

2. Based on my knowledge, this report does not contain any untrue statement of a material fact or omit to state a material fact necessary to make the statements made, in light of the circumstances under which such statements were made, not misleading with respect to the period covered by this report;

3. Based on my knowledge, the financial statements, and other financial information included in this report, fairly present in all material respects the financial condition, results of operations and cash flows of the registrant as of, and for, the periods presented in this report;

4. The registrant's other certifying officer and I are responsible for establishing and maintaining disclosure controls and procedures (as defined in Exchange Act Rules 13a-15(e) and 15d-15(e)) and internal control over financial reporting (as defined in Exchange Act Rules 13a-15(f) and 15d-15(f)) for the registrant and have:

(a) Designed such disclosure controls and procedures, or caused such disclosure controls and procedures to be designed under our supervision, to ensure that material information relating to the registrant, including its consolidated subsidiaries, is made known to us by others within those entities, particularly during the period in which this report is being prepared;

(b) Designed such internal control over financial reporting, or caused such internal control over financial reporting to be designed under our supervision, to provide reasonable assurance regarding the reliability of financial reporting and the preparation of financial statements for external purposes in accordance with generally accepted accounting principles;

(c) Evaluated the effectiveness of the registrant's disclosure controls and procedures and presented in this report our conclusions about the effectiveness of the disclosure controls and procedures, as of the end of the period covered by this report based on such evaluation; and

(d) Disclosed in this report any change in the registrant's internal control over financial reporting that occurred during the registrant's most recent fiscal quarter (the registrant's fourth fiscal quarter in the case of an annual report) that has materially affected, or is reasonably likely to materially affect, the registrant's internal control over financial reporting; and

5. The registrant's other certifying officer and I have disclosed, based on our most recent evaluation of internal control over financial reporting, to the registrant's auditors and the audit committee of the registrant's board of directors (or persons performing the equivalent functions):

(a) All significant deficiencies and material weaknesses in the design or operation of internal control over financial reporting which are reasonably likely to adversely affect the registrant's ability to record, process, summarize and report financial information; and

(b) Any fraud, whether or not material, that involves management or other employees who have a significant role in the registrant's internal control over financial reporting.

Date: May 4, 2020	By:	/s/ John P. Miller
	Name:	**John P. Miller**
	Title:	Chief Executive Officer and President

Exhibit 31.2

CERTIFICATION PURSUANT TO 17 CFR 240.13a-14 PROMULGATED UNDER SECTION 302 OF THE SARBANES-OXLEY ACT OF 2002

I, Charles F. Avery, Jr., certify that:

1. I have reviewed this annual report on Form 10-K of Power Solutions International, Inc.;

2. Based on my knowledge, this report does not contain any untrue statement of a material fact or omit to state a material fact necessary to make the statements made, in light of the circumstances under which such statements were made, not misleading with respect to the period covered by this report;

3. Based on my knowledge, the financial statements, and other financial information included in this report, fairly present in all material respects the financial condition, results of operations and cash flows of the registrant as of, and for, the periods presented in this report;

4. The registrant's other certifying officer and I are responsible for establishing and maintaining disclosure controls and procedures (as defined in Exchange Act Rules 13a-15(e) and 15d-15(e)) and internal control over financial reporting (as defined in Exchange Act Rules 13a-15(f) and 15d-15(f)) for the registrant and have:

   (a) Designed such disclosure controls and procedures, or caused such disclosure controls and procedures to be designed under our supervision, to ensure that material information relating to the registrant, including its consolidated subsidiaries, is made known to us by others within those entities, particularly during the period in which this report is being prepared;

   (b) Designed such internal control over financial reporting, or caused such internal control over financial reporting to be designed under our supervision, to provide reasonable assurance regarding the reliability of financial reporting and the preparation of financial statements for external purposes in accordance with generally accepted accounting principles;

   (c) Evaluated the effectiveness of the registrant's disclosure controls and procedures and presented in this report our conclusions about the effectiveness of the disclosure controls and procedures, as of the end of the period covered by this report based on such evaluation; and

   (d) Disclosed in this report any change in the registrant's internal control over financial reporting that occurred during the registrant's most recent fiscal quarter (the registrant's fourth fiscal quarter in the case of an annual report) that has materially affected, or is reasonably likely to materially affect, the registrant's internal control over financial reporting; and

5. The registrant's other certifying officer and I have disclosed, based on our most recent evaluation of internal control over financial reporting, to the registrant's auditors and the audit committee of the registrant's board of directors (or persons performing the equivalent functions):

   (a) All significant deficiencies and material weaknesses in the design or operation of internal control over financial reporting which are reasonably likely to adversely affect the registrant's ability to record, process, summarize and report financial information; and

   (b) Any fraud, whether or not material, that involves management or other employees who have a significant role in the registrant's internal control over financial reporting.

Date: May 4, 2020	By:	/s/ Charles F. Avery, Jr.
	Name:	**Charles F. Avery, Jr.**
	Title:	Chief Financial Officer

Exhibit 32.1

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

In connection with the Annual Report of Power Solutions International, Inc. (the “Company”) on Form 10-K for the year ended December 31, 2019, as filed with the Securities and Exchange Commission on the date hereof (the “Report”), I, John P. Miller, President and Chief Executive Officer of the Company, certify, pursuant to 18 U.S.C. 1350, as adopted pursuant to 906 of the Sarbanes-Oxley Act of 2002, that:

1. The Report fully complies with the requirements of section 13(a) or 15(d) of the Securities Exchange Act of 1934; and

2. The information contained in the Report fairly presents, in all material respects, the financial condition and results of operations of the Company.

Date: May 4, 2020	By:	/s/ John P. Miller
	Name:	**John P. Miller**
	Title:	Chief Executive Officer and President

This certification accompanies each Report pursuant to Section 906 of the Sarbanes-Oxley Act of 2002 and shall not, except to the extent required by the Sarbanes-Oxley Act of 2002, be deemed filed by the Company for purposes of Section 18 of the Securities Exchange Act of 1934, as amended.

A signed original of this written statement required by Section 906 has been provided by 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 OF THE PRINCIPAL FINANCIAL OFFICER PURSUANT TO 18 U.S.C. SECTION 1350, AS ADOPTED PURSUANT TO SECTION 906 OF THE SARBANES-OXLEY ACT OF 2002

In connection with the Annual Report of Power Solutions International, Inc. (the “Company”) on Form 10-K for the year ended December 31, 2019, as filed with the Securities and Exchange Commission on the date hereof (the “Report”), I, Charles F. Avery, Jr., Chief Financial Officer of the Company, certify, pursuant to 18 U.S.C. 1350, as adopted pursuant to 906 of the Sarbanes-Oxley Act of 2002, that:

1. The Report fully complies with the requirements of section 13(a) or 15(d) of the Securities Exchange Act of 1934; and

2. The information contained in the Report fairly presents, in all material respects, the financial condition and results of operations of the Company.

Date: May 4, 2020	By:	/s/ Charles F. Avery, Jr.
	Name:	**Charles F. Avery, Jr.**
	Title:	Chief Financial Officer

This certification accompanies each Report pursuant to Section 906 of the Sarbanes-Oxley Act of 2002 and shall not, except to the extent required by the Sarbanes-Oxley Act of 2002, be deemed filed by the Company for purposes of Section 18 of the Securities Exchange Act of 1934, as amended.

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