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

FORM 10-K

(Mark One)

☒ **Annual report pursuant to section 13 or 15(d) of the Securities Exchange Act of 1934**

for the fiscal year ended December 31, 2018

or

☐ **Transition report pursuant to section 13 or 15(d) of the Securities Exchange Act of 1934**

for the transition period from __________ to __________.

Commission file number 0-21810

GENTHERM INCORPORATED
(Exact name of registrant as specified in its charter)

Michigan **(State or other jurisdiction of incorporation or organization)**	**95-4318554** **(I.R.S. Employer Identification No.)**
21680 Haggerty Road, Northville, MI **(Address of principal executive offices)**	**48167** **(Zip Code)**

Registrant's telephone number, including area code: (248) 504-0500

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

Title of each class	Name of each exchange on which registered
Common Stock	**The Nasdaq Global Select Stock Market**

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

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

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

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

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

Indicate by check mark 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, 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	☐	Smaller reporting company	☐
		Emerging growth company	☐

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

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

The aggregate market value of the registrant's Common Stock held by non-affiliates of the registrant, computed by reference to the closing price of such Common Stock on The Nasdaq Global Select Stock Market as of the last business day of the registrant's most recently completed second fiscal quarter, June 29, 2018, was $1,066,320,000. For purposes of this computation, the registrant has excluded the market value of all shares of its Common Stock reported as being beneficially owned by executive officers and directors and holders of more than 10% of the Common Stock on a fully diluted basis of the registrant; such exclusion shall not, however, be deemed to constitute an admission that any such person is an "affiliate" of the registrant.

As of February 25, 2019, there were 34,989,349 issued and outstanding shares of Common Stock of the registrant.

DOCUMENTS INCORPORATED BY REFERENCE

Portions of the proxy statement for the 2019 annual meeting of shareholders are incorporated by reference into Part III of this Report to the extent described herein.

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PART I

ITEM 1. BUSINESS

Unless otherwise indicated, references to "Gentherm", "the Company", "we", "our" and "us" in this Annual Report on Form 10-K refer to Gentherm Incorporated and its consolidated subsidiaries.

Except to the extent expressly noted herein, the content of our website or the websites of other third parties noted herein are not incorporated by reference in this Report.

Forward-Looking Statements

This Report contains forward-looking statements within the meaning of the "safe harbor" provisions of the Private Securities Litigation Reform Act of 1995. These forward-looking statements represent our goals, beliefs, plans and expectations about our prospects for the future and other future events, such as our ability to execute our new strategic plan, our ability to finance sufficient working capital, the amount of availability under our credit facility, our ability to continue to maintain or increase sales and profits of our operations, and the sufficiency of our cash balances and cash generated from operating, investing and financing activities for our future liquidity and capital resource needs. Reference is made in particular to forward-looking statements included in "Item 1. Business,", "Item 1A. Risk Factors" and "Item 7. Management's Discussion and Analysis of Financial Condition and Results of Operations." Such statements may be identified by the use of forward-looking terminology such as "may", "will", "expect", "believe", "estimate", "anticipate", "intend", "continue", or similar terms, variations of such terms or the negative of such terms. The forward-looking statements included in this Report are made as of the date hereof or as of the date specified and are based on management's reasonable expectations and beliefs. Such statements are subject to a number of assumptions, risks, uncertainties and other factors, which are set forth in "Item 1A. Risk Factors" and elsewhere in this Report, and subsequent reports filed with or furnished to the Securities and Exchange Commission, and which could cause actual results to differ materially from that described in the forward looking statements. Except as required by law, we expressly disclaim any obligation or undertaking to update any forward-looking statements to reflect any change in our expectations with regard thereto or any change in events, conditions or circumstances on which any such statement is based.

General

Gentherm Incorporated is a global technology and industry leader in the design, development, and manufacturing of innovative thermal management technologies. Our products provide solutions for automotive passenger comfort and convenience, battery thermal management, remote power generation, patient temperature management, and other consumer and industrial temperature control needs. Our automotive products can be found on the vehicles of nearly all major automotive manufacturers operating in North America, Europe and Asia. We operate in locations aligned with our major customers' product strategies in order to provide locally enhanced design, integration and production capabilities and to identify future thermal technology product opportunities in both automotive and other markets. We concentrate our research on the development of new technologies and new applications from existing technologies to create product and market opportunities for a wide array of thermal management solutions.

The Company has two reportable segments for financial reporting purposes: Automotive and Industrial.

Automotive

The Automotive reporting segment is comprised of the results from our global automotive businesses. Operating results from our climate comfort systems, specialized automotive cable systems, battery thermal management, and automotive electronic and software systems are all reported in the Automotive segment because of their complementary focus on automotive content, passenger thermal comfort and convenience. The operating results of Etratech, a business acquired in November 2017 (see "Recent Acquisition and Dispositions" below) are included within Gentherm's Automotive segment due to the concentration of product applications within the automotive, RV and marine industries.

Climate comfort system solutions include seat heaters, variable temperature Climate Control Seats ("CCS") designed to provide individualized thermal comfort to automobile passengers, and integrated electronic components, such as blowers and electronic control units and that utilize our proprietary electronics technology and software. Other climate comfort system solutions include steering wheel heaters, neck climate control systems and surface climate control system products for doors, armrests, cupholders and storage bins.

Industrial

The Industrial reporting segment represents the combined results from our remote power generation systems business, our patient temperature management systems business, our environmental testing equipment business and our advanced research and product development division. Our remote power generation systems business is managed by our subsidiary Gentherm Global Power Technologies ("GPT") and our patient temperature management and environment test equipment businesses are managed by our subsidiary Cincinnati Sub-Zero ("CSZ"). The advanced research and product development division is engaged in projects to improve the efficiency and functionality of thermal management technologies and to develop, market, and distribute products based on these new technologies. The operating results from these businesses and division are presented together as one reporting segment because of their joint concentration on identifying new markets and product applications based on thermal management technologies.

In June 2018, as part of a new strategic plan intended to improve business performance and position the Company to deliver above-market growth and improved profitability to its shareholders, Gentherm launched the Fit-for-Growth cost-savings initiative. One key objective for Fit-for-Growth is to eliminate non-core areas of investment within the industrial reporting segment, including elimination of our investment in GPT, Cincinnati Sub-Zero's industrial chamber business ("CSZ-IC"), and our battery management systems division in Irvine, California. We also completed the site consolidation plan for our advanced research and development operations and vacated two leased facilities in Azusa, California. See Note 1 of the consolidated financial statements for more information about the new strategic plan and Fit-for-Growth.

See Note 9 of the consolidated financial statements for information regarding the Company's segment revenues from external customers, including geographic composition, operating income, depreciation and amortization, and goodwill. With the exception of goodwill, asset information by segment is not reported since the Company does not manage assets at the segment level.

Corporate Information

We are incorporated under the laws of the State of Michigan. We were originally incorporated in California in 1991 and we reincorporated in Michigan in 2005. Our internet website is www.gentherm.com. Our Annual Reports on Form 10-K, Quarterly Reports on Form 10-Q, Current Reports on Form 8-K and amendments to those reports filed or furnished pursuant to Section 13(a) or 15(d) of the Securities Exchange Act of 1934, as amended (the "Exchange Act"), are made available free of charge through our website, www.gentherm.com, as soon as reasonably practicable after we electronically file them with or furnish them to the Securities and Exchange Commission. These reports are also available on the Securities and Exchange Commission's website, www.sec.gov.

Business Strategy

Across the globe, we produce and deliver advanced thermal solutions for automotive and patient thermal management markets that positively impact lives. To achieve our goals and capitalize on opportunities within the automotive and patient thermal management segments, we are implementing four strategies:

Focus Growth

The focused growth strategy includes of four key areas:

- Accelerate growth in our core automotive climate and comfort businesses by leveraging human thermophysiology to offer personalized passenger comfort and improve efficiency,
- Introduce an innovative microclimate solution, ClimateSense™, that offers personalized thermal comfort in one intelligent and integrated system,
- Drive battery thermal management with increased focus on active battery heating and cooling, passive battery cooling, battery heaters, and cell connecting board solutions, and
- Expand patient thermal solutions that leverage synergies between our automotive climate and comfort businesses.

These areas of the focused growth strategy are underpinned and enabled by electronics and software systems.

Extend Technology Leadership

Continue to expand our technology leadership with focused investments in key core technologies and competencies, including thermophysiology, software and electronics, simulation, thermal engines and integration.

Expand Gross Margin and Return on Invested Capital

Strengthen operational discipline and execution to expand gross margin and return on invested capital. This strategy centers around building a culture of performance that includes a focus on high-return growth opportunities, the Fit-for-Growth cost rationalization program, and divestiture of non-core investments.

Optimize Capital Allocation

Optimize capital allocation to drive shareholder returns while also allowing us to reinvest in our business to drive continued growth. Make investments to grow our businesses through capital expenditure projects, focused research and development investments, and potential acquisitions that will enhance other business strategies.

Recent Acquisitions and Dispositions

As part of our plan to make strategic acquisitions and dispositions, we have completed the following significant acquisitions and dispositions in the recent past:

On April 1, 2016, we acquired Cincinnati Sub-Zero Products, LLC to expand our temperature management activities into the medical, industrial and testing fields. In June 2018, we determined CSZ's industrial chamber and testing business and our GPT business were not aligned with the Company's strategic growth plan and should be eliminated. Both businesses were classified as held for sale as of December 31, 2018. On February 1, 2019, we completed the sale of CSZ's industrial chamber and testing business and the CSZ headquarters facility to Weiss Technik North America, Inc. for total cash proceeds of $47.5 million.

On November 1, 2017, we acquired Etratech Enterprises Inc. to expand our electronics capabilities, including in the automotive, consumer and commercial markets.

Research and Development

Our research and development activities are an essential part of our efforts to develop new, innovative products and introduce them to the market. Through both internal and external research and development programs, we are working to develop a comprehensive knowledge of thermal management systems that can demonstrate functionality and performance. These activities are critical to optimizing energy and production efficiencies, improving effectiveness in our products, and minimizing the cost to integrate our products with those of our customers.

We perform advanced research and development on thermal management systems, including those that utilize new proprietary comfort software algorithms, to enhance the efficiency and functionality of our automotive heating and cooling products. We believe there are substantial opportunities to integrate innovative thermal management systems into current and future product applications.

Research and development activities are expensed as incurred. These expenses include direct expenses for wages, materials and services associated with particular engineering activities, net of reimbursements from customers and research sponsors. Any related reimbursements for costs, whether for advanced research or a specific product application, are accounted for as a reduction of research and development expense.

Research and development is conducted around the globe, including at our world headquarters in Northville, Michigan, our test laboratory in Farmington Hills, Michigan, our European research facilities in Odelzhausen, Germany and Budapest, Hungary, our Asian research facility in Langfang, China, our industrial application research facility in Calgary, Canada, our medical application research facility in Cincinnati, Ohio and our electronics design and advanced testing facilities in Shanghai, China and Burlington, Canada. During 2018, as part of the Fit-for-Growth cost-savings initiative, Gentherm completed a sale of the advanced battery research facility in Irvine, California and vacated advanced materials research facilities in Azusa, California. See Note 1 of the consolidated financial statement for more information about the new strategic plan, Fit-for-Growth and other restructuring activities undertaken by the Company.

Additional product development is performed at all of our manufacturing facilities to support customers. We believe the localized development model employed at our global design and manufacturing facilities improves our ability to effectively serve our customers and increases our innovative capacity in the future.

Net research and development expense in 2018, 2017 and 2016 was $79,900,000, $82,478,000, and $72,923,000, respectively. Because of changing levels of research and development activity, our research and development expenses fluctuate from period to period.

Core Technologies

Gentherm's expertise in thermal management is focused on two general areas: managing the thermal conditions of people and objects and managing the thermal energy conversion to electrical energy.

Thermoelectric Technologies

Many of our thermal products manage the thermal conditions of people and objects using our internally developed advanced thermoelectric device technology ("TED"). A TED is a solid-state circuit that has the capability to produce both hot and cold thermal conditions by use of the Peltier effect. The advantages of advanced TEDs over conventional compressed gas systems are that they are environmentally friendly and less complex as they have no moving parts and are compact and light weight. For the last 18 years, our work on this technology has yielded great improvements in areas of efficiency, durability and performance.

Resistive Heaters

Resistive heater technologies are comprised of wire, carbon fiber or positive thermal coefficient ("PTC") heating elements which quickly and effectively deliver heat to people and objects. Wire heating elements are designed from stainless steel, copper, our proprietary carbon fiber woven lattice technology called Carbotex® or printed circuit PTC heaters based on the specifications for a particular product application.

ClimateSense™

ClimateSense is an integrated comfort system designed to create a personalized microclimate for passengers using localized convective, conductive and radiative heating and cooling products. Using self-regulating sensing technology and cloud data management, ClimateSense offers the ability to personalize and improve overall thermal comfort, improve time to comfort with (all-electric) pre-conditioning, provide comfort with less energy consumption thereby lowering carbon dioxide emissions, and extending range for electrified powertrains through a reduction in central HVAC system usage.

Electronics

Gentherm manufactures and supplies electronics to our core climate comfort solution products. We also supply electronics for products outside this core set and have a contract to supply value-added electronic products to third parties for adjacent areas within the automotive interior, which is scheduled to launch in 2019. Our 2017 acquisition of Canadian-based Etratech Enterprises expanded our electronics capabilities in automotive and consumer products.

Automotive Cable Systems

Gentherm produces automotive cable systems used to connect automotive components to sources of power. The automotive cable systems are an important element in the production of virtually all of our products and form a significant component in how we generate value to our customers by being an efficient, low-cost and high-quality manufacturer. We offer cable systems as integrated parts of our products and also as stand-alone components for other automotive applications, such as oxygen sensors. Our cable systems business includes both ready-made individual cables and ready-to-install cable networks. Sales of products that utilize our automotive cable systems technology represented 9% of our total product revenues for each of the twelve-month periods ending December 31, 2018, 2017 and 2016.

Air Moving Devices

Our highly durable and quiet air moving devices, including our proprietary blower and fan designs, are essential to all of our products that require air movement. Production of integrated air moving devices is an example of our expanding manufacturing capabilities and is an important step toward our goal of becoming a full-service provider of sub-systems.

Products

Climate Comfort Solutions – Seat Comfort

Climate Control Seat® ("CCS")

Our CCS products utilize exclusive patented technology to regulate temperature and enhance the comfort of vehicle passengers. The most advanced CCS models use one or more TEDs to generate heating or cooling depending upon the direction of the current applied to the device.

A TED is the heart of a compact heat pump used in our active CCS products. Air is forced through the heat pump and thermally conditioned in response to electronic switch input from the seat occupant. The conditioned air circulates by one of our specially designed air moving devices through a proprietary air distribution system installed in the seat cushion and seat back, so that the seat surface can be heated or cooled. Each seat has individual electronic controls to adjust the level of heating or cooling. Active CCS products substantially improve comfort compared with conventional air conditioners by focusing cooling directly on the passenger through the seat rather than waiting until ambient air cools the seat surface beneath the passenger. A heated and ventilated variant of the CCS utilizes ambient cabin air to provide cooling comfort instead of a TED to actively cool the seat. In the heating mode, the vent-only system is supplemented with resistive heating elements.

Heated and ventilated CCS products provide a lower level of cooling capability than our active CCS solution, but at a lower price. By offering different models of the CCS product, our customers have the opportunity to purchase a wider range of climate control products at different price points. Sales of CCS products contributed 36%, 39% and 45% to our total product revenues for the twelve-month periods ending December 31, 2018, 2017 and 2016, respectively.

Heated Seat

Heated seats, based on our resistive heater core technology, are seamlessly integrated into automotive seat designs, and are constructed using materials that offer the best capacity, installation characteristics and durability. Our capabilities allow customers to choose among a variety of resistive heater materials based on their individual vehicle specifications. Sales of heated seat products contributed 29%, 31% and 32% to our total product revenues for the twelve-month periods ending December 31, 2018, 2017 and 2016, respectively.

Neck Climate Control Systems

Neck climate control systems ventilate warm or temperature-controlled air directly onto the passenger's neck area. The system combines electronics, air moving device technologies and a heating element into a compact, integrated headrest design that can be adjusted to suit the body size of the passenger.

Climate Comfort Solutions – Surface Climate Control Systems

Heated Steering Wheel

Heated steering wheels deliver heating comfort to automobile drivers through resistive elements. This product can be applied to both leather and wood steering wheels. A solution for drivers in cold and mild weather climates, the heated steering wheel is designed for the global automotive market.

Heated Surfaces

Gentherm's thermally conductive or radiative surfaces, such as door panel armrest and center console armrest products, are powered by our core technologies. The system is thermally managed by a heating control system which can be discretely located in the door panel or seat of the vehicle. Heated door panels and armrests complement our climate-controlled seat and steering wheel products and provide a superior level of thermal comfort to the driving experience.

Battery Sub-Systems

Thermoelectric Battery Thermal Management (BTM)

Thermal management is critically important for the long-term operation of advanced automotive batteries. The expansion of electrified vehicle applications, such as 48-volt electrical networks, start-stop systems, regenerative braking systems and other micro-hybrid battery implementations, have drastically increased the demand for BTM systems solutions which enable wider operating temperature ranges, enhanced driving range and prolonged life of the battery. Gentherm's BTM system can provide precision battery cooling on pack or cell-level using patented TED technology. The BTM system maintains the temperature of the lithium-ion battery or other advanced chemistry battery within an acceptable temperature range without the use of chilled liquids or refrigerant loops, making it a light weight, highly scalable, compact solution ideal for automotive applications. Gentherm's proprietary BTM system is compact and energy efficient, resulting in a minimal energy budget, which is important for an electrified vehicle. The performance improvements realized with this product have been validated through the award of production BTM systems by two flagship original equipment manufacturers ("OEMs"). We are currently working with other OEMs in an effort to secure more production contracts.

Cell Connecting Systems

Cell connecting systems provide secure connections between advanced automotive batteries to transmit a continuous flow of information about battery temperature and cell voltage during the charging and discharging process to monitor battery system performance.

Climate Comfort Solutions – Thermal Convenience

TrueTherm™ Cup Holder

The TrueTherm cup holder applies Gentherm's patented TED technologies to keep beverages of automobile drivers and passengers either warm or cool. We have developed a range of cup holder models with varying degrees of functionality, designed to be packaged in multiple configurations to accommodate different console environments. Our dual independent design provides separate temperature settings in each holder allowing the driver and passenger to individually maintain a heated or cooled beverage.

TrueTherm™ Storage Unit

Gentherm's TrueTherm storage units provide for food or beverage cooling for the global automotive market. Using patented TED or refrigeration technologies, the TrueTherm cool storage unit provides temperature control independently from a vehicle's heating and air conditioning system. It can be custom designed to accommodate tight interior spaces, such as the front floor console of a sport utility vehicle (SUV) and provide additional cooling capacity to those who have long work commutes or transport multiple passengers.

Remote Power Generation

Gentherm is a leading provider of remote electric power generation systems, primarily serving large upstream and midstream oil and gas markets. Using our unique industrial TEG technologies, our generation systems deliver ultra-reliable power for long-term unattended operation in geographically remote applications that are critical to our customers' operations, such as wellhead automation, valve automation and cathodic protection of pipelines. We design and produce turnkey systems that are highly customized for application, load, power and fuel source, and location requirements. Other applications for our remote power generation systems include mobile telecommunications, security and surveillance and scientific monitoring. Our revenues from this product include large custom systems projects ranging from $200,000 to over $2,000,000. Quarterly results from our remote power generation business can vary significantly due to delivery timing of these custom systems to customers, among other factors.

Patient Temperature Management Systems

Gentherm provides a full line of patient temperature management systems utilizing multiple modalities, including our Blanketrol® hyper-hypothermia system, our WarmAir® convective warming system and our FilteredFlo® warming blankets, designed to manage patient body temperatures in operating rooms, recovery rooms, intensive care units and other areas of hospitals, our as well as for use in the home healthcare market. Our systems offer simple programmable body temperature regulations to establish and maintain stable patient temperature. We also offer the industry-leading Hemotherm® blood temperature management solutions that delivers reliable, effective blood temperature management control during cardiopulmonary by-pass and other related cardiovascular procedures. Revenues from the sale of patient temperature management systems began in April 2016 in connection with the acquisition of CSZ.

Environmental Testing Equipment and Testing Services

Gentherm provides standard and custom designed environmental test chambers that execute reliability tests by subjecting products to environmental extremes like temperature, humidity, altitude, and vibration. Our chambers are available in a variety of sizes with capabilities ranging from basic temperature cycling to accelerated stress testing. Gentherm designs and sells environmental test chambers for a variety of industries, which include the pharmaceutical, automotive, electronics, medical, telecommunications, aerospace and defense industries. Revenues from the sale of environment testing equipment and testing services began in April 2016 in connection with the acquisition of CSZ. On February 1, 2019, we completed the sale of these divisions to Weiss Technik North America, Inc. for total cash proceeds of $47,500,000.

Sponsored Research

In April 2016, the Company was selected as a subcontractor in a U.S. Air Force sponsored program award for the engineering and development of a non-invasive warming and cooling device. The device will be incorporated as medical equipment in the Air Force Expeditionary Medicine Support and Air Force Theater Hospital units supporting overseas contingency operations. Once operational testing is complete and the manufacturing processes for initial production are fully matured, the device will be submitted to the U.S. Food and Drug Administration for certification. The 30-month, $5.7 million project will be fully funded by the U.S. Air Force. As a subcontractor, Gentherm's share of the award is approximately $2.6 million. Gentherm received $750,000, $1.2 million and $300,000 in program funding during 2018, 2017 and 2016, respectively. We expect to collect the remaining $350,000 in funding during the first quarter of 2019.

Marketing, Customers and Sales

Our Automotive segment customers include light vehicle OEMs, commercial vehicle OEMs, and first tier ("Tier 1") suppliers to the automotive OEMs, including automotive seat manufacturers. We also directly supply CCS and seat heaters to aftermarket seat distributors and installers.

The Company's automotive marketing is directed primarily at automotive manufacturers and their Tier 1 suppliers and focuses on the enhanced value consumers attribute to vehicles with climate comfort products. If interested, the manufacturers direct us to work with their suppliers to integrate our products into the vehicle's seat or interior design. These customers will sell our product, as a component of an entire seat or seating system, to automotive OEMs. Once the integration work is complete, prototypes are sent to the manufacturer for evaluation and testing. If a manufacture accepts our product, a program can then be launched for a particular model on a production basis, but it normally takes two to three years from the time a manufacturer decides to include any of our products in a vehicle model to actual volume production for that vehicle. During this process, we derive funding from prototype sales but obtain no significant revenue until mass production begins. Inherent to the automotive supplier market are costs and commitments that are incurred well in advance of the receipt of orders and resulting revenues from customers.

The volume of products we sell is significantly affected by the levels of new vehicle sales and the general business conditions in the automotive industry.

For 2018, our revenues from sales to our three largest customers, Lear, Adient and Bosch Automotive were $181.0 million, $166.9 million, and $79.9 million, respectively, representing 17%, 16%, and 8% of our total revenues, respectively. Revenues from Adient and Lear represent sales of our climate comfort products. Revenues from Bosch Automotive represent product sales based on our automobile cable system technology and is used primarily in the production of automotive oxygen sensors. The loss of any one of these customers is likely to have a material adverse impact on our business; however, as noted above, our approach is to market climate comfort solutions, battery thermal management and cable technology products to the OEMs who then direct their suppliers, such as Adient and Lear, to work with us. It is, therefore, relevant to understand how our revenues are divided among the OEMs, as shown below.

Our revenues, including those from sales of our automotive cable systems products, for each of the past three years were divided among automotive OEMs as follows:

Manufacturer	2018	2017	2016
General Motors	14%	15%	18%
Ford Motor Company	10	11	12
Volkswagen	9	10	10
Fiat Chrysler Automobiles	9	9	10
Hyundai	7	8	10
Honda	6	6	6
Daimler	5	4	4
Renault/Nissan	5	6	6
BMW	4	5	6
Toyota Motor Corporation	3	4	4
Jaguar/Land Rover	3	3	2
Other	25	19	12
Total	100%	100%	100%

Non-automotive revenues of 9% in 2018, 11% in 2017 and 8% for 2016 are included within the Other category.

Our power generation systems are used by oil and gas customers for cathodic pipeline protection and other remote applications around the world.

Patient temperature management systems customers include hospitals and other health care service providers. Customers purchase our products at prices negotiated by exclusive medical equipment distributors or, if they are a named participant, a group purchasing organization.

Our environmental testing equipment and testing services are sold to a wide variety of customer in many different industries.

Our non-automotive electronics products are sold to a variety of industrial customers, including an elevator door manufacturer and an irrigation systems company.

Outsourcing, Production and Suppliers

Our global manufacturing facilities are located close to our key customers. Our European manufacturing operations are located at our Hungarian, Macedonian and Ukrainian sites. In North America, we operate two manufacturing production sites in Acuña, Mexico, one in Celaya, Mexico, one in Cincinnati, Ohio, one in Alberta, Canada and one in Ontario, Canada. In Asia, we operate production facilities in Langfang, China, and Ha Nam, Vietnam and two electronics production facilities in Shenzhen, China.

We rely on various domestic and foreign vendors and suppliers to supply components for our products through purchase orders, with no guaranteed supply arrangements. Components for certain products, including TEDs, are only available from a limited number of suppliers in the world. The loss of any significant supplier, in the absence of a timely and satisfactory alternative arrangement, or an inability to obtain essential components on reasonable terms or at all, could materially adversely affect our business, operations and cash flows. Our business and operations could also be materially adversely affected by delays in deliveries from our suppliers.

Proprietary Rights and Patents

The development of new technologies is critical to the execution of our business strategy. Patents obtained for new technologies form an important basis for the success of the Company and underpin the success of our research and development efforts. We have adopted a policy of obtaining, where practical, the exclusive rights to use technology related to our products through patents or licenses for proprietary technologies or processes. We adapt and commercialize such technologies in products for mass production. We also have developed technologies or furthered the development of acquired technologies through internal research and development efforts.

As of December 31, 2018, Gentherm held 636 issued patents, of which 273 were U.S. patents and 363 were non-U.S. patents. A total of 17 patents were held jointly with other companies. Gentherm held 454 patents directed to climate control products and thermoelectric technologies, 139 patents directed at heating elements and technologies, 26 patents directed to air moving devices, 12 patents directed at patient temperature management systems and 5 patents directed to environmental test chambers and technologies.

Competition

The automotive components and systems business is highly competitive. We have several important competitors in the heated seat business and certain vehicle manufacturers have, for some time, offered options on certain models that combine heated seats with circulation of ambient air or cooled air from the car's air conditioning system which works similar to our heated and ventilated seat system products. It is possible that our competitors will be able to expand or modify their current products to more directly compete with our CCS products. We believe that there are other potential competitors that are working to develop systems for heating and cooling of automotive car seats.

We may experience additional competition directly from automobile manufacturers or other major suppliers, most of which have the capability to manufacture competing products. We believe that our products will compete successfully on the basis of performance, quality, and price.

Additionally, we may experience competition from non-traditional participants that introduce new technologies, such as advanced driver assistance technologies, as well as new products or services, such as autonomous vehicles, car- and ride-sharing and transportation as a service.

See "Risk Factors" for further information regarding the significant competition in the automotive industry.

Our power generation systems compete with other technologies, such as photovoltaic solar panels and fuel cells, to deliver power to different types of oil and gas market applications. Our products have earned a reputation for delivering highly reliable power under extreme climatic and weather conditions to locations that do not offer access to an electrical grid. In addition to quality and performance, our ability to design and support custom solutions that integrate directly with an application's existing infrastructure gives our products a competitive advantage over products based on other technologies.

The patient temperature management market has seven segments: convective warming, blood warming, fluid warming, surface warming, invasive warming, non-invasive cooling and invasive cooling. Gentherm specializes in the convective warming, blood warming, surface warming and non-invasive cooling. We compete based on the quality of our products and service to our customers and are working to develop and market the next generation of advanced temperature management systems that complies with the rules and regulations of the U.S. Food and Drug Administration and other government regulatory bodies.

Gentherm's environment test chamber business compete globally on the basis of performance, customization, quality and service. Our ability to modify our standard product lines to meet customer specifications helped differentiate Gentherm's chambers from other competitive offerings. On February 1, 2019, we completed the sale of this business.

Risk Attendant to Foreign Operations

We internally manufacture the majority of our products at our production facilities in foreign countries. Other products we sell are manufactured by third parties in foreign countries. See "Risk Factors" for a description of risks attendant to our foreign operations.

See Note 9 of the consolidated financial statements for information regarding the Company's segment revenues by geographic composition.

Seasonality

Our principal operations are directly related to the automotive industry. Consequently, we have historically experienced seasonal fluctuations to the extent automotive vehicle production slows, such as in the summer months when many customer plants close for model year changeovers and in December when many customer plants close for the holidays. See Item 8 "Financial Statements and Supplementary Data" for selected quarterly financial data.

Employees

As of December 31, 2018 and 2017, Gentherm's employment levels worldwide were as follows:

Region	2018	2017
United States and Canada	1,059	1,155
Mexico	5,494	4,693
Germany	246	255
Hungary	259	251
United Kingdom	4	3
Ukraine	1,959	2,219
Malta	13	12
Macedonia	1,771	1,358
China	2,173	2,392
Korea	39	45
Japan	21	20
Vietnam	717	666
	13,755	13,069

Despite higher worldwide employment at December 31, 2018 as compared to December 31, 2017, the Company's Fit-for-Growth cost savings initiative realized a 9% reduction in salaried positions during 2018. Gentherm retains the services of outside contractors from time to time. None of our employees is subject to collective bargaining agreements. We consider our employee relations to be satisfactory.

Executive Officers of the Registrant

Our current executive officers are as follows:

Phillip Eyler, 47, was appointed President and Chief Executive Officer, and to the Company's Board of Directors, in December 2017. Prior to joining Gentherm, Mr. Eyler served as President of the $3 billion Connected Car division at Harman, a subsidiary of Samsung since 2015. As President of the Connected Car division, Mr. Eyler oversaw an organization of more than 8,000 employees dedicated to the development of highly integrated connected car systems encompassing infotainment, telematics, connected safety and cyber security solutions, among others. Mr. Eyler joined Harman in 1997 and held various senior management positions, including Senior Vice-President and General Manager of Harman's Global Automotive Audio business from 2011 to 2015. Mr. Eyler received a Bachelor of Science degree in mechanical engineering from Purdue University and an MBA from the Fuqua School of Business at Duke University.

Frithjof Oldorff, 52, was appointed President of the Automotive business unit in July 2013. Prior to this appointment, Mr. Oldorff served as the Chief Operating Officer of Gentherm GmbH since 2008. He previously was a Director of Operations for Freudenberg from 2005 to 2007 and held various positions at Faurecia from 1995 to 2005. Mr. Oldorff received a master's degree from Darmstadt Technical University (Germany) in Industrial and Mechanical Engineering.

Matteo Anversa, 47, was appointed Executive Vice President Finance, Chief Financial Officer and Treasurer in January 2019. Prior to joining Gentherm, Mr. Anversa served as Executive Vice President and Chief Financial Officer of Myers Industries since

December 2016. Prior to Myers Industries, Mr. Anversa worked since 2013 at Fiat Chrysler Automobiles where he held several executive management positions, including Vice President, Group FP&A Fiat Chrysler and Chief Financial Officer for Ferrari SpA where he helped prepare Ferrari for its initial public offering. Mr. Anversa began his career with General Electric where he held various leadership roles during his 16-year tenure. Mr. Anversa holds a degree in Mechanical Engineering from the University of Parma, Italy.

Kenneth J. Phillips, 45, was appointed Senior Vice President, General Counsel and Secretary in June 2012. Prior to joining Gentherm, Mr. Phillips was a Partner in the Detroit, Michigan office of the law firm Honigman LLP. Mr. Phillips graduated with a J.D. from Wayne State University and a bachelor's degree in Accounting and Finance from Oakland University. Mr. Phillips is also a Certified Public Accountant.

Mark A. Potesta, 55, was appointed Senior Vice President and Chief Technology Officer in November 2018. Prior to joining Gentherm, Mr. Potesta worked since 2017 at Panasonic Automotive Systems as Executive Vice President of Engineering and Chief Technology Officer. Prior to 2017, Mr. Potesta worked at Delphi Corporation starting in 1999, where he held positions of increasing responsibility in engineering as well as business unit leadership for electrical and electronic architectures. Mr. Potesta graduated with master's and bachelor's degrees in Electrical Engineering from Youngstown State University.

Barbara J. Runyon, 48, was appointed Senior Vice President and Chief Human Resources Officer in August 2018. Prior to joining Gentherm, Ms. Runyon worked as Vice President and Chief Human Resources Officer at La-Z-Boy Incorporated since 2015. Prior to La-Z-Boy, Ms. Runyon held roles of increasing responsibility for at PepsiCo/The Pepsi Bottling Group for over 14 years. Ms. Runyon graduated with an MBA with emphasis in Organizational Development from Wayne State University and a BS in Human Resources from Michigan State University.

Ryan Gaul, 43, was appointed Senior Vice President of Operations in July 2018. Mr. Gaul has spent most of his professional career with Gentherm, serving in diverse roles in Gentherm's locations in North America, Europe and Asia. He started his career in IT, and moved into roles of increasing responsibility within the IT organization, serving as CIO from 2005 to 2009. From 2009 to 2014, he served as Managing Director of Operations for Gentherm's Asian business. From 2014 to 2018, he served as Vice President of Strategy and Marketing. Mr. Gaul received his bachelor's degree from the University of Missouri.

Yijing Brentano, 47, was appointed Senior Vice President of Investor Relations and Corporate Communications in February 2018. Before joining Gentherm, Ms. Brentano served as the Vice President of Investor Relations and Corporate Strategy at Harman International, a Samsung company, from 2015 to 2017. Prior to that, she spent 17 years at Sprint Corporation in multiple executive positions, including Vice President of Strategic Initiatives and Mobile Health, General Manager of International Wholesale, Vice President of Investor Relations and business unit CFO roles. Ms. Brentano started her career at Ernst & Young and is a Certified Treasury Professional. She holds a Bachelor of Science degree from the University of Kansas and an MBA from the University of Chicago Booth School of Business.

Paul Giberson, 38, was appointed Senior Vice President of Sales in November 2018. Mr. Giberson has worked at Gentherm since 2006, starting as an account manager and moving to roles of ever-increasing responsibility, including Director of Sales and Marketing for North American and Vice-President of Automotive Sales. Mr. Giberson holds a bachelor's degree from the University of Windsor.

Officers of the Company serve at the pleasure of the Board of Directors and, to the extent applicable, in accordance with the terms of their individual Service Agreements.

ITEM 1A. RISK FACTORS

You should carefully consider each of the risks, assumptions, uncertainties and other factors described below and elsewhere in this Report, as well as any amendments or updates reflected in subsequent filings or furnishings with the SEC. We believe these risks, assumptions, uncertainties and other factors, individually or in the aggregate, could cause our actual results to differ materially from expected and historical results and could materially and adversely affect our business operations, results of operations, financial condition and liquidity.

Risks Relating to Our Business

Numerous general economic and industry factors which we do not control have significant impacts on the automotive industry, our primary market, and resulting difficulties in the automotive industry or for our key customers and suppliers would have a material and adverse effect on our business, results of operations and financial condition

Our Automotive segment represents 91%, 89% and 92% of our product revenues for the years ended December 31, 2018, 2017 and 2016, respectively. Demand for our automotive products is directly related to automotive vehicle production, which is impacted by numerous general economic and industry factors which we do not control and is highly cyclical. In 2018, our product orders were adversely impacted by lower than expected vehicle production in North America, Europe, and Asia, and any prolonged decrease in vehicle production may have a material adverse effect on our business, results of operations and financial condition.

In particular, the automotive industry has been susceptible historically in the U.S. and globally to economic recessions, labor disputes, volatile fuel prices, complex and evolving regulatory requirements, trade agreements and government initiatives and uncertain availability and cost of credit. In addition to the continuation of these trends, future automotive vehicle production may be materially impacted by additional industry or consumer behaviors, including the development and use of autonomous and electric vehicles and increasing use of car- and ride-sharing and on-demand transportation as a service. We rely in part on market analysis, including from our customers and the IHS Markit reports on vehicle production, to make operational and strategic decisions, and increased market volatility makes it more difficult to obtain reliable data. Further, disruptions in the global economy and volatility in the financial markets may cause, among other things, lower levels of liquidity, increased borrowing rates, increased rates of default and bankruptcy, lower consumer and business spending, and lower consumer net worth, all of which may reduce demand for our products and have a material adverse effect on our business, results of operations and financial condition. We are also limited in our ability to reduce costs to offset the results of a prolonged or severe economic downturn given certain fixed costs associated with our operations, difficulties if we overstrain our resources, and our long-term business approach that necessitates we remain in position to respond when market conditions improve.

Unfavorable economic or industry conditions could result in the financial distress of our customers and suppliers. If our customers experience an actual decline or project a future decline in vehicle sales generally, or in sales of models for which we supply products, we may experience reductions in orders from these customers, experience difficulties in obtaining new business, incur write-offs of accounts receivable, incur impairment charges or require restructuring actions. In addition, if any of our significant customers experiences a material work stoppage, the customer may halt or limit the purchase of our products. This could require us to shut down or significantly reduce production at facilities relating to such products, which could have a material adverse effect on our business and harm our profitability.

The automotive component industry, as well as the automotive industry generally, is subject to intense competition and our current automotive products may be rendered obsolete by future technological developments

The automotive component industry, from which we derive a substantial majority of our revenues, is subject to intense competition. Business is typically awarded to the supplier offering the most favorable combination of cost, quality, timely delivery, technological innovation and service. In addition, customers often demand periodic price reductions during a vehicle’s life that require us to continually assess, redefine and improve our operations, products and manufacturing capabilities to maintain and improve profitability. Many of our competitors are substantially larger in size and have substantially greater financial, marketing and other resources than we do, and therefore may be more effective in adapting to customer requirements while being profitable.

We must also be responsive to the entrance of non-traditional participants in the automotive industry. These non-traditional participants may seek to disrupt the historic business model of the industry through the introduction of new technologies, such as advanced driver assistance technologies, as well as new products or services, such as autonomous vehicles, car- and ride-sharing and on-demand transportation as a service. As our business evolves, the pressure to innovate will encompass a wider range of products and services, including products and services that may be outside of our historically core business. If we do not accurately predict, prepare for and respond to new kinds of technological innovations, market developments and changing customer needs, our sales, profitability and long-term competitiveness may be harmed. In addition, there can be no assurance that we will successfully differentiate our products from those of our competitors, that the marketplace will consider our current or proposed products to be superior or even comparable to those of our competitors, or that we can succeed in establishing new or maintaining existing relationships with automobile manufacturers.

Due to the rapid pace of technological change, as with any technology-based product, our ability to compete successfully will depend on our ability to develop and license improved technologies on a rapid and cost-efficient basis. For example, in the automotive industry, we believe the development of new products featuring our new ClimateSense™ technology will increase our value as an integral part of the overall vehicle climate solution. Our business will therefore require extensive capital expenditures and investment in product development, manufacturing and management information systems. Further, certain of our products may be rendered obsolete by future technologies, including from competitors in our products or widespread use of autonomous vehicles, or consumer preferences. Our operations, financial results and competitive position would be materially and adversely affected if we were unable to anticipate such future developments and develop, or obtain access to, critical new technologies at a reasonable cost, or adapt to changes in the automotive industry generally. An inability to compete successfully may also hinder our ability to complete acquisitions or financings on reasonable terms or at all.

Additionally, many advanced technologies developing in the automotive industry present novel issues with which domestic and foreign regulators have only limited experience and will be subject to evolving regulatory frameworks. Any current and future regulations in these areas could impact whether and how these technologies are designed and integrated into our products and may ultimately subject us to increased costs and uncertainty.

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

The launch of a new program is a complex process, the success of which depends on a wide range of factors, including the production readiness of our and our suppliers' manufacturing facilities and manufacturing processes, as well as factors related to tooling, equipment, employees, initial product quality and other factors. Given the complexity of new program launches, we may experience difficulties managing product quality, timeliness and associated costs. In addition, new program launches require a significant ramp up of costs; however, our sales related to these new programs generally are dependent upon the timing and success of our customers’ introduction of new vehicles. Our inability to effectively manage the timing, quality and costs of these new program launches could have a materially adversely effect on our operations, financial condition and operating results.

If our expansion efforts are not successfully implemented, they may adversely impact our business and results of operations

Over the past few years, we have opened or acquired new manufacturing facilities in Vietnam, Macedonia, Mexico and China, to support our customers’ global operations. Opening new, or expanding existing, manufacturing facilities entail a number of risks, including our ability to successfully manage the demands placed on our management resources and engineering and quality teams, our ability to continue production at levels, quality and within the cost and timeframe estimated, the continuing implementation of internal controls and compliance, varied local regulations, and our ability to attract and maintain a sufficient number of skilled workers at the requisite locations to meet the needs of the facilities. Our results of operations could also be adversely impacted by start-up costs until production levels at the facilities reach planned levels, as well as any legacy issues with acquired or existing facilities.

These newly developed or acquired facilities, as well as our other production facilities around the world, could have significant unused capacity if our product revenues do not continue to increase. Significant unused capacity would result in overhead costs that would need to be absorbed by a smaller than expected revenue base, which could materially and adversely impact our financial results.

While there are currently no active projects to construct new manufacturing facilities, or agreements to acquire other manufacturing facilities, or plans to materially expand existing facilities, we regularly consider such opportunities and any future construction or acquisition activities, particularly in foreign countries, could entail the risks noted above. If we experience construction or regulatory delays or increased costs, our estimates and assumptions are incorrect, or other unforeseen events occur, our business, financial conditions and results of operations could be adversely impacted.

Our ability to market our automotive products is subject to a lengthy sales and acceptance cycle, which requires significant investment prior to significant sales revenue, and non-automotive products may be subject to similar time lags

The sales cycle for our automotive products is lengthy because an automobile manufacturer must develop a high degree of assurance that the products it buys will meet consumer needs, interface as easily as possible with the other parts of a vehicle and with the automobile manufacturer’s production and assembly process, and have minimal warranty, safety and service problems. As a result, from the time that a manufacturer develops a strong interest in our products for a specified vehicle, it normally will take several years before our products are available to consumers in that vehicle.

In the automotive components industry, products typically proceed through five stages of research and development. Initial research on the product concept comes first, to assess its technical feasibility and economic costs and benefits. This stage often includes development of an internal prototype for the component supplier's own evaluation. If the product appears feasible, the component supplier manufactures a functioning prototype to demonstrate and test the product's features. These prototypes are then marketed and sold to automotive companies for testing and evaluation. If an automobile manufacturer shows interest in the product, it typically works with the component supplier to refine the product, then purchases second and subsequent generation engineering prototypes for further evaluation. Finally, the automobile manufacturer either decides to purchase the component for a production vehicle or terminates the program.

The time required to progress through these five stages to commercialization varies widely. Generally, the more a component must be integrated with other vehicle systems, the longer the process takes. Further, products that are installed by the factory usually require extra time for evaluation because other vehicle systems are affected, and a decision to introduce the product into the vehicle is not easily reversed. Because our automotive products affect other vehicle systems and are factory-installed items, the process usually takes several years from conception to commercialization.

While we currently have active development programs with various seat manufacturers and automotive OEMs for our thermal management products, no assurance can be given that our products will be implemented in any particular vehicles. During this development process, we derive minimal funding from prototype sales but generally obtain no significant revenue until mass production begins, which could have a material adverse effect on our liquidity. If our products are not selected after a lengthy development process, our results of operations and financial condition could be materially and adversely affected.

Non-automotive products that we develop or significantly update are also likely to have a lengthy sales cycle. Because the use of our proprietary technology in other markets is new and evolving, and because customers will likely require any new product or significantly changed product that we develop to pass certain feasibility, safety and economic viability tests before committing to purchase, it is expected that any new or significantly changed products we develop in non-automotive markets also will take several years before they are sold to customers, if at all.

Our ability to market our products successfully depends on acceptance of our products by existing and potential customers and consumers, as well as the success of our customers

We have been, and will continue to be, required to educate potential customers and demonstrate that the merits of our existing products justify the costs associated with them. Similar efforts will be required with potential customers for additional products we develop using technologies we develop or license. Manufacturers will only include our products if there appears to be demand for our products from the consumers. For our automotive products, we rely on OEMs and applicable dealer networks to market our products to consumers, and we do not have any control over the marketing budget or messaging nor the training of employees and agents regarding our products. Further, OEMs and dealer networks may market products offered by our competitors, including products manufactured by such OEMs. If customers or consumers conclude that temperature control seats or our other automotive products are unnecessary or too expensive or that our competitors offer more favorable terms or better products, OEMs and other manufacturers may reduce availability or decline to include our products in their vehicles.

In addition, the vehicle market is highly competitive among OEMs, which drives continual cost-cutting initiatives by our customers. It is possible that pricing pressures beyond our expectations could intensify as OEMs pursue restructuring and cost cutting initiatives. If we are unable to generate sufficient production cost savings in the future to offset such price reductions, our gross margin, rate of profitability and cash flows could be materially and adversely affected.

We must also satisfy the timing, performance and quality standards of our customers and consumers during mass production. Further, we are dependent upon the timing and success of our customers' continuation of existing vehicles and introduction of new vehicles which include our products. If such vehicles are not successful in the marketplace, our results of operations and financial condition could be materially and adversely affected.

Significant increases in the market prices and restrictions on the availability of certain raw materials may materially and adversely affect our business

Many of our products include TEDs which contain certain raw materials that generally cannot be substituted. The prices for these raw materials fluctuate depending on market conditions. We generally have no contractual price protections with our suppliers and customers regarding raw material costs. Substantial increases in the prices for our raw materials increase our operating costs and could reduce our profitability if we cannot recover these increases from our customers. As an example, Tellurium is a raw material used in TEDs. If the market price for this raw material significantly increases, as it has in the past, our gross profit may be adversely impacted as our suppliers pass those price increases on to us. Other key raw materials include copper, silver and petroleum based engineered plastics. In addition, the availability of raw materials fluctuates from time to time due to factors outside our control, including as a result of catastrophic events, which may adversely impact our ability to meet customer commitments or needs. Our business, results of operations and financial condition could be materially and adversely affected by shortages or significant price increases of key raw materials.

The disruption or loss of relationships with vendors and suppliers for the components for our products could materially and adversely affect our business

Our ability to manufacture and market our products successfully is dependent on relationships with both third party vendors and suppliers. We rely on various vendors and suppliers for the components of our products and procure these components through purchase orders, with no guaranteed supply arrangements. Certain components are only available from a limited number of suppliers. The loss of any significant supplier, in the absence of a timely and satisfactory alternative arrangement, or an inability to obtain essential components on reasonable terms or at all, could materially and adversely affect our business, results of operations and financial condition.

Our business also could be materially and adversely affected by delays in deliveries from suppliers because we carry minimal inventory of product components. Automobile manufacturers, in particular, demand on-time delivery of quality products, and some have required the payment of substantial financial penalties for failure to deliver components to their plants on a timely basis. Such penalties, as well as costs to avoid them, such as overtime costs and overnight air freighting of parts that normally are shipped by other less expensive means of transportation due to our global production operations, could have a material adverse effect on our business, results of operations and financial condition. Moreover, the inability to meet demand for our products on a timely basis would materially and adversely affect our reputation and future commercial prospects.

In addition, financial difficulties or solvency problems with our suppliers, which may be exacerbated by the cost of remediating quality issues with these items, could lead to uncertainty in our supply chain or cause supply disruptions for us which could, in turn, disrupt our operations, including production.

Further, we engage outside contractors to perform product assembly and other production functions for certain of our products. Our reliance upon third party contractors for certain production functions reduces our control over the manufacture of our products and makes us dependent in part upon such third parties to deliver our products in a timely manner, with satisfactory quality controls and on a competitive basis. If we are unable to meet commitments to our customers due to third party services in production, our business, results of operations, financial condition and reputation could be materially and adversely affected.

Our business is subject to risks associated with manufacturing processes

We internally manufacture a large and growing portion of our products at our fourteen production facilities. See Item 2. below for information regarding our significant properties. Other products we sell are manufactured by third parties. A catastrophic loss of the use of all or a portion of our facilities due to accident, fire, explosion, labor issues, civil unrest, weather conditions, other natural disaster or otherwise, whether short or long-term, could have a material adverse effect on our business, results of operations and financial condition. This risk is exacerbated by the fact that our primary manufacturing locations are in Mexico, China, Vietnam, Macedonia and Ukraine, all countries that have historically experienced a heightened degree of political, civil and labor uncertainty.

Political conflict and related demonstrations and violence in Ukraine in recent years, for example, highlights the risks to our foreign manufacturing facilities. Although our manufacturing facility in Ukraine is located approximately 700 miles by road from Kiev, and approximately the same distance from the activities along the border of Ukraine and Russia where fighting has occurred, we cannot be certain that similar demonstrations, unrest and international tensions will not affect our facility in the future, including due to electrical outages and periodic battles with separatists closer to our facility. In addition, certain of our employees in Ukraine are routinely conscripted into the military and/or sent to the Russian border to fight in the ongoing conflict. Furthermore, most of our products manufactured in Ukraine are shipped across the border from Ukraine to Hungary for further delivery to our customers. If that border crossing were to be closed or restricted for any reason, we would essentially experience a loss of the use of our Ukrainian facility, which would have a material adverse effect on our business.

Unexpected failures of our equipment and machinery also may result in production delays, revenue loss and significant repair costs, injuries to our employees, and customer claims. Any interruption in production capability may require us to delay fulfilling orders, utilize less efficient internal facilities on a temporary basis and make large capital expenditures to remedy the situation, which could have a negative impact on our profitability and cash flows.

We maintain property damage insurance that we believe to be adequate to provide for reconstruction of facilities and equipment, as well as business interruption insurance to mitigate losses resulting from any production interruption or shutdown caused by an insured loss. However, any recovery under our insurance policies may not be offset the lost sales or increased costs that may be experienced during the disruption of operations, and such proceeds may be received and accounted for in a different reporting period, which could materially and adversely affect our business, financial condition, results of operations and cash flow generally or for a specific reporting period.

Our global operations subject us to risks that may harm our operations and financial results

In 2018, 53% of our product revenue was generated from sales to customers outside the United States. We have significant personnel, property, equipment and operations in a number of countries outside of the United States, including Canada, China, Germany, Hungary, Macedonia, Mexico, Ukraine and Vietnam. We have also engaged third parties to produce products for us in China and Japan. We and these third parties maintain production facilities in lower-cost countries for cost containment reasons. Our exposure to the risks described below is substantial and increasing. We also derive a significant portion of revenues from Europe and Asia and conduct certain investing and financing activities in local currencies.

In addition to the general risks relating to our operations, our international operations are subject to unique risks inherent in doing business abroad, including:

- exposure to local economic conditions and infrastructure;
- different and complex local laws and regulations and enforcement thereof, including those relating to governance, taxes, litigation, anti-corruption, employment, employee benefits, environmental, competition, permitting, investment, product regulations, repatriation, and export/import restrictions or requirements, such as the recently implemented revised emissions test procedure in Europe referred to as the Worldwide Harmonized Light Vehicles Test Procedure that has limited the production of certain vehicles as OEMs have struggled to meet the new requirements;
- increased uncertainty regarding social, political, immigration and trade policies in the U.S. and abroad, such as recent U.S. legislation and policies regarding NAFTA and tariffs and the U.K.’s pending Brexit (as defined below);
- political, economic and civil instability (including acts of terrorism, civil unrest, drug-cartel related and other forms of violence and outbreaks of war);
- expropriation, nationalization or other protectionist activities;
- currency exchange rate fluctuations and currency controls; in particular, a significant portion of our revenues and expenses are denominated in currencies other than the U.S. Dollar, including the Euro, the Chinese Renminbi, the Vietnamese Dong, the Hungarian Forint, the Macedonian Denar, the Ukrainian Hryvnia, and the Mexican Peso;
- increases in working capital requirements and greater potential for production and delivery delays due to extended logistics and geo-political developments;
- local business and cultural factors that differ from our customary standards and practices, including business practices that we are prohibited from engaging in due to anti-corruption laws and regulations; and

- global sovereign fiscal matters and creditworthiness, including potential defaults and the related impacts on economic activity, including the possible effects on credit markets, currency values, monetary unions, international treaties and fiscal policies.

See “Our business is subject to risks associated with manufacturing processes” above for a description of certain specific risks associated with our facility in Ukraine.

Modification of the North American Free Trade Agreement (“NAFTA”) or other international trade agreements, and the imposition of significant tariffs on imports into the United States, could have a material and adverse effect on our business

A significant portion of our business activities are conducted in foreign countries, including Mexico. As a result of changes to U.S. administrative policy, there may be changes to existing trade agreements, like NAFTA and its anticipated successor agreement, the U.S.-Mexico-Canada Agreement (“USMCA”) which is still subject to approval by the U.S., Mexico and Canada, greater restrictions on free trade generally, and significant increases in tariffs on goods imported into the U.S., particularly tariffs on products manufactured in Mexico, among other possible changes.

Additionally, during 2018, the U.S. and China applied significant tariffs to certain of each other’s exports. The institution of trade tariffs, both globally and between the U.S. and China specifically, carries the risk of negatively impacting overall economic conditions, which could have negative repercussions on the Company. More directly, imposition of tariffs has caused and could cause further increases in the costs of our raw materials which we may not be able to pass on to our customers in part or in full, which would directly and negatively impact our business. We purchase a significant amount of raw material components, including products manufactured in our China facilities, which are subject to the recently-enacted tariffs. The imposition of tariffs has caused and could cause further increases in the costs of our raw materials, and we may not be able to mitigate the impact from these tariffs or additional future tariffs.

It remains unclear what the U.S. administration or foreign governments, including Mexico and China, will or will not do with respect to tariffs, NAFTA, USMCA or other international trade agreements and policies. A trade war, other governmental action related to tariffs or international trade agreements, changes in U.S. social, political, regulatory and economic conditions or in laws and policies governing foreign trade, manufacturing, development and investment in the territories and countries where we currently manufacture and sells products, and any resulting negative sentiments towards the U.S. as a result of such changes, likely would have an adverse effect on our business, financial condition or results of operations.

Political and economic uncertainty arising from the outcome of the referendum on the membership of the United Kingdom in the European Union could adversely impact our financial results

In June 2016, the United Kingdom (U.K.) voted to exit the European Union (“Brexit”) in a referendum vote. In March, 2017, the U.K. formally notified the European Union of its intention to withdraw pursuant to Article 50 of the Lisbon Treaty, which provides a two-year time period through March 2019 for the U.K. and the European Union countries to negotiate a withdrawal. The announcement of Brexit and the ongoing negotiations for the withdrawal of the U.K. from the European Union has created and may continue to create global economic uncertainty, which may continue to impact global light vehicle production, and affect the business of and/or our relationships with our customers and suppliers, as well as alter the relationship among tariffs and currencies. The long-term effects of Brexit remain uncertain, and Brexit has and may continue to contribute to volatility in stock prices of companies that have significant operations in Europe, and on currency exchange rates. Significant currency fluctuations may negatively impact our operations; we generate certain revenues in Euro, but do not generate revenues denominated in the British Pound. In addition, Brexit could result in legal uncertainty and potentially divergent national laws and regulations as new legal relationships between the United Kingdom and the European Union are established. The ultimate effects of Brexit on us also will depend on the terms of any agreements the U.K. and the European Union make to retain access to each other's respective markets either during a transitional period or more permanently.

Significant price volatility, or uncertainty in future pricing, or oil and natural gas may materially and adversely impact our Gentherm Global Power Technologies (GPT) business

A large portion of our GPT products are sold to companies in the oil and gas industry, in particular, pertaining to new oil and gas pipelines and wells. Prices for oil and natural gas historically have been volatile and are expected to continue to be volatile.

Significant changes in the price of oil and natural gas or uncertainty as to future pricing can adversely impact the number of new oil explorations and installations, and cause the postponement or cancellation of existing projects, any of which would adversely affect our GPT business, and adversely impact our ability to sell the business on favorable terms or at all.

Tax matters, including the changes in corporate tax rates, disagreement with taxing authorities and imposition of new taxes could impact our results of operations and financial condition.

We are subject to income and other taxes in the U.S. and our operations, plans and results are affected by tax and other initiatives. On December 22, 2017, the Tax Cuts and Jobs Act (H.R. 1) (the "Tax Act") was signed into law by President Trump. The Tax Act contains significant changes to corporate taxation, including reduction of the corporate tax rate from 35% to 21%, limitation of the tax deduction for interest expense to 30% of earnings (except for certain small business), limitation of the deduction for net operation losses ("NOLs") to 80% of current year taxable income and elimination of NOL carrybacks, one time taxation of offshore earnings at reduced rates regardless of whether they are repatriated, elimination of U.S. tax on foreign earnings (subject to certain important exceptions), new taxes on certain foreign earnings, a new minimum tax related to payment to foreign subsidiaries and affiliates, immediate deductions for certain new investments instead of deductions for depreciation expense over time, and modifying or repealing many business deductions and credits. It is uncertain if, and to what extent, various states will conform to the new tax law and foreign countries will react by adopting tax legislation or taking other actions.

We are also subject to regular reviews, examinations, and audits by the Internal Revenue Service and other taxing authorities with respect to our taxes. Although we believe our tax estimates are reasonable, if a taxing authority disagrees with the positions we have taken, we could face additional tax liability, including interest and penalties. There can be no assurance that payment of such additional amounts upon final adjudication of any disputes will not have a material impact on our result of operations and financial position.

We also need to comply with new, evolving or revised tax laws and regulations. The enactment of or increases in tariffs, or other changes in the application or interpretation of the Tax Act, or on specific products that we sell or with which our products compete, may have an adverse effect on our business or on our results of operations.

Our patient temperature management systems business is subject to extensive industry regulation and failure to comply with all applicable rules and regulation may adversely impact us

Our patient temperature management products are subject to extensive, complex, costly and evolving government regulation. In the United States, this is principally administered by the Food and Drug Administration ("FDA"). Various regulatory agencies in foreign countries where our medical products are sold also regulate that business. Under these regulations, we are subject to periodic inspection of our facilities, procedures and operations and testing of our products. Following such inspections, we may receive observations, notices, citations and/or warning letters that could require us to modify certain activities identified during the inspection, possibly at a significant cost. We are also required to report adverse events associated with our medical products to the FDA and other regulatory authorities. Unexpected or serious health or safety concerns could result in liability claims, recalls, market withdrawals or other regulatory actions.

The process for obtaining governmental approval to manufacture and market new medical devices is time-consuming and costly. We are dependent on receiving FDA and other governmental or third-party approvals prior to manufacturing, marketing and shipping any new medical products. We cannot be certain that any new medical products we develop will receive FDA or other necessary approvals.

Any failure to comply with anti-corruption laws and regulations could have a material and adverse effect on our reputation, business and financial results

Our operations outside of the United States require us to comply with various anti-bribery and anti-corruption regulations, including the U.S. Foreign Corrupt Practices Act, the United Kingdom Bribery Act and the China Anti-Unfair Competition Law. Recent years have seen a substantial increase in anti-bribery law enforcement activity, with more frequent and aggressive investigations and enforcement proceedings by both U.S. and non-U.S. regulators, and increases in criminal and civil proceedings brought against companies and individuals. We operate in many parts of the world that are recognized as having governmental and commercial corruption and local customs and practices that can be inconsistent with anti-bribery laws. We have internal control policies and procedures, and we have implemented training and compliance programs for our employees and agents, with respect to these regulations. However, our policies, procedures and programs may not always protect us from negligent, reckless or criminal acts committed by our employees or agents. We could incur significant expenses in investigating any potential violation and could incur severe criminal or civil sanctions and/or fines as a result of violations or settlements regarding such laws. In addition, any allegations, settlements or violations could materially and adversely impact our reputation and our relationships with current and future customers, suppliers, employees and agents. Also, some of our competitors may not be subject to, or similarly comply with, the same anti-corruption laws, which could provide them a competitive advantage.

We are subject to significant currency risk related to our global operations

A significant portion of our global transactions is conducted in currencies other than the U.S. Dollar. While we sometimes employ financial instruments to hedge some of our transactional foreign exchange exposure, developing an effective and economical foreign currency risk strategy is complex and expensive and no strategy can completely insulate us from those exposures. Hedging arrangements also may expose us to additional risks, including that a counterparty may fail to honor its obligations, and additional costs, including transaction fees and breakage costs. Changes in the exchange rates of foreign currencies could significantly affect our reported results of operations and financial condition.

In addition, concerns persist regarding the debt burden of certain European countries that have adopted the Euro currency (the "Euro Zone") and their ability to meet future financial obligations, as well as concerns regarding the overall stability of the Euro to function as a single currency among the diverse economic, social and political circumstances within the Euro Zone. For example, the announcement of the United Kingdom’s decision to exit the European Union continues to cause significant volatility in currency exchange rates, especially between the U.S. dollar and British pound sterling. If one of the Euro Zone countries were to default on its debt or other Euro Zone countries withdraw from the Euro currency, the impact on global markets, and on our business, results of operations and financial condition, could be significant, and that impact would intensify substantially if the Euro currency were dissolved entirely. Such a development could also cause financial and capital markets across the globe to constrict, reducing liquidity and increasing borrowing costs, and could have a significant negative impact on consumer confidence and spending.

Any failure to protect our intellectual property developed or licensed could harm our business and competitive position

We believe that patents and proprietary rights have been and will continue to be very important in enabling us to compete. If our patents are circumvented, rendered invalid or unenforceable, or narrowed in scope, the patent coverage afforded to our products would be impaired, which could significantly impede our ability to market our products, negatively affect our competitive position and materially and adversely affect our business and results of operations.

There can be no assurance that any new or pending patents will be issued, that our or our licensors’ proprietary rights will not be challenged, invalidated, circumvented or rendered unenforceable, or that our patents will provide us with meaningful competitive advantages. Furthermore, there can be no assurance that others will not independently develop similar products or will not design around any patents that have been or may be issued to our licensors or us. Also, failure to seek or obtain patents in certain foreign countries may materially and adversely affect our ability to compete effectively in those international markets. Further, as we expand our operations in jurisdictions where the protection of intellectual property rights is less robust, such as China, the risk of others duplicating our proprietary technologies increases, despite efforts we undertake to protect them. Foreign governments may adopt regulations—and foreign governments or courts may render decisions—requiring compulsory licensing of intellectual property rights, or foreign governments may require products to meet standards that serve to favor local companies.

Because of rapid technological developments in the automotive industry and the competitive nature of the market, the patent position of any component manufacturer is subject to uncertainties and may involve complex legal and factual issues. Consequently, although we either own or have licenses to certain patents, and are currently processing a significant number of additional patent applications, it is possible that no patents will issue from any pending applications or that claims allowed in any existing or future patents issued or licensed to us will be challenged, invalidated, circumvented, or that any rights granted under such patents will not provide us adequate protection. There is an additional risk that we may be required to participate in interference proceedings to determine the priority of inventions or may be required to commence litigation to protect our rights, which could result in substantial costs and divert the attention of management and technical and engineering personnel.

In addition to patents, we rely on a combination of trademarks, copyrights, know-how, confidentiality provisions and licensing agreements to establish and protect our proprietary rights. We cannot guarantee, however, that the steps we have taken to protect our intellectual property will be adequate to prevent infringement of our rights or misappropriation thereof.

To the extent that consultants, key employees or other third parties apply technological information independently developed by them or by others to our proposed projects, disputes may arise as to the proprietary rights to such information that may not be resolved in our favor. Additionally, with respect to licensed technology, there can be no assurance that the licensor of the technology will have the resources, financial or otherwise, or desire to defend against any challenges to the rights of such licensor to its patents.

Our products may conflict with patents that have been or may be granted to competitors or others

Other persons could bring legal actions against us claiming damages and seeking to enjoin manufacturing and marketing of our products for allegedly conflicting with patents held by them. Any such litigation could result in substantial cost to us, divert the attention of management and engineering and technical personnel, and harm our reputation. If any such actions are successful, in addition to any potential liability for damages, we could be required to cease selling or using infringing products, obtain a license in order to continue to manufacture or market the affected products, or redesign the infringing products. There can be no assurance that we would prevail in any such action, that any license required under any such patent would be made available on acceptable terms, if at all, or that we could redesign such products on a timely basis and at a reasonable cost, if at all. Failure to obtain needed patents, licenses or proprietary information held by others may have a material adverse effect on our business, results of operations and financial condition. From time to time, we receive notices from third parties suggesting that our products infringe on the proprietary rights of others and historically we have had litigation regarding such matters. While we do not believe that any current claim of patent infringement is valid and material, we must spend time and resources reviewing, defending and resolving such claims.

We rely on trade secret protection through confidentiality agreements and the agreements could be breached or information may be otherwise stolen

We rely on trade secrets that we seek to protect, in part, through confidentiality and non-disclosure agreements with employees, customers and other parties. There can be no assurance that these agreements will not be breached, that we would have adequate remedies for any such breach or that our trade secrets will not otherwise become known to or independently developed by competitors.

The theft or unauthorized use or publication of our trade secrets and other confidential business information could harm our competitive position and reduce acceptance of our products, as well as the value of our investment in research and development, product development and marketing. In addition, third parties might make claims against us related to losses of confidential or proprietary information, end-user data or system reliability. These incidents and claims could severely disrupt our business, and we could suffer losses, including the cost of product recalls and returns and reputational harm. In addition, we may be required to incur significant costs to protect against damage caused by these disruptions or security breaches in the future.

Our most significant customers typically reserve the right unilaterally to cancel contracts or reduce prices, and the exercise of such right could reduce or eliminate any financial benefit to us anticipated from such contract

Due to their purchasing size, automotive customers typically reserve the right unilaterally to cancel contracts completely or to require price reductions during the term of the contract. Although these customers generally agree as a commercial practice to reimburse companies for actual out-of-pocket costs incurred with respect to the particular contract up to the point of cancellation, these reimbursements typically do not cover costs associated with acquiring general purpose assets, such as facilities and capital equipment, or for increases in employee count and related costs, and may be subject to negotiation and substantial delays in receiving payment on such actual out-of-pocket costs. Any unilateral cancellation of, or price reduction with respect to, any contract could reduce or eliminate any financial benefits anticipated from such contract. If we are not able to offset pricing reductions through improved operating efficiencies and reduced expenditures, such price reduction could have a material adverse effect on our financial condition and results of operations.

The third parties that have agreed to reimburse portions of our research and development expenses generally also reserve the right to unilaterally terminate those contracts. There can be no assurance that we will continue to receive the third party reimbursements for any of our research and development efforts.

A significant product liability lawsuit, warranty claim or product recall involving us or one of our major customers, or an investigation regarding vehicle safety generally, could materially and adversely affect our financial performance

In the event that our products fail to perform as expected, whether allegedly due to our fault or that of one of our suppliers, and such failure results in, or is alleged to result in, bodily injury and/or property damage or other losses, we may be subject to product liability lawsuits and other claims or we may be required or requested by our customers or regulators to participate in a recall or other corrective action involving such products. We also are a party to agreements with certain of our customers, whereby these customers may pursue claims against us for contribution of all or a portion of the amounts sought in connection with product liability and warranty claims. We carry insurance for certain product liability claims, but such coverage may be limited. In addition, we may not be successful in recovering amounts from third parties, including suppliers, in connection with these claims. These types of claims could materially and adversely affect our financial condition, operating results and cash flows.

Over the past couple of years, there has been a significant increase in the level of scrutiny given to vehicle safety issues. Inquiries are being conducted not only by traditional regulators but also by state Attorneys General. Furthermore, the U.S. Department of Justice has commenced investigations and U.S. Congressional hearings have also been conducted in which vehicle manufacturers and in some cases suppliers are being called to testify as to particular safety risks. This increased scrutiny could materially and adversely affect the business of our customers and suppliers and subject us to fines, penalties, sanctions and/or investigations.

We are involved from time to time in various legal and regulatory proceedings and claims, which could adversely affect our financial performance

We are involved in various legal and regulatory proceedings and claims that, from time to time, are significant. These are typically claims that arise in the normal course of business including, without limitation, commercial or contractual disputes, including disputes with our customers, suppliers or competitors, intellectual property matters, personal injury claims, environmental matters, tax matters, employment matters and antitrust matters. No assurances can be given that such proceedings and claims will not adversely affect our financial condition, operating results and cash flows.

Our success will depend in large part on retaining key personnel and effective succession planning

Our success will depend to a large extent upon the continued contributions of key personnel. The loss of the services of one or more of our executive officers could have a material adverse effect on the success of our business. Effective succession planning is also important to our long-term success. Failure to ensure effective transfer of knowledge and smooth transitions involving key employees could hinder our strategic planning and execution. Further, our success will depend, in part, upon our ability to retain qualified engineering and other technical and marketing personnel. There is significant competition for technologically qualified personnel in our business and we may not be successful in recruiting or retaining sufficient qualified personnel.

We are required to comply with environmental laws and regulations that could cause us to incur significant costs

Our manufacturing facilities are subject to numerous laws and regulations designed to protect the environment inside and outside the United States, and we expect that additional requirements with respect to environmental matters will be imposed on us in the future. We may also assume, or be deemed to assume, significant environmental liabilities in acquisitions. Environmental liability may be imposed without regard to fault, and under certain circumstances, can be joint and several, resulting in one party being held responsible for the entire obligation. Material future expenditures may be necessary if compliance standards change or material unknown conditions that require remediation are discovered. No assurance can be given that all environmental liabilities have been identified or that no prior owner or operator of our properties or former properties has created an environmental condition not known to us. Environmental laws could also restrict our ability to expand our facilities or could require us to acquire costly equipment or to incur other significant expenses in connection with our business. Violations of these requirements could result in fines or sanctions, obligations to investigate or remediate contamination, third party property damage or personal injury claims due to the migration of contaminants off-site, or modification or revocation of our operating permits, which could materially and adversely affect our financial condition, operating results and cash flows.

We may be unable to realize the expected benefits of our restructuring actions, which could adversely affect our profitability and operations

In 2018, we announced significant restructuring and cost reduction actions to lower our operating costs in response to difficult market and operating conditions in various parts of the world. These actions included workforce reductions, asset impairment, plant closures, and minimization or elimination of investments in non-core areas. As we continue to assess our performance throughout various regions, we may take additional restructuring actions to rationalize our operations, which may result in impairments and reduce our profitability in the periods incurred. In addition, we may not realize anticipated savings or benefits from past or future cost reduction actions in full or in part or within the time periods we expect. We are also subject to the risks of labor unrest, negative publicity and business disruption in connection with our cost reduction actions. Failure to realize anticipated savings or benefits from our cost reduction actions could have a material adverse effect on our business, prospects, financial condition, liquidity, results of operations and cash flows.

We may not realize significant benefits from acquisitions or joint ventures because of integration difficulties and other challenges

We regularly consider acquisitions to expand the breadth of products derived from core thermal technologies as well as the markets in which they are applied. Identifying suitable potential acquisitions, conducting due diligence, successfully negotiating and closing an acquisition and the acquisition integration process are complex, costly and time-consuming. The difficulties of completing and integrating an acquisition include, among others:

- incurring additional debt and/or issuing additional securities, increasing leverage risks or dilution;
- unsatisfactory returns on our investments and our inability to realize the expected benefits of such acquisitions or joint ventures;
- difficulties in implementing our business plan for the combined business, including achieving anticipated synergies in amount and on time;
- required significant capital expenditures to integrate our operations and pursue synergies;
- unanticipated issues in integrating manufacturing, logistics, financial and other internal controls, communications and other systems;
- diversion of management attention and capital from ongoing business concerns to integration matters;
- challenges assimilating management and other personnel, including because of differences in culture, language and background for international acquisitions;
- difficulty maintaining oversight over internal controls and preventing misconduct or other violations of applicable laws by any investment which we do not exercise control;
- the size of operations acquired relative to our existing business;
- unanticipated changes in applicable laws and regulations;
- failure to obtain regulatory or other approvals;
- failure to retain key employees, customers and suppliers of the combined business;
- assumption of known and unknown liabilities, some of which may be difficult or impossible to quantify; and
- non-cash impairment charges or other accounting charges relating to the acquired assets.

To the extent we complete an acquisition in a new industry, the above risks will be heightened due to our lack of familiarity with such business.

In the future, we may not be able to successfully identify suitable acquisition or joint venture opportunities or complete any particular acquisition, combination, joint venture or other transaction on acceptable terms. Our identification of suitable acquisition candidates and joint venture opportunities and the integration of acquired business operations involve risks inherent in assessing the values, strengths, weaknesses, risks and profitability of these opportunities, as well as significant competition for such acquisition opportunities. Our focus on acquisition opportunities may require significant financial, management and related resources that would otherwise be used for the ongoing development of our existing operations and internal expansion.

We may not generate enough liquid assets to fund our ongoing operations and investments and service our debt

Based on our current business plan, we believe our cash on hand along with cash flows from operating activities will be sufficient to meet operating and capital expenditure needs and to service our debt for the foreseeable future. However, if cash flows from operations decline, we may need to obtain alternative sources of capital and reduce or delay capital expenditures, acquisitions and investments, all of which could impede the implementation of our business strategy and materially and adversely affect our results of operations and financial condition. In addition, we may need to complete one or more equity or debt financings if we consummate any significant acquisitions. There can be no assurance that such capital will be available at all or on reasonable terms, which could materially and adversely affect our future operations and business strategy.

We may not be able to generate sufficient cash flows to meet our substantial debt service obligations, and such substantial debt service obligations could materially and adversely affect our business, results of operations and financial condition

Our ability to make payments on and to refinance our debt obligations depends on our ability to generate cash flows from operations in the future. This, to a certain extent, is subject to general economic, financial, competitive, legislative, regulatory and other factors that are beyond our control. We may not be able to refinance any of our indebtedness on commercially reasonable terms, or at all.

If we cannot service our indebtedness, we may have to take actions such as selling assets, seeking additional equity or reducing or delaying capital expenditures, strategic acquisitions, investments and alliances, any of which could impede the implementation of our business strategy or prevent us from entering into transactions that would otherwise benefit our business. Additionally, we may not be able to affect such actions, if necessary, on commercially reasonable terms, or at all.

Our debt obligations could have important consequences to our business, results of operations and financial condition. For example:

- we may be more vulnerable to general adverse economic and industry conditions;
- we may be required to dedicate a substantial portion of our cash flows from operations to payments on our indebtedness, thereby reducing the availability of cash flows for other purposes, including for working capital, dividends, capital expenditures, business development efforts and to finance mergers and acquisitions;
- our ability to borrow additional debt for operations, working capital or to finance future mergers and acquisitions may be limited;
- our ability to refinance or repay other debt obligations when they become due may be limited;
- we are exposed to the risk of increased interest rates because a portion of our borrowings, including under our credit facilities, are at variable rates of interest; and
- our flexibility in planning for, or reacting to, changes in our business and the industries in which we operate may be limited, thereby placing us at a competitive disadvantage compared to our competitors that have less indebtedness.

Our debt agreements contain certain restrictive covenants and customary events of default. These restrictive covenants limit our ability to take certain actions, such as, among other things: incur additional debt, make certain payments or distributions, engage in mergers or consolidations, make certain dispositions and transfers of assets, enter into transactions with affiliates and guarantee indebtedness. While not unusual for financings of the type that we have, the restrictions in our credit facilities may prevent us from taking actions that we believe would be in the best interest of our business and may make it difficult for us to execute our business plans, take advantage of business opportunities, or react to changing industry conditions.

Upon an event of default, if not waived by our lenders, our lenders may declare all amounts outstanding as due and payable, which may cause cross-defaults under our other debt obligations. If our lenders accelerate the maturity of our indebtedness, we may not have sufficient capital available at that time to pay the amounts due to all lenders on a timely basis, and there is no guarantee that we would be able to repay, refinance, or restructure the payments on such debt. Further, under our credit facilities, the lenders would have the right to foreclose on certain of our assets, which could have a material adverse effect on our business, results of operations and financial condition.

Our results of operations and financial condition may be adversely impacted from a decrease in or cessation or clawback of government incentives related to investments

We receive economic benefits from national, state, and local governments in various regions of the world in the form of incentives designed to encourage manufacturers to establish, maintain, or increase investment, workforce, or production. These incentives may take various forms, including grants, loan subsidies, and tax abatements or credits. The impact of these incentives can be significant in a particular market during a reporting period. A decrease in, expiration without renewal of, or other cessation or clawback of government incentives for any of our business units, as a result of administrative decision or otherwise, could have an adverse impact on our results of operations and financial condition, as well as our ability to fund new investments.

Security breaches and other disruptions to our information technology networks and systems, including a disruption related to cybersecurity, could interfere with our operations and could compromise the confidentiality of our proprietary information

We rely upon information technology networks and systems, some of which are managed or hosted by third-parties, to process, transmit and store electronic information, and to manage or support a variety of business processes and activities, including electronic communications among our locations around the world and between Company personnel and our customers and suppliers, supply chain management, manufacturing, and invoicing and collection of payments. We use these information technology network and systems to process financial information and results of operations for internal reporting purposes and to comply with regulatory financial reporting and legal and tax requirements. Additionally, we collect and store sensitive data, including intellectual property, proprietary business information, the proprietary business information of our customers and suppliers, as well as personally identifiable information of our employees, customers and suppliers, in data centers, on information technology networks and systems, some of which are operated by third parties and third party locations. The secure operation of these data centers, information technology networks, and systems and the processing, maintenance, confidentiality, integrity and availability of this information, is critical to our business operations and strategy.

The Company maintains an information risk management program which is supervised by information technology management and reviewed by a cross-functional committee. As part of this program, reports that include analysis of emerging risks as well as the Company's plans and strategies to address them are regularly prepared and presented to senior management and the Board of Directors. Despite security measures, such as disaster recovery and business continuity plans, including those measures related to cybersecurity, these data centers, our information technology networks and systems may be vulnerable to damage, disruptions or shutdowns due to attacks by hackers or breaches due to errors or malfeasance by employees, contractors and others who have access to our networks and systems, or other disruptions during the process of upgrading or replacing computer software or hardware, power outages, computer viruses, telecommunication or utility failures, geopolitical events, or natural disasters or other catastrophic events.

Cyber threats are constantly evolving, thereby increasing the difficulty of detecting and successfully defending against them. The occurrence of any of the aforementioned events, many of which are outside our control, could compromise our systems or networks and the information stored there, which may include confidential or proprietary information or personal information of third parties, could be accessed, publicly disclosed, compromised, corrupted, lost or stolen. Any such access, disclosure or other loss or corruption of information could result in legal claims or proceedings, liability or regulatory penalties under laws protecting the privacy of personal information, disrupt operations, cause a loss of confidence in our reputation, goodwill, products and services, reduce the competitive advantage we expect to derive from our investment in advanced technologies and adversely affect our financial condition, operating results, and cash flows. We maintain cyber risk insurance, but this insurance may not be sufficient to cover all of our losses from any future breaches of our systems.

We may face particular privacy, data security and data protection risks due to the new European General Data Protection Regulation

Legislators and/or regulators in countries in which we operate are increasingly adopting or revising privacy, information security and data protection laws. In particular, the European Union's General Data Protection Regulation ("GDPR"), which became effective on May 25, 2018, imposes additional obligations and risk upon our business and which increases substantially the penalties to which we could be subject in the event of any non-compliance. The GDPR requires companies to satisfy new requirements regarding the handling of personal data, including its use, protection and the rights of affected persons regarding their data. Failure to comply with GDPR requirements could result in penalties of up to 4% of worldwide revenue. The GDPR and other similar laws and regulations, as well as any associated inquiries or investigations or any other government actions, may be costly to comply with, result in negative publicity, increase our operating costs, require significant management time and attention, and subject us to remedies that may harm our business, including finds or demands or orders that we modify or cease existing business practices. The Company has taken measures to ensure compliance with the GDPR. Due to the lack of experience with the interpretation of this new regulation and its enforcement of our current measures might not satisfy the best practices that will be established in the coming years. As personal data is processed using information technology, the risks disclosed with respect to “Security breaches and other disruptions” apply accordingly.

Risks Related to Our Common Stock

We have anti-takeover defenses that could make it more difficult for a third party to acquire a majority of our outstanding voting stock, which could cause the market price of our Common Stock to decline

Various provisions of our articles of incorporation and bylaws, as well as the Michigan Business Corporation Act (the “MBCA”), could have the effect of discouraging, delaying or preventing a third party from accumulating a large block of our capital stock, engaging in a tender offer and making offers to acquire us, and of inhibiting a change in control, all of which could adversely affect our shareholders’ ability to receive a premium for their shares in connection with any such transaction. For example, our Articles of Incorporation authorize our Board of Directors (our “Board”) to issue up to 4,991,000 shares of Preferred Stock and to determine the price, rights (including conversion rights), preferences and privileges of those shares without any further vote or action by the shareholders. If we issue preferred stock in the future that has preference over our Common Stock with respect to the payment of dividends or upon our liquidation, dissolution or winding up, or if we issue preferred stock with voting rights that dilute the voting power of our Common Stock, the rights of holders of our Common Stock or the market price of our Common Stock could be adversely affected.

In addition, the anti-takeover provisions of Michigan law impose various impediments to the ability of a third party to acquire control of Gentherm, even if a change of control would be beneficial to our existing shareholders. For example, the Company is subject to Chapter 7A of the MBCA, which prohibits us from engaging in a business combination with an interested shareholder for a period of five years after the person becomes an interested shareholder, unless certain conditions are satisfied.

We are currently prohibited from making dividend payments on our Common Stock. Furthermore, we do not anticipate paying dividends on our Common Stock in the future

Our bank credit facilities generally prohibit payment of dividends on our Common Stock so long as such facilities are outstanding. We have never paid any cash dividends on our Common Stock and do not anticipate paying dividends in the near future.

The price of our Common Stock may fluctuate significantly

The price of our Common Stock on the Nasdaq Global Select Market may fluctuate significantly in response to many factors, including:

- general market and economic conditions;
- actual or anticipated variations in our quarterly operating results due to such factors as acceptance of our product by automotive manufacturers and consumers, timing of our product introductions, availability and pricing of components from third parties, competition, timing of orders, foreign currency exchange rates, new product development, material acquisitions or dispositions, technological changes, resources spent on litigation activities and economic conditions generally;
- changes in earnings guidance by us or earnings estimates by securities analysts with respect to us;
- publication of research reports about us, the automotive industry generally or automotive component industry, and recommendations by securities or financial analysts with respect to us or other automotive suppliers;
- adverse market reaction to the amount of our outstanding debt at any time, the amount of our maturing debt in the near and medium term and our ability to refinance such debt and the terms thereof or our plans to incur additional debt in the future;
- the ability of our customers to pay us and meet their other obligations to us under current contract terms and our ability to hold and expand our customer base;
- changes in market valuations of similar companies;

- adverse market reaction to any securities we may register or issue or additional debt we incur in the future;
- additions or departures of key management personnel;
- actions by institutional shareholders;
- speculation in the press or investment community;
- continuing high levels of volatility in the capital and credit markets; and
- the realization of any of the risk factors included in, or incorporated by reference to, this Annual Report on Form 10-K.

Many of the factors listed above are beyond our control. These factors may cause the market price of our Common Stock to decline, regardless of our financial performance and condition and prospects. It is impossible to provide any assurance that the market price of our Common Stock will not fall in the future, and it may be difficult for holders to resell shares of our Common Stock at prices they find attractive, or at all. We expect that the market price of our Common Stock will continue to fluctuate. In addition, the stock market in general has experienced extreme volatility that has often been unrelated to the operating performance of a particular company. These broad market fluctuations may materially and adversely affect the market price of our Common Stock.

Our shareholders may experience dilution if we issue additional equity securities

Subject to the limitations set forth in our Articles of Incorporation, we are not restricted from issuing additional shares of our Common Stock or preferred stock, including securities convertible or exchangeable for, or that represent the right to receive, Common Stock or preferred stock. In most circumstances, common shareholders will not be entitled to vote on whether or not we issue additional equity securities. Future issuances of Common Stock will reduce the percentage of our Common Stock owned by shareholders who do not participate in such issuances. In addition, depending on the terms and pricing of additional offerings of our Common Stock and the value of our assets, our shareholders may experience dilution in the book value and fair value of their shares. The market price of our Common Stock could decline as a result of sales of substantial amounts of additional shares of our Common Stock in the public market or in connection with future acquisitions, or the perception that such sales could occur. This could also impair our ability to raise additional capital through the sale of equity securities at a time and price favorable to us.

ITEM 1B. UNRESOLVED STAFF COMMENTS

None.

ITEM 2. PROPERTIES

The following table presents the Company's significant properties as of December 31, 2018:

Facility	Location	Purpose	Segment	Sq. Footage	Owned or leased	Monthly Rent	Lease Expiration
Gentherm Headquarters	Northville, MI U.S.A.	Corporate headquarters	Automotive	82,000	Owned	$ —	—
Gentherm North America	Farmington Hills, MI U.S.A.	Research and development	Automotive and Industrial	44,000	Owned	$ —	—
CSZ Headquarters(a)	Cincinnati, OH U.S.A.	CSZ headquarters	Industrial	265,300	Owned	$ —	—
Gentherm GmbH	Odelzhausen, Germany	Customer service center	Automotive	170,600	Owned	$ —	—
Gentherm Hungary	Pilisszentivan, Hungary	Customer service center and warehouse	Automotive	298,700	Owned	$ —	—
Gentherm Ukraine	Vinogradov, Ukraine	Manufacturing and warehouse	Automotive	209,500	Owned	$ —	—
Gentherm Macedonia	Prilep, Macedonia	Manufacturing	Automotive	403,539	Owned	$ —	—
Gentherm China	Langfang, China	Manufacturing	Automotive	279,900	Owned	$ —	—
Gentherm Asia Electronics	Shenzhen, China	Manufacturing	Automotive	74,400	Leased	$ 54,800	December 31, 2019
Gentherm Asia Electronics	Shenzhen, China	Manufacturing	Automotive	49,300	Leased	$ 24,600	November 30, 2022
Gentherm Vietnam	Ha Nam, Vietnam	Manufacturing	Automotive	245,300	Owned	$ —	—
Gentherm Mexico	Acuña, Mexico	Manufacturing	Automotive	101,100	Leased	$ 27,900	June 1, 2020
Gentherm Mexico	Acuña, Mexico	Manufacturing	Automotive	101,100	Leased	$ 44,700	July 1, 2020
Gentherm Mexico	Celaya, Mexico	Manufacturing	Automotive	143,700	Leased	$ 65,300	October 1, 2025
GPT(b)	Calgary, Canada	GPT headquarters	Industrial	61,400	Leased	$ 54,500	January 31, 2026
GPT(b)	Bassano, Canada	Manufacturing	Industrial	36,000	Owned	$ —	—
Etratech Canada	Burlington, Canada	Etratech manufacturing	Automotive	46,000	Leased	$ 21,800	October 24, 2022

a) The CSZ headquarters facility was classified as held for sale as of December 31, 2018. On February 1, 2019, Gentherm sold the CSZ-IC business and CSZ headquarters facility. On February 1, 2019, a portion of the facility utilized by Gentherm Medical, consisting of 34,000 square feet of office space and 50,000 square feet of manufacturing space, was leased from the purchaser of the facility. Monthly rent expense for this lease is $52,000.

b) The GPT headquarters and manufacturing facilities were classified as held for sale as of December 31, 2018.

ITEM 3. LEGAL PROCEEDINGS

We are subject to litigation from time to time in the ordinary course of our business, however there is no current material pending litigation to which we are a party and no material legal proceedings were terminated, settled or otherwise resolved during the fourth quarter of the fiscal year ended December 31, 2018.

ITEM 4. MINE SAFETY DISCLOSURES.

Not applicable.

PART II

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

Market Information

Our Common Stock trades on the Nasdaq Global Select Market under the symbol "THRM." The following table sets forth the high and low sale prices for our Common Stock as reported on the Nasdaq Global Select Market for each quarterly period from January 1, 2017 through December 31, 2018.

	High	Low
2017		
1st Quarter	$ 39.25	$ 33.15
2nd Quarter	39.45	34.65
3rd Quarter	40.70	29.90
4th Quarter	37.55	31.75
2018		
1st Quarter	$ 34.20	$ 30.65
2nd Quarter	39.50	33.75
3rd Quarter	49.45	39.55
4th Quarter	46.43	37.37

Holders

As of February 25, 2019, our Common Stock was held by 63 stockholders of record. A substantially greater number of holders are beneficial owners whose shares of record are held by banks, brokers and other nominees.

Dividends

We have not paid any Common Stock cash dividends since formation and we do not expect to pay any in the foreseeable future. The payment of future dividends is within the discretion of our Board of Directors and will depend upon business conditions, our earnings and financial condition and other factors. Currently, our bank credit facilities limit payment of dividends on our Common Stock.

Stock Repurchase Program

In December 2016, the Board of Directors authorized a three-year, $100 million stock repurchase program. In June 2018, our Board of Directors authorized an increase in the stock repurchase plan to $300 million and extended the stock repurchase plan until December 2020.

Under the program, we may repurchase, from time to time, our common stock in amounts and at prices as we deem appropriate, taking into account market conditions, applicable legal requirements, debt covenants and other considerations. The number of shares repurchased and the time of the repurchases under the stock repurchase program will be determined by our management. Repurchases may be made on the open market or in privately negotiated transactions. Repurchases may also be made under a Rule 10b5-1 plan, which would permit shares to be repurchased when we might otherwise be precluded from doing so under securities laws. The authorization of this stock repurchase program does not require we repurchase any specific dollar value or number of shares and may be modified, extended or terminated by our Board of Directors at any time.

Issuer Purchases of Equity Securities During Fourth Quarter 2018

Period	(a) Total Number of Shares Purchased (1)	(b) Average Price Paid per Share	(c) Total Number of Shares Repurchased as Part of Publicly Announced Plans or Programs	(d) Approximate Dollar Value of Shares That May Yet Be Purchased Under the Plans or Programs (2)
October 1, 2018 to October 31, 2018	888,457	$ 41.80	888,457	$ 190,187,084
November 1, 2018 to November 30, 2018	380,967	$ 44.48	380,967	$ 173,242,300
December 1, 2018 to December 31, 2018	634,090	$ 42.02	634,090	$ 146,599,982

(1) All shares were purchased on the open-market in accordance with Gentherm's Stock Repurchase Program, including, in part, pursuant to a plan adopted by the Company in accordance with Rule 10b5-1 promulgated by the U.S. Securities and Exchange Commission.

(2) The Stock Repurchase Program, as amended, authorizes Gentherm to repurchase shares up to $300 million.

ITEM 6. SELECTED FINANCIAL DATA

The following table sets forth selected financial data and should be read in conjunction with the consolidated financial statements and the notes thereto, as well as Item 7 "Management's Discussion and Analysis of Financial Condition and Results of Operations" included in this Report.

	Year Ended December 31, (In thousands except per share data)				
	2018	2017	2016	2015	2014
Product revenues	$ 1,038,259	$ 985,683	$ 917,600	$ 856,445	$ 811,300
Operating income	72,788	97,098	106,119	121,319	98,434
Net income	41,899	35,227	76,598	95,393	70,119
Basic earnings per share	1.17	0.96	2.10	2.65	1.98
Diluted earnings per share	1.16	0.96	2.09	2.62	1.95

	As of December 31, (In thousands)				
	2018	2017	2016	2015	2014
Working capital(a)(b)	$ 267,679	$ 289,754	$ 295,130	$ 270,320	$ 187,432
Total assets(b)	803,047	883,405	843,030	648,343	555,911
Long term obligations	147,952	158,216	189,002	118,596	112,465
Accumulated earnings	363,965	293,645	256,922	180,324	84,931

a) Represents current assets less current liabilities.

b) Total assets for all prior periods presented have been adjusted to conform with the current year presentation. Working capital and total assets for the years ended December 31, 2018, 2017, 2016 and 2015 reflect the noncurrent presentation of deferred tax liabilities and assets, as well as related valuation allowance. For the year ended December 31, 2014, working capital and total assets include $6,247 in current deferred tax assets and $0 in current deferred tax liabilities.

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

The following discussion and analysis should be read in conjunction with, and is qualified in its entirety by, our consolidated financial statements (and notes related thereto) and other more detailed financial information appearing elsewhere in this Report. Further, you should read the following discussion and analysis of our financial condition and results of operations together with the "Risk Factors" included elsewhere in this Report for a discussion of important factors that could cause actual results to differ materially from the results described in or implied by the forward-looking statements contained in the following discussion and analysis. See also "Forward-Looking Statements" in Item 1 of this Report.

Overview

Gentherm Incorporated is a global technology and industry leader in the design, development, and manufacturing of innovative thermal management technologies. Our products provide solutions for automotive passenger comfort and convenience, battery thermal management, remote power generation, patient temperature management, and other consumer and industrial temperature control needs. Our automotive products can be found on the vehicles of nearly all major automotive manufacturers operating in North America, Europe and Asia. We operate in locations aligned with our major customers' product strategies in order to provide locally enhanced design, integration and production capabilities and to identify future thermal technology product opportunities in both automotive and other markets. We concentrate our research on the development of new technologies and new applications from existing technologies to create product and market opportunities for a wide array of thermal management solutions.

Our automotive products are sold to automobile and light truck OEMs or their tier one suppliers. Inherent to the automotive supplier market are costs and commitments that are incurred well in advance of the receipt of orders and resulting revenues from customers. This is due in part to automotive manufacturers requiring the design, coordination and testing of proposed new components and sub-systems. Revenues from these expenditures are typically not realized for two to three years due to this development cycle.

Reportable Segments

The Company has two reportable segments for financial reporting purposes: Automotive and Industrial. See Note 9 to the consolidated financial statements for a description of our reportable segments as well as their proportional contribution to the Company's reported product revenues and operating income. The financial information used by our chief operating decision maker to assess operating performance and allocate resources is based on these reportable segments.

New Strategic Plan

On June 25, 2018, Gentherm announced a new strategic plan intended to improve business performance and position the company to deliver above-market growth and improved profitability to its shareholders. An important element of the strategy is the Fit-for-Growth initiative that focuses on purchasing excellence, rationalization of research and development activities and expenses, reducing selling, general and administrative expense, minimization or elimination of investments in non-core areas and developing a manufacturing footprint commensurate with the new plan. Non-core areas of investment under the Fit-for-Growth initiative are concentrated in the following areas of Gentherm's industrial segment: Gentherm Global Power Technologies ("GPT"), Cincinnati Sub Zero's Industrial Chamber business ("CSZ-IC") and our battery management systems division in Irvine, California. We also completed the site consolidation plan for our advanced research and development operations and vacated two lease facilities in Azusa, California. On February 1, 2019, we completed the sale of CSZ-IC to Weiss Technik North America, Inc. for total cash proceeds of $47.5 million.

The strategy also identified several product categories the Company has now exited, including furniture, aviation, battery management electronics, industrial battery packs, automotive thermoelectric generators and other non-core electronics.

See Note 1 to our consolidated financial statements for information about our Fit-for-Growth initiative, related cost savings and related restructuring costs.

Etratech

On November 1, 2017, we acquired substantially all of the assets and assumed substantially all of the operating liabilities of Etratech Inc., an Ontario corporation and all of the outstanding shares of Etratech Hong Kong, an entity organized under the laws of Hong Kong, in an all-cash transaction. Etratech manufactures advanced electronic controls and control systems for the automotive, RV and marine, security, medical and other industries. Etratech's world headquarters and North American manufacturing operations are located in Burlington, Canada. See Note 17 to the consolidated financial statements for additional information regarding the acquisition of Etratech.

North American Reorganization

On January 4, 2016 and January 5, 2016, the Company completed reorganization transactions (the "Reorganization") related to our North American business (the "Windsor Operations"). As part of our original integration plan to eliminate redundancies associated with the 2011 acquisition of Gentherm GmbH (formerly named W.E.T. Automotive Systems AG), the Windsor Operations have been consolidated into our existing European and North American facilities. As a result of the Reorganization, some of the business activities previously performed by the Windsor Operations are now being performed by other subsidiaries.

Related to the Reorganization, the Company declared intercompany dividends, incurred and paid withholding taxes to the Canadian Revenue Agency of $7.6 million during 2016. Additionally, the Company incurred income tax expense of $2.5 million related to the intercompany dividends. These amounts incurred are expected to cover all future intercompany dividends needed to distribute the remaining earnings of the subsidiary to its parent in conjunction with the potential future liquidation of the subsidiary.

In addition to the $7.6 million of withholding tax and $2.5 million of income taxes, the Reorganization required the Company to make a one-time income tax payment of approximately $32.6 million. The one-time income tax payment was accrued during the first quarter of 2016; however, the Company also recorded an offsetting deferred charge for approximately the same amount because the one-time income tax payment will result in tax deductions against income taxes in future periods. Therefore, the income tax payment did not have a material impact on the Company's earnings during the first quarter of 2016 nor any subsequent quarter. The withholding tax payment was paid entirely in 2016. The income tax payments of $2.5 million and $32.6 million were paid during the first quarter of 2017.

Critical Accounting Policies

The discussion and analysis of our financial condition and results of operations are based upon our consolidated financial statements, which have been prepared in accordance with accounting principles generally accepted in the United States of America. The preparation of these consolidated financial statements requires us to make estimates and judgments that affect the reported amount of assets and liabilities, revenues and expenses, and related disclosures at the date of our financial statements. Actual results may differ from these estimates under different assumptions or conditions. These estimates and assumptions include, but are not limited to:

- Product revenues;
- Impairments of goodwill and other intangible assets
- Accrued warranty costs;
- Litigation reserves;
- Allowances for doubtful accounts;
- Inventory reserves;
- Income taxes;
- Stock compensation; and
- Pension plans

Product Revenues

Revenue is recognized from agreements containing enforceable rights and obligations when promised goods are delivered or services are completed, the price is fixed or determinable, and payment has been received or is collectable. The amount of revenue recognized is net of the Company's obligation for returns, rebates, discounts, taxes, if any, collected from customers, and consideration that is paid to a customer, unless such payment is in exchange for a distinct good or service. The amount of revenue recognized from a contract with a customer reflects the amount of consideration expected to be received in exchange for the transfer of good or services.

Automotive Revenues

The Company sells automotive seat comfort systems, specialized automotive cable systems and automotive thermal convenience products under long-term supply agreements ("LTAs") and, for arrangements that are less than one year in length, purchase orders. LTAs are multiple-year business awards to provide custom designed parts for a particular automotive vehicle program in quantities and at intervals of the customer's choosing. LTAs are often multiple-element agreements. The main element in LTAs are production parts; distinct promises from which the customer can benefit separately from other promises or elements in the contract. A second element in LTAs are production part purchase options that provide customers the ability to purchase additional parts at set prices in the future. Judgement is used to determine whether a production part purchase option represents a material right to the customer and should be accounted for as a separate performance obligation. LTAs that provide customers with a purchase option discount incrementally higher than the range discounts typically given to automotive customers contain a material right. The magnitude of change in the year-over-year option prices and the total number of units expected to be ordered are important factors in the calculation of the option's fair value and the allocation of transaction price.

The price for parts is set at the point in time the customer exercises its option to purchase additional parts from the Company. A firm order, stating the number of each production part to be delivered, is an independent contract with a discrete transaction price. Revenues are allocated to production parts based on the relative standalone selling prices observed on the LTAs. As a practical alternative to estimating the standalone selling price of an option that provides a customer with a material right, the Company allocates transaction price to options by reference to the production part volumes expected to be ordered and the consideration expected to be received. The Company satisfies its obligation to provide product parts to the customer upon shipment.

When an option to purchase additional production parts in the future represents a material right, the customer effectively is paying Gentherm in advance for production parts each time it exercises the option by placing a firm order commitment. Revenue from options containing a material right are recognized on the basis of direct measurement of the value of production parts transferred to date relative to the total number of production parts expected to be delivered over the life of the vehicle program. Judgement is required to determine the pattern and timing with which an option containing a material right is satisfied and the production part is transferred to a customer.

Industrial Revenues

Our industrial business unit generates revenue from the sale of products and services by our wholly-owned subsidiaries CSZ and GPT. Industrial business unit revenues and medical business unit revenues discussed below are reported within the Company's industrial reportable segment (see Note 9). Industrial business unit customers commonly enter into multiple-element agreements for the purchase of products and services. Installation services, for example, are separate and distinct performance obligations that are often included in contracts to purchase customized environmental test chambers. Depending on the application, delivery of an environmental test chamber or remote power generation system to the customer's place of business can range from two weeks to nine months from commencement of the contract. Installation services, while reliant on the specifications and timing from the customer, rarely remain incomplete more than two months after delivery.

Revenues allocated to environmental test chambers or remote power systems are based on the stand alone selling price of products themselves. Judgement is used to determine the degree to which early pay discounts and other credits are utilized in the calculation of standalone selling price, and only included to the extent it is probable that a significant reversal of any incremental revenue will not occur. Revenues are recognized at the point in time the chamber or power system is shipped to the customer. For contracts that also include a promise for installation, the portion of total transaction price allocated to the installation is recognized as revenue at the point in time the installation is complete.

Revenues from our medical business unit are generated from the sale of products and equipment. Our medical products and equipment focus on body and blood temperature management. The Company sells medical products and equipment primarily through distributor and group purchasing organization agreements. These agreements allow member participants to the distributor or group purchasing organization to make purchases at discounted prices negotiated by the distributor or group purchasing organization. A rebate is incurred at the point in time a member participant purchases product covered under these types of agreements. Rebates are accounted for as variable consideration, using an expected value, probability weighted approach, based on the level of sales to the distributor and the time lag between the initial sale and the rebate claim in determining the transaction price of a contract. Revenue is recognized at the point in time the medical products or equipment is transferred to the customer.

Impairments of Goodwill and Other Intangible Assets

Whenever events or changes in circumstances indicate that it is more likely than not that a reporting unit's fair value is less than its carrying amount, the Company then compares the fair value of the reporting unit to the related net book value. If the net book value of a reporting unit exceeds its fair value, an impairment loss is measured and recognized. The fair value of a reporting unit is estimated by analyzing internal inputs (level 3) to calculate forward values and discounting those values to the present value.

Accrued Warranty Costs

The Company accrues warranty obligations for products sold based on management estimates of future failure rates and current claim cost experience, with support from the sales, engineering, quality and legal functions. While we believe our warranty reserve is adequate and that the judgment applied is appropriate, such estimates could differ materially from what will actually transpire in the future. The warranty policy is reviewed by management annually. Using historical information available to the Company, including claims already filed by customers, the warranty accrual is adjusted quarterly to reflect management's best estimate of future claims.

Litigation Reserves

We record estimated future costs related to new or ongoing litigation based on input from legal counsel and our best estimate of probable loss. These estimates include costs associated with attorney fees and potential claims and assessments less any amounts we anticipate are recoverable under insurance policies. Final resolution of the litigation contingencies could result in amounts different from current accruals and, therefore, have an impact on our consolidated financial results in future reporting periods.

Allowance for Doubtful Accounts

We record an allowance for doubtful accounts once exposure to collection risk of an accounts receivable is specifically identified. We analyze the length of time an account receivable is outstanding, as well as a customer's payment history to determine the need for and amount of an allowance for doubtful accounts.

Inventory Reserves

We recognize a reserve for obsolete and slow moving inventories based on estimates of future sales and an inventory item's capacity to be repurposed for a different use. We consider the number of months supply on hand based on current planned requirements, uncommitted future projections and historical usage in estimating the inventory reserve. Additional provisions are made for supplier claims for obsolete materials, prototype inventory, spare or customer service inventory and, for all periods other than at year-end, estimates for physical inventory adjustments.

Income Taxes

We record income tax expense using the liability method which specifies that deferred tax assets and liabilities be measured each year based on the difference between the financial statement and tax bases of assets and liabilities at the applicable enacted tax rates. A valuation allowance is provided for deferred tax assets when management considers it more likely than not that the asset will not be realized. At December 31, 2018 and 2017, a valuation allowance has been provided for certain deferred tax assets which we have concluded are more likely than not to not be realized. If future annual taxable income were to be significantly less than current and projected levels, there is a risk that certain of our deferred tax assets not already provided for by the valuation allowance would expire prior to utilization.

We recognize the financial statement benefit of a tax position only after determining that the relevant tax authority would more likely than not sustain the position following an audit. For tax positions meeting the more-likely-than-not threshold, the amount recognized in the financial statements is the largest benefit that has a greater than 50 percent likelihood of being realized upon ultimate settlement with the relevant tax authority. We recognize interest and penalties related to income tax matters in income tax expense.

Stock Based Compensation

We account for grants of employee stock options, time-based restricted stock units and restricted stock as compensation expense based upon the fair value on the date of grant and such expense is recognized over the vesting condition, either based on a period of service of based on the performance of a specific achievement. For awards measured at fair value, the fair value is determined using the Black-Scholes option pricing model. The Black-Scholes option pricing model incorporates certain assumptions, such as expected volatility, expected life of options, risk-free interest rate and expected dividend yield, in order to arrive at a fair value estimate. Expected volatilities are based on the average of the historical volatility of the Company's Common Stock and that of an index of companies in our industry group. To evaluate our assumptions for the expected lives of options, we consider the average holding period of previously exercised options and the remaining terms of outstanding options. The risk-free interest rate is based upon quoted market yields for United States Treasury debt securities. The expected dividend yield is based upon the Company's history of having never issued a dividend, the limitations to issue a dividend under the Amended Credit Agreement and management's current expectation regarding future dividends. We believe that the assumptions selected by management are reasonable; however, significant changes could materially impact the results of the calculation of fair value. We also have granted restricted stock units measured based on either a target return on invested capital ratio ("ROIC"), as defined in the award agreement, for a specified fiscal year, or the Company's common stock market price returning a target total shareholder return ("TSR"), as defined, during a specific three-year measurement period. Upon achievement of the performance measurement, performance based restricted stock units vest over a three-year period.

Stock appreciation rights ("SARs") are also an award type granted under out management incentive program and they are accounted for using the liability method since they are settled in cash, which requires mark-to-market adjustments based on the current trading price of Gentherm Common Stock to be recognized in statement of income.

Pension Plans

The Company's obligations and expenses for its pension plans are substantially dependent on the Company's selection of discount rate and, for the Gentherm GmbH Plan, expected long-term rate of return on plan assets assumptions used by actuaries to calculate these amounts. Actual results that differ from assumptions used are accumulated and amortized over future periods and generally affect recognized expense in future periods. As such, assumptions used to calculate benefit obligations as of the annual measurement date directly impact the expense to be recognized in future periods.

Results of Operations Year Ended December 31, 2018 Compared to Year Ended December 31, 2017

Product revenues. Product revenues by product category, in thousands, for the years ended December 31, 2018 and 2017 are as follows:

	Year Ended December 31,		
	2018	**2017**	**% Change**
Climate Control Seats (CCS)	$ 374,816	$ 387,961	(3.4)%
Seat Heaters	305,337	307,309	(0.6)%
Steering Wheel Heaters	69,845	62,125	12.4 %
Automotive Cables	98,931	92,093	7.4 %
Battery Thermal Management (BTM)[a]	28,472	10,043	183.5 %
Etratech	54,267	8,398	(1.3)%[b]
Other Automotive	16,924	11,528[c]	46.8 %
Subtotal Automotive	$ 948,592	$ 879,457	7.9 %
Remote Power Generation (GPT)	19,222	31,891	(39.7)%
Cincinnati Sub-Zero Products (CSZ)	70,445	74,335	(5.2)%
Subtotal Industrial	$ 89,667	$ 106,226	(15.6)%
Total Company	$ 1,038,259	$ 985,683	5.3 %

a) Battery Thermal Management or BTM product revenues include Gentherm's automotive grade, low cost, heat resistant fans and blowers used by customer for battery cooling through ventilation and production level shipments of the advanced TED based active cool system which began during the fourth quarter of 2017.

b) Amount represents the pro-forma growth for Etratech by comparing the amount of revenue during 2018 to Etratech's revenue during 2017 which totaled $54,987, and which was not all included in Gentherm's revenue since the acquisition did not occur until November 1, 2017.

c) Includes $2.0 million rebate to customer during 2017.

Product revenues for 2018 were $1,038.3 million compared with product revenues of $985.7 million for 2017, an increase of $52.6 million, or 5.3%. The increase included higher product revenues in the automotive segment, which increased $69.1 million, or 7.9%, to $948.6 million, partially offset by lower industrial segment product revenues which decreased $16.6 million, or 15.6%, to $89.7 million. Automotive product revenues for 2018 included $54.3 million from Etratech compared to only $8.4 million in 2017. Gentherm acquired Etratech on November 1, 2017 and recognized product revenues from Etratech during last two months of 2017.

Our automotive segment revenues outperformed automotive vehicle product volumes during 2018. Global automotive production decreased 1% during 2018 as compared to 2017. On a combined basis and weighted for the Company's revenue in each region, automotive vehicle production declined by 1.3% in the Company's key regions. These lower rates were partially attributable to the negative impact of the new Worldwide Harmonized Light Vehicle Test Procedure ("WLTP") regulations in Europe. Authorities have been taking longer than expected to certify OEM vehicles under the new WLTP emissions tests, causing production delays.

Adjusting for the impact from currency translation and the Etratech acquisition, automotive segment revenues increased 1% in 2018 as compared to 2017. Gentherm achieved higher revenues in our BTM, steering wheel heaters and automotive cable product categories which were partially offset by lower revenues in our CCS and seat heater product categories. BTM revenues contributed the largest increase totaling $18.4 million, or 183.5%, due to the 2018 launches of the actively cooled version on the Mercedes S-Class and the Jeep Wrangler. Other products that experienced significant growth in revenue during 2018 included automotive steering wheel heaters which increased by $7.7 million, or 12.4%, and automotive cables which increased by $6.8 million, or 7.4%. The growth in steering wheel heater product revenues is due to new program awards, which included the Nissan Pathfinder, Nissan Murano, and the Audi A6 and Audi A8 vehicle programs. The growth in automotive cables product revenues is attributable to an increase in Oxygen Sensor business with Bosch, totaling $5.1 million. CCS revenues decreased by $13.1 million, or 3.4%, to $374.8 million due to an unfavorable mix between the higher priced active cooling technology and the lower priced heated and ventilated version. The decrease of $2.0 million, or 1%, in seat heater revenues was concentrated in Europe and Asia due to lower production volumes in those regions in 2018 as compared to 2017.

Lower revenues in the industrial segment in 2018 were attributable to decreased revenue of GPT and the CSZ industrial chamber business of $12.7 million, or 39.7%, and $3.7 million, or 8.4%, respectively. During 2018, GPT earned significantly lower revenue due to a decrease in the shipment of custom projects. Lower CSZ industrial chamber business revenues were mainly due to lower product revenues on custom climate testing chambers in 2018. In June 2018, Gentherm announced that GPT and the CSZ industrial chamber business ("CSZ-IC") would be sold. Both businesses were classified as held for sale on December 31, 2018. See Note 1 to our consolidated financial statements for additional information about Gentherm's new strategic growth plan and, specifically, the February 2019 sale of CSZ-IC and the planned sale of GPT.

Cost of sales. Cost of sales increased to $743.6 million during 2018 from $674.8 million during 2017, an increase of $68.8 million, or 10.2%. Higher cost of sales were primarily due to changes in product mix favoring low margin products, including BTM and Etratech products, and lower quantities of higher margin products, including CCS and automotive seat heaters. The low margin realized on BTM product revenues during 2018 was partially due to higher than expected launch phase costs for the new actively cooled technology programs and higher fixed overhead costs, including depreciation expense, that were incurred in anticipation of higher, post-launch phase volumes. Freight costs were $4.2 million higher in 2018 compared to 2017 and were attributable to the ramp-up of production at our Celaya Mexico facility. During 2018, labor costs grew $7.2 million compared to 2017 primarily due to higher sales, higher incurred overtime and higher wage rates at our production facilities in Mexico and Ukraine. Lastly, global tariffs, which became effective during the second half of 2018, contributed $1.3 million in additional costs of sales as compared to 2017.

Net research and development expenses. Net research and development expenses were $79.9 million during 2018 compared to $82.5 million in 2017, a decrease of $2.6 million, or 3.1%. The decrease in net research and development expenses was primarily driven by the impact of the Fit-for-Growth cost reduction initiatives and higher-than-normal development and tooling cost reimbursements for new production applications. Research and development reimbursement totaled $18.8 million during 2018 and $12.0 million during 2017, an increase of $6.8 million, or 57%. We classify development and prototype costs and related reimbursements as research and development. This is consistent with accounting standards applied in the automotive industry. Depreciation costs for tooling are included in cost of sales.

Research and development expenses increased $4.1 million, or 4%, to 98.7 million in 2018 due to higher costs for additional resources, including personnel, that are focused on the development of new products, including a program to develop the next generation of seat comfort products, and application engineering for production programs of existing products. The increase also included $1.4 million in foreign currency transaction and research and development expenses of Etratech, which totaled $2.2 million.

Selling, General and Administrative Expenses. Selling, general and administrative expenses decreased $3.4 million, or 2.6%, to $127.2 million during 2018 from $130.5 million during 2017. The decrease was due to CEO transition expenses of $6.7 million during 2017 and savings associated with cost reduction activities of the Company's Fit-for-Growth initiative of $3.3 million. This decrease was partially offset by selling, general and administrative expenses associated with Etratech totaling $4.9 million, higher mark-to-market adjustment on cash-settled stock options of $2.9 million and higher expenses related to currency translation of $800 thousand.

Restructuring expenses. The Company recognized $14.8 million in restructuring expense during 2018 as a result of completed actions associated with the Fit-for-Growth cost savings initiative as more fully described above. The completed Fit-for-Growth actions are expected to deliver annualized saving of approximately $37.0 million. In 2018, $65.0 million in savings opportunities were identified and we expect to achieve our $75.0 million overall savings target by 2021. No restructuring charges were incurred during 2017.

Foreign currency gain (loss). During 2018, we incurred a net foreign currency gain of $622 thousand which included a net realized gain of $33 thousand and a net unrealized gain of $589 thousand. During 2017, we incurred a net foreign currency loss of $23.1 million which included an unrealized loss of $21.8 million, The unrealized gain in 2018 and the unrealized loss in 2017 was primarily the result of holding significant amount of U.S. Dollar ("USD") cash at our subsidiaries in Europe which have the European Euro ("EUR") as the functional currency and due to certain intercompany relationships between these European subsidiaries and our U.S. based companies. The USD strengthened relative to the EUR in 2018 but had significantly weakened during 2017. If the USD continues to strengthen, we will likely have unrealized gains, but if the USD weaken, we will likely have unrealized losses.

Impairment loss. During 2018, the Company recorded an impairment loss totaling $11.5 million associated with the Company's plans to divest GPT and CSZ-IC, both of which are included in the industrial segment. The loss is not expected to be fully deductible for income tax purposes. No impairment loss was recorded in 2017.

Income tax expense. We recorded an income tax expense of $16.2 million during 2018 representing an effective tax rate of 28% on earnings before income tax of $58.1 million. The pre-tax earnings amount included the non-deductible impairment loss of $11.5 million. Adjusting for the impairment loss, the effective tax rate was 23% for 2018. The effective tax rate differed from the U.S. Federal statutory rate of 21% primarily due to the international provisions of the U.S. tax reform, such as global intangible low-tax income ("GILTI"), enacted in December 2017, partly offset by certain intercompany transactions which disproportionately benefited lower tax rate jurisdictions. We recorded an income tax expense of $34.0 million during 2017 which included the one-time transition tax of $20.2 million relating to the 2017 Tax Cut and Jobs Act (the "Tax Act"). Excluding this one-time expense, our income tax expense would have been $13.8 million representing an effective tax rate of 20% on earnings before income tax of $69.3 million.

Industrial segment operating loss. The industrial segment, which includes GPT, CSZ and our advanced research and development activities, reported an operating loss totaling $22.5 million and $14.8 million during 2018 and 2017, respectively. We incurred these losses for several reasons. First, the advanced research and development activities, the total cost for which were $15.6 million and $13.9 million during 2018 and 2017, respectively, are focused on products and technologies that are currently not generating product revenues. Second, in conjunction with the Fit-for-Growth initiative, a number of advanced research activities have been curtailed or ceased and we have executed site consolidations at our Irvine, California and Azusa, California facilities. These changes are expected to lead to lower spending rates in future periods. We expect advanced research activities focused on our core technologies to continue and to generate profitable revenue in future periods, a significant portion of which we expected will be recognized in the Automotive segment. Lastly, CSZ incurred $5.2 million in expenses in 2018 associated with a new direct sale force for the medical business unit that has yet to be fully offset by a corresponding increase in the amount of revenue and related operating income. We continue to believe the direct sales force will lead to higher medical product revenues in future periods that will generate operating profits in excess of the costs for the direct sales team.

Results of Operations Year Ended December 31, 2017 Compared to Year Ended December 31, 2016

Product revenues. Product revenues by product category, in thousands, for the years ended December 31, 2017 and 2016 are as follows:

	Year Ended December 31,		
	2017	**2016**	**% Change**
Climate Control Seats (CCS)	$ 387,961	$ 405,795	(4.4)%
Seat Heaters	307,309	288,939	6.4 %
Steering Wheel Heaters	62,125	49,516	25.5 %
Automotive Cables	92,093	85,283	8.0 %
Battery Thermal Management (BTM)[a]	10,043	6,546	53.4 %
Etratech	8,398	—	—
Other Automotive	11,528[b]	11,349	1.6 %
Subtotal Automotive	$ 879,457	$ 847,428	3.8 %
Remote Power Generation (GPT)	31,891	18,628	71.2 %
Cincinnati Sub-Zero Products (CSZ)	74,335	51,544	44.2 %
Subtotal Industrial	$ 106,226	$ 70,172	51.4 %
Total Company	$ 985,683	$ 917,600	7.4 %

a) Battery Thermal Management or BTM product revenues include Gentherm's automotive grade, low cost, heat resistant fans and blowers used by customer for battery cooling through ventilation and production level shipments of the advanced TED based active cool system which began during the fourth quarter of 2017.

b) Includes $2.0 million rebate to customer during 2017.

Product revenues for 2017 were $985.7 million compared with product revenues of $917.6 million for 2016, an increase of $68.1 million, or 7.4%. This increase included the full year effect of the 2016 acquisition of CSZ, which operated as a part of Gentherm for a full year in 2017 but only for nine months during 2016, $8.4 million in additional revenue attributable to the 2017 acquisition of Etratech after it was acquired on November 1, 2017, and a $5 million favorable impact of foreign currency translation. Adjusting for these effects, our pro-forma product revenue growth was 4.6% and included a 2.7% increase in Automotive segment product revenues to $879.5 million and a 23.4% increase in Industrial segment product revenue to $106.2 million.

The increase in the Automotive segment occurred despite lower global automotive production volumes and a special rebate of $2.0 million recorded during 2017. The increases included higher revenue volume for heated seat products, totaling $18.4 million, or 6.4%, heated steering wheels of $12.6 million, or 25.5%, automotive cable systems of $6.8 million, or 8.0%, and battery thermal management products of $3.5 million, or 53.4%. These higher amounts were attributable to new program awards, higher vehicle application rates and higher component content. Higher component content in heat seat products, for example, included a greater number of programs for which Gentherm provides the electronic controlling device along with the heating element. These increases were partially offset by lower CCS product revenues which decreased by $17.8 million, or 4.4%. CCS product revenue was disproportionately impacted by the lower global production volumes which were more unfavorable in our primary CCS market, North America, which was down by 4%, compared to an increase of 2% for the global automotive industry. CCS revenues were also reduced as a result of certain vehicle programs changing technologies from the higher priced active cooling seat application to the lower priced heated and ventilated seat technology.

Product revenues from GPT totaled $31.9 million which represented an increase of $13.3 million, or 71%. Continuing market weakness in North America was more than offset by higher sales to other markets. Product sales in this business unit are typically large custom remote power systems having long lead times and, during 2017, there were more shipments than in the prior year. During 2016, demand for GPT's products sold in North America was unfavorably impacted by lower oil prices. While we do not generally sell our products for oil exploration, production or transportation activities, the impact of lower oil prices reduced capital investments for the natural gas industry being made by GPT's principal customers. As a result, those customers curtailed orders during that year.

CSZ product revenue increased by $22.8 million which included both an acquisition related increase of $15.9 million and organic growth of $6.9 million, or 10%. This increase included higher revenue of environmental chamber products totaling $8.1 million or 22% partially offset by lower revenue of patient temperature management products of $1.2 million or 3.9%. The higher revenue for environmental chambers included several large custom orders as well as stronger demand for standard chambers. Patient temperature management product revenue equally benefited 2017 and 2016 from a temporary surge in demand for the Hemotherm product, a blood heater cooler used in hospital operating rooms during open heart surgery, but did not yet show improvements associated with a transition to a direct sales force that occurred throughout 2017.

Cost of sales. Cost of sales increased to $674.8 million in 2017 from $622.6 million in 2016. The increase of $52.2 million, or 8%, was due to increased sales volume, unfavorable inventory adjustments, other increased expenses and changes in product mix partially offset by a one-time $4.0 million expense from the purchase accounting effect of inventory for the CSZ acquisition which occurred in 2016. The gross margin rate was 31.6% during 2017 representing a decrease of 60 basis points as compared with the 2016 gross margin rate of 32.2%. This decrease was due to the special rebate and the inventory adjustments and the higher expenses. The unfavorable inventory adjustments totaled $2.3 million and were mainly comprised of a reserve recorded for inventory held for the heated and cooled mattress product line based upon a reduced sales outlook. Increased expenses totaling approximately $7.0 million included higher fixed costs associated with our new manufacturing facilities in Mexico and Macedonia, labor expense inflation at our Ukraine factory, and factory launch expenses for the new advanced battery thermal management product and electronics.

Net research and development expenses. Net research and development expenses were $82.5 million during 2017 compared to $72.9 million in 2016, an increase of $9.6 million, or 13%. This increase was primarily driven by higher costs for additional resources, including personnel focused on application engineering for new production programs of existing products, development of new products and a program to develop the next generation of seat comfort products.

Increases in research and development were partially offset by research and development reimbursement totaling $12.0 million during 2017 and $6.7 million during 2016.

Acquisition transaction expenses. During 2017, we incurred $789 thousand in fees and expenses associated with the acquisition of Etratech which was completed on November 1, 2017. During 2016, we incurred $743 thousand in fees and expenses associated with the acquisition of CSZ which was completed on April 1, 2016.

Selling, general and administrative expenses. Selling, general and administrative expenses were $130.5 million , which included $1.1 million in selling, general and administrative expenses for Etratech and $6.1 million in higher expenses for CSZ due to the additional three months of operations during 2017 as compared to 2016, the year CSZ was acquired. Excluding the Etratech expenses and additional CSZ expenses, selling, general and administrative expenses increased by $8.1 million, or 7%, from $115.3 million in the prior year. This increase was partly due to expenses associated with the transition to a new CEO, higher selling costs for CSZ's medical products business, and increased management incentive compensation costs partially offset by a one-time expense associated with a management reorganization totaling $2.0 million incurred in 2016 but not 2017. During 2017 our former CEO, Daniel R. Coker, retired and as a result, we recorded expenses totaling $6.7 million which included accelerated stock compensation amortization and accrued cash bonus. The amount also included a signing bonus and a make whole bonus for Mr. Coker's successor and fees associated with the recruitment process. CSZ's selling expenses include an increase of $3.9 million associated with a direct sales force for its medical division started during 2017. Lastly, expenses for our management incentive program were $968 thousand higher during 2017 as compared to 2016.

Foreign currency gain (loss). During 2017 we incurred a net foreign currency loss of $23.1 million which included a net realized loss of $1.3 million and a net unrealized loss of $21.8 million. During 2016, we incurred a net foreign currency gain of $7.8 million which included a net realized gain of $1.7 million and a net unrealized gain of $6.1 million. The unrealized loss in 2017 and the unrealized gain in 2016 was primarily the result of holding significant amounts of U.S. Dollar ("USD") cash at our subsidiaries in Europe which have the European Euro ("EUR") as the functional currency and due to certain intercompany relationships between these European subsidiaries and our U.S. based companies. During 2017, the USD significantly weakened relative to the EUR but strengthened during 2016.

Income tax expense. We recorded an income tax expense of $34.0 million during 2017 which included the one-time transition tax of $20.1 million relating to the Tax Act. Excluding this one-time expense, our income tax expense would have been $13.9 million representing an effective tax rate of 20% on earnings before income tax of $69.3 million. We recorded an income tax expense of $34.0 million during 2016 which included the one-time withholding tax expense of $7.6 million and income tax expense of $2.5 million related to the Reorganization. Excluding these one-time expenses, our income tax expense would have been $23.9 million representing an effective tax rate of 22% on earnings before income tax of $110.6 million.

The Tax Act was enacted on December 22, 2017. The Tax Act reduces the U.S. federal corporate tax rate from 35% to 21%, requires companies to pay a one-time transition tax on all offshore earnings that were previously tax deferred and creates new taxes on certain foreign sourced earnings. As of December 31, 2017, in accordance with guidance provided by Staff Accounting Bulletin No. 118 (SAB 118), we have not completed our accounting for the tax effects of the Tax Act; however, in certain cases, as described below, we have made a provisional estimate of the effects on our existing deferred tax balances and the one-time transition tax. In the year ended December 31, 2017, the provision for income taxes includes a provisional income tax expense of $20.2 million related to items for which we were able to determine a reasonable estimate. In all cases, we will continue to make and refine our calculations as additional analysis is completed. In addition, our estimates may be affected as additional regulatory guidance is issued with respect to the Tax Act. Any adjustments to the provisional amounts will be recognized as a component of the provision for income taxes in the period in which such adjustments are determined, but in any event, no later than the fourth quarter of 2018, in accordance with SAB 118.

Deferred tax assets and liabilities. We remeasured our U.S. deferred tax assets and liabilities at 21%. However, we were still analyzing certain aspects of the Tax Act and refining our calculations, which could have potentially affected the measurement of these balances or potentially give rise to new deferred tax amounts. In the year ended December 31, 2017, the provision for income taxes includes provisional income tax expense of $5.8 million related to the remeasurement of deferred tax balances.

Transition tax on deferred foreign earnings. The one-time transition tax is based on our post-1986 earnings and profits (“E&P”) that were previously deferred from U.S. income taxes. In the year ended December 31, 2017, the provision for income taxes includes provisional income tax expense of $23.9 million related to the one-time transition tax liability of our foreign subsidiaries. We have not completed our calculation of the total post-1986 E&P for these foreign subsidiaries. Further, the transition tax is based in part on the amount of those earnings held in cash and other specified assets. This amount may change when we finalize the calculation of post-1986 E&P previously deferred from U.S. income taxes and the amounts held in cash or other specified assets. A benefit of $9.6 million was included in the provision for income taxes to offset the one-time transition tax related to the previous deferred tax liability that existed for the undistributed foreign earnings that were not permanently reinvested. However, we continue to recognize a deferred tax liability related to foreign withholding tax that will be incurred for undistributed foreign earnings that are not permanently reinvested. See Note 2 to our consolidated financial statements for additional information about the one-time transition tax.

Industrial segment operating loss. The Industrial segment, which includes CSZ, GPT and our advanced research and development activities, reported an operating loss totaling $14.8 million and $16.7 million during 2017 and 2016, respectively. The loss during 2016 included the one-time purchase accounting adjustment related to the CSZ acquisition. After adjusting for this one-time expense, the 2017 loss was $2.0 million, or 16%, higher than the loss in the Industrial segment, as adjusted, in 2016. We incurred these losses for three reasons. First, the advanced research and development activities, the total cost for which were $13.9 million and $12.1 million, during 2017 and 2016, respectively, are focused on products and technologies that are currently not generating product revenues. Second, CSZ incurred approximately $2.0 million in cost overruns on several large customer environmental test chambers during 2017. These cost overruns are not expected to recur in future periods. Finally, CSZ’s $3.9 million in higher expenses in 2017 associated with the new direct sales force was not yet offset by a corresponding increase in the amount of revenue and related operating income.

Liquidity and Capital Resources

Cash and Cash Flows

The Company has funded its financial needs primarily through cash flows from operating activities and equity and debt financings. Our new strategic plan sets forth a capital allocation strategy that includes a targeted debt-to-earnings leverage ratio and allows for some of our cash flow to be paid back to investors through Common Stock repurchases. On June 25, 2018, our Board of Directors increased the Company’s stock repurchase authorization to $300 million, of which $146.6 million of availability remained as of December 31, 2018. This authorization expires on December 16, 2020. Based on its current operating plan, management believes cash and cash equivalents at December 31, 2018, together with cash flows from operating activities, and borrowing available under our credit agreement, are sufficient to meet operating and capital expenditure needs, and to service debt, for at least the next 12 months. However, if cash flows from operations decline, we may need to obtain alternative sources of capital and reduce or delay capital expenditures, acquisitions and investments, all of which could impede the implementation of our business strategy and adversely affect our results of operations and financial condition. In addition, it is likely that we will need to complete one or more equity or debt financings if we consummate any significant acquisition or several smaller acquisitions. There can be no assurance that such capital will be available at all or on reasonable terms, which could adversely affect our future operations and business strategy.

The following table represents our cash and cash equivalents and short-term investments:

	December 31, 2018	December 31, 2017
	(in Thousands)	
Cash and cash equivalents at beginning of period	$ 103,172	$ 177,187
Cash from operating activities	118,434	49,880
Cash used in investing activities	(40,757)	(117,688)
Cash from financing activities	(139,266)	(31,564)
Foreign currency effect on cash and cash equivalents	(1,963)	25,357
Cash and cash equivalents at end of period	$ 39,620	$ 103,172

Cash Flows From Operating Activities

We manage our cash, cash equivalents and short-term investments to fund operating requirements and preserve liquidity to take advantage of future business opportunities. The following table compares the cash flows from operating activities earned during 2018 with those earned in 2017:

	Year Ended December 31,		
	2018	2017	Change
Operating Activities:		(in Thousands)	
Net income	$ 41,899	$ 35,227	$ 6,672
Non-cash adjustments to reconcile net income to cash provided by operating activities:			
Depreciation and amortization	50,638	44,972	5,666
Deferred income taxes	6,699	5,135	1,564
Stock compensation	9,047	12,507	(3,460)
Defined benefit pension plan expense	82	(23)	105
Provision for doubtful accounts	(1)	(469)	468
Loss on sale of property and equipment	2,602	1,042	1,560
Impairment loss	11,476	—	11,476
Net income before non-cash adjustments	122,442	98,391	24,051
Changes in operating assets and liabilities:			
Accounts receivable	3,024	6,033	(3,009)
Inventory	(7,689)	(4,348)	(3,341)
Prepaid expenses and other assets	(4,428)	(12,334)	7,906
Accounts payable	12,380	(7,691)	20,071
Accrued liabilities	(7,295)	(30,171)	22,876
Net cash provided by operating activities	118,434	49,880	68,554

Cash provided by operating activities during 2018 was $118.4 million representing an increase of $68.6 million from cash provided by operating activities during 2017, which was $49.9 million. The following table highlights significant differences between the operating cash flows for the periods ending December 31, 2018 and 2017, respectively:

	(in Thousands)
Net cash provided by operating activities during 2017	$ 49,880
Higher net income before changes in operating assets and liabilities	24,051
Changes in working capital, net	46,843
Changes in other assets and liabilities	(2,340)
Net cash provided by operating activities during 2018	$ 118,434

Net cash provided by operating activities before changes in operating assets and liabilities increased during 2018 due to higher revenues partially offset by higher cash based operating expenses and impairment losses recognized on goodwill, other intangible asset and assets held for sale of $6.2 million, $3.1 million and $2.2 million, respectively. Additionally, working capital, net provided favorable cash flows related to accounts receivable and accrued liabilities and unfavorable amounts related to inventory, prepaid expenses and other assets and accounts payable.

Working Capital

The following table illustrates changes in working capital during 2018:

	(in Thousands)
Working capital at December 31, 2017	$ 289,754
Decrease in cash	(61,768)
Decrease in accounts receivable	(13,932)
Decrease in inventory	(6,552)
Increase in tax receivables, net	14,801
Increase in prepaid expenses and other assets	(722)
Increase in accounts payable	(5,494)
Decrease in accrued liabilities	1,743
Current assets classified as held for sale, net	10,717
Non-current assets classified as held for sale	46,833
Foreign currency effect on working capital	(7,701)
Working capital at December 31, 2018	$ 267,679

The following table highlights significant transactions that contributed to the decrease in cash experienced during the year ended December 31, 2018:

	(in Thousands)
Net cash provided by operating activities	$ 118,434
Purchases of property and equipment	(41,541)
Repayments of Debt	(99,460)
Borrowings from U.S. Revolving Note	94,679
Stock repurchases	(148,074)
Proceeds from the exercise of Common Stock options	14,777
Other items	(583)
Decrease in cash	$ (61,768)

In addition to these transactions, working capital was impacted by decreases in accounts receivable, inventory, prepaid expenses and other assets, and accrued liabilities and increases in accounts payable. The changes in current assets and liabilities reflects the classification of GPT and CSZ-IC (disposal group) as held for sale during 2018. All assets and liabilities of the disposal group are classified as held for sale within current assets and current liabilities, respectively, on the Company’s consolidated balance sheet for the year ended December 31, 2018. See Note 15 to our consolidated financial statement for additional information about the assets and liabilities classified as held for sale. Lastly, Gentherm recognized an increase in current tax receivable relating to timing of required payment to tax authorities.

Cash Flows From Investing Activities

Cash used in investing activities was $40.8 million during 2018, reflecting purchases of property and equipment related to the expansion of production capacity, including at our newest facilities in Mexico, Vietnam, Macedonia and our Etratech facility in Canada.

Cash Flows From Financing Activities

Cash used in financing activities was $139.3 million during 2018, reflecting payments of principal on the U.S. Revolving Note, the DEG China Loan and the DEG Vietnam Loan totaling $99.5 million in aggregate, partially offset by additional borrowings on the U.S. Revolving Note totaling $94.7 million. As of December 31, 2018, the total availability under the U.S. Revolving Note was $221.9 million. Cash was also paid to repurchase Common Stock totaling $148.1 million, and for cancellations of restricted stock awards totaling $1.2 million.

Debt

The Company, together with certain direct and indirect subsidiaries, has an outstanding credit agreement (the "Credit Agreement") with a consortium of lenders and Bank of America, N.A., as administrative agent. The Credit Agreement provides the Company a revolving credit note ("U.S. Revolving Note") with a maximum borrowing capacity of $350 million.

All subsidiary borrowers and guarantors participating in the Credit Agreement have entered into a related pledge and security agreement. The security agreement grants a security interest to the lenders in substantially all of the personal property of subsidiaries designated as borrowers to secure their respective obligations under the Credit Agreement, including the stock and membership interest of specified subsidiaries (limited to 66% of the stock in case of certain non-US subsidiaries). The Credit Agreement restricts the amount of dividend payments the Company can make to shareholders.

The Credit Agreement requires the Company to maintain a minimum Consolidated Interest Coverage Ratio and a Consolidated Leverage Ratio. Definitions for these financial ratios are provided in the Credit Agreement.

Under the Credit Agreement, U.S. Dollar denominated loans bear interest at either a base rate ("Base Rate Loans") or Eurocurrency rate ("Eurocurrency Rate Loans"), plus a margin ("Applicable Rate"). The base rate is equal to the highest of the Federal Funds Rate (2.40% at December 31, 2018) plus 0.50%, Bank of America's prime rate (5.50% at December 31, 2018), or a one month Eurocurrency rate (0.00% at December 31, 2018) plus 1.00%. The Eurocurrency rate for loans denominated in U.S. Dollars is equal to the London Interbank Offered Rate (2.50% at December 31, 2018). In April 2018, the Credit Agreement was amended to establish a means for determining an alternative for LIBOR if it is determined that ascertaining LIBOR is no longer possible. All loans denominated in a currency other than the U.S. Dollar must be Eurocurrency Rate Loans. Interest is payable at least quarterly.

The Applicable Rate varies based on the Consolidated Leverage Ratio reported by the Company. As long as the Company is not in default of the terms and conditions of the Credit Agreement, the lowest and highest possible Applicable Rate is 1.25% and 2.00%, respectively, for Eurocurrency Rate Loans and 0.25% and 1.00%, respectively, for Base Rate Loans.

The Company also has two fixed interest rate loans with the German Investment Corporation ("DEG"), a subsidiary of KfW banking group, a German government-owned development bank. The first, a loan we used to fund capital investments in China (the "DEG China Loan"), is subject to semi-annual principal payments that began March, 2015 and will end September, 2019. Under the terms of the DEG China Loan, the Company must maintain a minimum Debt-to-Equity Ratio, Current Ratio and Debt Service Coverage Ratio, as defined by the DEG China Loan agreement, based on the financial statements of Gentherm's wholly owned subsidiary, Gentherm Automotive Systems (China) Ltd.

The Company's second fixed interest rate senior loan agreement with DEG was used to finance the construction and set up of the Vietnam production facility ("DEG Vietnam Loan"). The DEG Vietnam Loan is subject to semi-annual principal payments that began November, 2017 and will end May, 2023. Under the terms of the DEG Vietnam Loan, the Company must maintain a minimum Currency Ratio, Equity Ratio and Enhanced Equity Ratio, each as defined by the DEG Vietnam Loan agreement, based on the financial statements of Gentherm's wholly owned subsidiary, Gentherm Vietnam Co. Ltd.

The following table summarizes the Company's debt at December 31, 2018 (dollars in thousands).

	Interest Rate	Principal Balance
Credit Agreement:		
U.S. Revolving Note (U.S. Dollar Denominations)	4.02%	$ 122,000
U.S. Revolving Note (Euro Denominations)	1.50%	5,727
DEG China Loan	4.25%	913
DEG Vietnam Loan	5.21%	11,250
Total debt		139,890
Current portion		(3,413)
Long-term debt, less current maturities		$ 136,477

As of December 31, 2018, we were in compliance with all terms as outlined in the Credit Agreement, DEG China Loan and DEG Vietnam Loan. Undrawn borrowing capacity under the U.S. Revolving Note was $221.9 million as of December 31, 2018.

Recent Accounting Pronouncements

Recently Adopted Accounting Pronouncements

Revenue from Contracts with Customers

In May 2014, the FASB issued Accounting Standard Update ("ASU") 2014-09, "Revenue from Contracts with Customers." ASU 2014-09 was developed to enable financial statement users to better understand the nature, amount, timing and uncertainty of revenue and cash flows arising from contracts with customers. The update's core principal is that an entity should recognize revenue to depict the transfer of promised goods or services to customers in an amount that reflects the consideration to which the entity expects to be entitled in exchange for those good or services. Issuers are to use a five-step contract review model to ensure revenue is measured, recognized, and disclosed in accordance with this principle. The FASB issued several amendments to the update, including a one-year deferral of the original effective date, and new methods for identifying performance obligations that are intended to reduce the cost and complexity of compliance.

We adopted ASU 2014-09 and related amendments effective January 1, 2018 using the cumulative catch-up transition method, which required us to disclose the cumulative effect of initially applying the update recognized at the date of initial application. We elected to apply the guidance in ASU 2014-09 to contracts that were not completed at January 1, 2018.

The most significant impact from adoption of ASU 2014-09 occurred within our Automotive segment and relates to our accounting for production part purchase options that grant customers a material right to purchase additional parts under long-term supply agreements in the future. Due to the complexity of certain of our automotive supply contracts, the actual revenue recognition treatment for customer purchase options will depend on contract-specific terms and could vary from other contracts that are similar in nature. Revenue recognition related to goods and services reported in the Industrial segment remains substantially unchanged.

The amount by which each financial statement line item was affected by application of ASU 2014-09 and related amendments during the period ended December 31, 2018, in thousands, is as follows:

	Revenue Based on Previously Effective Guidance	New Revenue Standard Adjustment	Revenue Based on New Revenue Standard
Twelve Months Ended December 31, 2018			
Product revenues	$ 1,035,773	$ 2,486	$ 1,038,259
Income tax expense (benefit)	16,727	507	16,220
Net income	39,920	1,979	41,899
Basic earnings per share	1.11	0.06	1.17
Diluted earnings per share	1.10	0.06	1.16

	Revenue Based on Previously Effective Guidance	New Revenue Standard Adjustment	Revenue Based on New Revenue Standard
Balance Sheet December 31, 2018			
Accounts receivable, net of allowance for doubtful accounts	$ 166,858	$ —	$ 166,858
Accrued liabilities[(a)]	$ 64,211	$ 1,597	$ 65,808
Unearned revenue[(a)]	$ —	$ 1,597	$ 1,597
Deferred income taxes, net	$ 62,522	$ 325	$ 62,847
Accumulated earnings	$ 365,237	$ (1,272)	$ 363,965

a) During 2018, unearned revenues associated with GPT and CSZ-IC were classified as liabilities held for sale. As of December 31, 2018, 5,351 in unearned revenues associated with GPT and CSZ-IC were classified as liabilities held for sale.

Adoption of ASU 2014-09 and related amendments had no impact to cash from or used in operating, investing or financing activities on our consolidated statements of cash flows.

Statement of Cash Flows

In August 2016, the FASB issued ASU 2016-15, "Statement of Cash Flows (Topic 230): Classification of Certain Cash Receipts and Cash Payments." ASU 2016-15 provides guidance on the classification of eight specific cash receipt and cash payment transactions in the statement of cash flows. The Company focused its evaluation on the following transactions to determine the effect ASU 2016-15 will have on the Company's Consolidated Statements of Cash Flows:

1) Debt extinguishment payments and debt prepayments are to be shown as cash outflows for financing activities. Previously, Gentherm classified debt extinguishment payments within operating activities.

2) Payments made to settle contingent consideration liabilities not made soon after the acquisition date of a business combination should be recognized as cash outflows for financing activities up to the amount of the liability recognized at the acquisition date. Payments, or the portion of a payment, to settle contingent consideration liabilities that exceed the amount of the liability recognized at the acquisition date will be recognized as cash outflows for operating activities.

3) Cash receipts from the settlement of insurance claims, excluding those related to corporate-owned life insurance policies shall be classified on the basis of the related insurance coverage. For example, proceeds received to cover claims issued under product recall liability insurance would be classified as cash inflows from operating activities.

4) Cash receipts from the settlement of corporate-owned life insurance policies shall be classified as cash inflows from investing activities.

We have adopted ASU 2016-15 and related amendments effective January 1, 2018. None of the cash receipt and cash payment transactions addressed by the update occurred during any of the periods presented in this report. Adoption of this update and related amendments did not have a material impact on the cash flows of the Company.

Income Taxes

In October 2016, the FASB issued ASU 2016-16, “Income Taxes (Topic 740): Intra-Entity Transfers of Assets Other Than Inventory.” ASU 2016-16 modifies the current prohibition to recognize deferred income taxes from differences between the tax basis of assets in the buyer’s tax jurisdiction and their cost resulting from an intra-entity transfer from one tax-paying component to another tax-paying component of the same consolidated group. Under current GAAP, deferred income taxes for intra-entity asset transfers are not recognized until the asset is sold to an outside party. ASU 2016-16 allows entities to recognize the income tax consequences of an intra-entity transfer of an asset other than inventory when the transfer occurs.

We adopted ASU 2016-16 and related amendments effective January 1, 2018 on a modified retrospective basis through a cumulative-effect adjustment directly to retained earnings as of such adoption date. As a result of the amendments in ASU 2016-16, a favorable adjustment of $31,645 was recorded directly to retained earnings. The new deferred tax assets will be recognized ratably over the useful life of the applicable assets.

Accumulated Other Comprehensive Income

In February 2018, the FASB issued ASU 2018-02, “Income Statement – Reporting Comprehensive Income (Topic 220): Reclassification of Certain Tax Effects from Accumulated Other Comprehensive Income.” ASU 2018-02 provides a remedy to a narrow-scope financial reporting issue created by the Tax Act. The Tax Act required entities to adjust deferred tax assets and liabilities to reflect the impact from newly enacted lower corporate income tax rates, and recognize the effect in income from continuing operations. This requirement applied to all deferred tax assets and liabilities, even those which arose from transactions originally recognized in other comprehensive income. The amendments in ASU 2018-02 allow adjustments to deferred tax assets and liabilities due to newly enacted lower corporate income tax rates to be recognized in retained earnings, if those deferred tax balances arose from transactions originally recognized in other comprehensive income.

Income tax effects are released from accumulated other comprehensive income and recorded against the deferred tax balance in the consolidated balance sheet when the underlying activity is realized.

ASU 2018-02 is effective for annual and interim periods beginning after December 15, 2018. Early adoption of the amendments in this update is permitted, including adoption in any interim period for which financial statements have not yet been issued. The amendments in ASU 2018-02 must be applied in the period of adoption or retrospectively to each period in which the effect of the change in U.S. federal corporate income tax rate in the Tax Act is recognized. We elected to early adopt ASU 2018-02 and related amendments effective January 1, 2018. An adjustment of $40 was recognized against retained earnings for effect of the change in the federal corporate income tax rate on deferred tax amounts. There are no related adjustments to the Company’s valuation allowance and no other income tax effects from the Tax Act on balances that remain in accumulated other comprehensive income were reclassified.

Tax Act

In January 2018, the FASB released guidance on the accounting for tax on the global intangible low-taxed income (“GILTI”) provisions of the Tax Act. The GILTI provisions impose a tax on foreign income in excess of deemed return on tangible assets of foreign corporations. During 2018, the Company elected to treat any potential GILTI inclusions as a period cost.

Goodwill Impairment

In January 2017, the FASB issued ASU 2017-04, “Intangibles – Goodwill and Other (Topic 350): Simplifying the Test for Goodwill Impairment.” ASU 2017-04 modified the concept of impairment of goodwill to be a condition that exists when the carrying value of a reporting unit that includes goodwill exceeds its fair value. An entity should recognize an impairment charge for the amount by which the carrying amount exceeds the reporting unit’s fair value, limited to the total amount of goodwill allocated to that reporting unit. Entities no longer will determine goodwill impairment by calculating the implied fair value of goodwill by assigning the fair value of a reporting unit to all of its assets and liabilities as if the reporting unit had been acquired in a business combination.

ASU 2017-04 is effective for annual and any interim goodwill impairment tests in fiscal years beginning after December 15, 2019. Early adoption of the amendments in this update is permitted. The amendments in ASU 2017-04 must be applied on a prospective basis and in the initial period of adoption, entities must disclose the nature of and reason for the change in accounting principle. The Company has adopted the accounting principles in ASU 2017-04 and applied them to our test for goodwill impairment. See Note 12 for information about the goodwill impairment loss recognized in 2018.

Recently Issued Accounting Pronouncements Not Yet Adopted

Derivatives and Hedging

In October 2018, the FASB issued ASU 2018-16, "Derivatives and Hedging (Topic 815): Inclusion of the Secured Overnight Financing Rate (SOFR) Overnight Index Swap (OIS) Rate as a Benchmark Interest Rate for Hedge Accounting Purposes." ASU 2018-16 adds the OIS Rate based on SOFR to the list of eligible benchmark interest rates that can be used for hedge accounting purposes under Topic 815. SOFR is a volume-weighted median interest rate that is calculated daily based on overnight transactions from the prior day's trading activity in specified segments of the U.S. Treasury repo market. The designation of the OIS rate based on SOFR as a benchmark interest rate for hedge accounting purposes is in response to ongoing concerns about the sustainability of LIBOR and the Federal Reserve's intent to have a suitable alternative to USD LIBOR that is more firmly based on actual transactions in a robust market. Prior to this update, the only eligible benchmark interest rates were the interest rates on direct Treasury obligations of the U.S. government (UST), the LIBOR swap rate, the OIS Rate based on the Fed Funds Effective Rate and the Securities Industry and Financial Markets Association (SIFMA) Municipal Swap Rate.

ASU 2018-16 is effective for annual and interim periods beginning after December 15, 2018. Early adoption of the amendments in this update is permitted. The amendments in this update should be adopted on a prospective basis for qualifying new or redesigned hedging relationships entered into on or after the date of adoption. While the Company has not executed any U.S. benchmark interest rate transactions in order to apply hedge accounting under Topic 815, we are currently in the process of determining the impact implementation of ASU 2018-16 will have on our strategy approach to the management of interest rate risk.

Cloud Computing Arrangements That Are Service Contracts

In August 2018, the FASB issued ASU 2018-15, "Intangibles – Goodwill and Other – Internal-Use Software (Subtopic 350-40): Customer's Accounting for Implementation Costs Incurred in a Cloud Computing Arrangement That Is a Service Contract." ASU 2018-15 provides guidance on when costs incurred to implement a hosting arrangement that is a service contract are and are not capitalized, aligning with the guidance for capitalizing implementation costs incurred to develop or obtain internal-use software. Entities must first determine the project stage of the implementation activity; depending on their nature, costs for implementation activities in the application development stage are capitalized and costs incurred during the preliminary project and post-implementation stages are expensed as the activities are performed. Capitalized implementation costs should be amortized over the term of the hosting arrangement on a straight-line basis and presented in the same line items in the consolidated statement of income as the expense for fees for the associated hosting arrangements. Similarly, capitalized implementation costs should be presented in same line item in the balance sheet as prepaid fees for the associated hosting arrangement and cash flows from capitalized implementation costs should be classified in the same manner as cash flows for the fees for the associated hosting arrangement.

ASU 2018-15 is effective for annual and interim periods beginning after December 15, 2019. Early adoption of the amendments in this update is permitted, including adoption in any interim period for which financial statements have not yet been issued. ASU 2018-15 permits two methods of adoption: prospectively to costs for activities performed on or after the date the entity first applies the content from the update, or retrospectively to all periods presented. We are currently in the process of determining the impact implementation of ASU 2018-15 will have on the Company's financial statement note disclosures.

Retirement Benefits

In August 2018, the FASB issued ASU 2018-14, "Compensation – Retirement Benefits – Defined Benefit Plans – General (Subtopic 715-20): Disclosure Framework – Changes to the Disclosure Requirements for Defined Benefit Plans." The amendments in ASU 2018-14 were developed using the concepts incorporated in the FASB's Concepts Statement, *Conceptual Framework for Financial Reporting – Chapter 8: Notes to Financial Statements*, which were finalized in August 2018. The amendments in this update remove the following disclosure requirements, among others, from Subtopic 715-20:

1) The amounts in accumulated other comprehensive income expected to be recognized as components of net periodic benefit cost over the next fiscal year.

2) The amount and timing of plan assets expected to be returned to the employer.

The following disclosure requirements were added to Subtopic 715-20:

1) The weighted-average interest crediting rates for cash balance plans and other plans with promised interest crediting rates.

2) An explanation of the reasons for significant gains and losses related to changes in the benefit obligation for the period.

ASU 2018-14 is effective for annual periods ending after December 15, 2020. Early adoption of the amendments in this update are permitted. Entities should apply the amendments in this update on a retrospective basis to all periods presented. We are currently in the process of determining the impact implementation of ASU 2018-14 will have on the Company's financial statement note disclosures.

Fair Value Measurement

In August 2018, the FASB issued ASU 2018-13, "Fair Value Measurement (Topic 820): Disclosure Framework – Changes to the Disclosure Requirements for Fair Value Measurement." The amendments in ASU 2018-13 were developed using the concepts incorporated in the FASBs Concepts Statement, *Conceptual Framework for Financial Reporting – Chapter 8: Notes to Financial Statements*, which were finalized in August 2018. The amendments in this update remove the following disclosure requirements from Topic 820:

1) The amount of and reasons for transfers between Level 1 and Level 2 of the fair value hierarchy.

2) The policy for timing of transfer between levels.

3) The valuation processes for Level 3 fair value measurements.

The following disclosure requirements were added to Topic 820:

1) The changes in unrealized gains and losses for the period included in other comprehensive income for recurring Level 3 fair value measurements held at the end of the reporting period.

2) The range and weighted average of significant unobservable inputs used to develop Level 3 fair value measurements.

ASU 2018-13 is effective for annual and interim periods beginning after December 15, 2019. Early adoption of disclosures that are removed is permitted, but adoption is delayed for the new additional disclosures until their effective date. The amendments in ASU 2018-13 that provide for new additional disclosure should be applied on a prospective basis, while all other amendments should be applied retrospectively to all periods presented upon their effective date. We are currently in the process of determining the impact implementation of ASU 2018-13 will have on the Company's financial statement note disclosures.

Leases

In February 2016, the FASB issued ASU 2016-02, "Leases (Topic 842)." ASU 2016-02 requires lessees to recognize on their balance sheet a liability to make lease payments and a right-of-use asset representing its right to use the underlying asset for the lease term. Payments to be made in optional periods should be included in the measurement of lease assets and liabilities if the lessee is reasonably certain it will exercise an option to extend the lease or not exercise an option to terminate the lease. While ASU 2016-02 continues to differentiate between finance or capital leases and operating leases, the principal change from current lease accounting guidance is that lease assets and liabilities arising from operating leases will be recognized on the balance sheet.

ASU 2016-02 is effective for fiscal years and interim periods beginning after December 15, 2018. Early adoption of the amendments in this update are permitted. The FASB has issued several amendments to ASU 2016-02, including ASU 2018-11, "Leases (Topic 842): Targeted Improvements" that introduced an additional transition method permitting an entity to initially apply the new lease standard at the adoption date and recognize a cumulative-effect adjustment to the opening balance of retained earnings in the period of adoption. We expect to elect this transition method.

ASU 2016-02 includes optional practical expedients intended to reduce the cost and complexity to implement the new lease standard, such as an option to maintain the current lease classification for all existing lease arrangements and the option to use hindsight in evaluating lessee options to extend or terminate a lease. We expect to elect these practical expedients. The Company expects to add right-of-use assets and the corresponding liabilities to the consolidated balance sheet equal to approximately 1.5% to 2.5% of total assets as of the implementation date. Any differences between the total carrying value of right-of-use assets and lease liabilities will be recognized as a reduction to the 2019 opening balance in retained earnings.

Off-Balance Sheet Arrangements

We use letters of credit to guarantee our performance under specific construction contracts executed by our subsidiaries, GPT and CSZ. The expiration dates of the letter of credit contracts coincide with the expected completion date of the contract. Extensions are normally made if performance obligations continue beyond the expected completion date. At December 31, 2018, we had outstanding letters of credit of $455 thousand.

Tabular Disclosure of Contractual Obligations

As of December 31, 2018, the following amounts, aggregated by type of contract obligation, are known to come due in the periods stated:

Contractual Obligations (In thousands)	Total	Less than 1 Yr	1-3 Yrs	3-5 Yrs	More than 5 Yrs
Long-Term Debt Obligations (1)	$ 139,890	$ 3,413	$ 132,727	$ 3,750	$ —
Operating Lease Obligations	$ 18,718	$ 4,686	$ 6,327	$ 3,684	$ 4,021
Purchase Obligations	$ 4,001	$ 2,844	$ 1,157	$ —	$ —
Totals	$ 162,609	$ 10,943	$ 140,211	$ 7,434	$ 4,021

(1) Long-Term Debt Obligations do not include an amount payable for interest.

The Company does not have any outstanding capital lease agreements.

ITEM 7A. QUANTITATIVE AND QUALITATIVE DISCLOSURES ABOUT MARKET RISK

Our exposure to market risk for changes in interest rates relates primarily to our debt obligations and foreign currency contracts. We have in the past, and may in the future, place our investments in bank certificates of deposits, debt instruments of the U. S. government, and in high-quality corporate issuers.

We are exposed to market risk from changes in foreign currency exchange rates, short-term interest rates and price fluctuations of certain material commodities such as copper. Market risks for changes in interest rates relate primarily to our debt obligations under our Amended Credit Agreement. Foreign currency exchange risks are attributable to sales to foreign customers and purchases from foreign suppliers not denominated in a location's functional currency, foreign plant operations, intercompany indebtedness, intercompany investments and include exposures to the European Euro, Mexican Peso, Canadian Dollar, Hungarian Forint, Macedonian Denar, Ukrainian Hryvnia, Japanese Yen, Chinese Renminbi, Korean Won and Vietnamese Dong.

The Company regularly enters into derivative contracts with the objective of managing its financial and operational exposure arising from these risks by offsetting gains and losses on the underlying exposures with gains and losses on the financial instruments used to hedge them. The maximum length of time over which we hedge our exposure to foreign currency exchange risks is one year. We had foreign currency derivative contracts with a notional value of $33.3 million and $29.3 million outstanding at December 31, 2018 and 2017, respectively.

The maximum length of time over which we hedge our exposure to price fluctuations in material commodities is two years. We had copper commodity swap contracts with a notional value of $0 and $404 thousand outstanding at December 31, 2018 and 2017, respectively.

We do not enter into derivative financial instruments for speculative or trading purposes. Our hedging relationships are formally documented at the inception of the hedge, and hedges must be highly effective in offsetting changes to future cash flows on hedged transactions both at the inception of a hedge and on an ongoing basis to be designated for hedge accounting treatment. For derivative contracts which can be classified as a cash flow hedge, the effective portion of the change in the fair value of the derivative is recorded to accumulated other comprehensive loss in the consolidated balance sheet. When the underlying hedge transaction is realized, the gain or loss included in accumulated other comprehensive loss is recorded in earnings in the consolidated statement of income on the same line as the gain or loss on the hedged item attributable to the hedged risk. We record the ineffective portion of foreign currency hedging instruments, if any, to foreign currency gain (loss) in the consolidated statements of income. See Note 14 to our consolidated financial statements for the amount of unrealized loss associated with copper commodity derivatives reported in accumulated other comprehensive income as of December 31, 2017 that was reclassified into earnings during 2018. Though we continuously monitor the hedging program, derivative positions and hedging strategies, foreign currency forward exchange agreements have not always been designated as hedging instruments for accounting purposes.

The Company uses an income approach to value derivative instruments, analyzing quoted market prices to calculate the forward values and then discounts such forward values to the present value using benchmark rates at commonly quoted intervals for the instrument's full term.

Information related to the fair values of derivative instruments in our consolidated balance sheet as of December 31, 2018 is as follows (in thousands):

			Asset Derivatives		Liability Derivatives		
	Hedge Designation	Fair Value Hierarchy	Balance Sheet Location	Fair Value	Balance Sheet Location	Fair Value	Net Asset/ (Liabilities)
Foreign currency derivatives	Cash flow hedge	Level 2	Current assets	92	Current liabilities	$ —	$ 92

Information related to the fair values of derivative instruments in our consolidated balance sheet as of December 31, 2017 is as follows (in thousands):

			Asset Derivatives		Liability Derivatives		
	Hedge Designation	Fair Value Hierarchy	Balance Sheet Location	Fair Value	Balance Sheet Location	Fair Value	Net Asset/ (Liabilities)
Foreign currency derivatives	Cash flow hedge	Level 2	Current assets	$ 141	Current liabilities	$ (1,050)	$ (909)
Commodity derivatives	Cash flow hedge	Level 2	Current assets	$ 72			$ 72

Information related to the effect of derivative instruments on our consolidated income statement and statement of comprehensive income is as follows (in thousands):

	Location	Year Ended December 31, 2018	Year Ended December 31, 2017
Foreign currency derivatives	Product revenues	—	(3)
	Cost of sales	(444)	2,209
	Selling, general and administrative	75	(216)
	Other comprehensive income	1,096	302
	Foreign currency gain	50	(112)
Total foreign currency derivatives		$ 777	$ 2,180
Commodity derivatives	Cost of sales	$ 145	$ 202
	Other comprehensive (loss) income	(218)	54
Total commodity derivatives		$ (73)	$ 256

Interest Rate Sensitivity

The table presents principal cash flows and related weighted average interest rates by expected maturity dates for each of the Company's debt obligations. The information is presented in U.S. dollar equivalents, which is the Company's reporting currency. The instruments actual cash flows are denominated in U.S. dollars ($USD) or European Euros (€EUR), as indicated in parentheses.

December 31, 2018

	Expected Maturity Date							
	2019	2020	2021	2022	2023	Thereafter	Total	Fair Value
	(In thousands except rate information)							
Liabilities								
Long Term Debt:								
Fixed Rate (€EUR)	$ 913	$ —	$ —	$ —	$ —	$ —	$ 913	$ 929
Average Interest Rate	4.25%						4.25%	
Variable Rate (€EUR)	$ —	$ —	$ 5,727	$ —	$ —	$ —	$ 5,727	$ 5,727
Average Interest Rate			1.50%				1.50%	
Variable Rate ($USD)	$ —	$ —	$ 122,000	$ —	$ —	$ —	$ 122,000	$ 122,000
Average Interest Rate			4.02%				4.02%	
Fixed Rate ($USD)	$ 2,500	$ 2,500	$ 2,500	$ 2,500	$ 1,250	$ —	$ 11,250	$ 11,092
Average Interest Rate	5.21%	5.21%	5.21%	5.21%	5.21%	5.21%	5.21%	

Exchange Rate Sensitivity

The table below provides information about the Company's foreign currency forward exchange rate agreements that are sensitive to changes in foreign currency exchange rates. The table presents the notional amounts and weighted average exchange rates by expected (contractual) maturity dates for each type of foreign currency forward exchange agreement. These notional amounts generally are used to calculate the contractual payments to be exchanged under the contract.

December 31, 2018

	Expected Maturity or Transaction Date							
Anticipated Transactions and Related Derivatives	2019	2020	2021	2022	2023	Thereafter	Total	Fair Value
	(In thousands except rate information)							
$US functional currency								
Forward Exchange Agreements:								
(Receive MXN/Pay USD$)								
Total Contract Amount ($)	$ 33,250	—	—	—	—	—	$ 33,250	$ 92
Average Contract Rate	20.30						20.30	

ITEM 8. FINANCIAL STATEMENTS AND SUPPLEMENTARY DATA

Supplementary Financial Information – Selected Quarterly Financial Data

Unaudited Quarterly Financial Data
For the Years Ended December 31, 2018 and 2017
(In thousands, except per share data)

	For the three months ended,			
	March 31, 2018	June 30, 2018	September 30, 2018	December 31, 2018
Product revenues	$ 261,889	$ 263,779	$ 258,939	$ 253,652
Gross margin	78,545	74,471	73,139	68,457
Operating income	20,649	15,593	15,713	20,833
Net income (loss)	12,966	16,659	(355)	12,629
Basic earnings (loss) per share	$ 0.35	$ 0.46	$ (0.01)	$ 0.37
Diluted earnings (loss) per share	$ 0.35	$ 0.45	$ (0.01)	$ 0.36

	For the three months ended,			
	March 31, 2017	June 30, 2017	September 30, 2017	December 31, 2017
Product revenues	$ 249,267	$ 243,378	$ 235,853	$ 257,185
Gross margin	85,151	78,318	70,186	77,232
Operating income	34,840	25,136	16,134	20,988
Net income (loss)	25,402	8,513	6,554	(5,242)
Basic earnings (loss) per share	$ 0.69	$ 0.23	$ 0.18	$ (0.14)
Diluted earnings (loss) per share	$ 0.69	$ 0.23	$ 0.18	$ (0.14)

The sum of the quarterly amounts shown above may not be the same as the annual totals shown in our consolidated financial statements or elsewhere in this report due to rounding. The audited consolidated financial statements and related financial information required to be filed hereunder are indexed on page F-1 of this report and are incorporated herein by reference.

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

None.

ITEM 9A. CONTROLS AND PROCEDURES

Disclosure Controls and Procedures

Disclosure controls and procedures are designed to ensure that information required to be disclosed by us in the reports that we file or submit under the Exchange Act is recorded, processed, summarized and reported, within the time periods specified in the Securities and Exchange Commission’s rules and forms. Disclosure controls and procedures include, without limitation, controls and procedures designed to ensure that information required to be disclosed by us in the reports that we file or submit under the Exchange Act is accumulated and communicated to our management, including our principal executive and principal financial officers, as appropriate to allow timely decisions regarding required disclosure.

In designing and evaluating disclosure controls and procedures, management recognizes that any controls and procedures, no matter how well designed and operated, can provide only reasonable, not absolute, assurance of achieving the desired objectives. Also, the design of a control system must reflect the fact that there are resource constraints and the benefits of controls must be considered relative to their costs. Because of the inherent limitations of all control systems, no evaluation of controls can provide absolute assurance that misstatements due to error or fraud will not occur or that all control issues and instances of fraud, if any, have been detected. These inherent limitations include the realities that judgments in decision-making can be faulty and that breakdowns can occur because of a simple error or mistake. The design of any system of controls is based, in part, upon certain assumptions about the likelihood of future events and there can be no assurance that any design will succeed in achieving its stated goals under all potential future conditions.

Our management has evaluated, with the participation of our principal executive and principal financial officers, the effectiveness of our disclosure controls and procedures as of December 31, 2018. Based on their evaluation, our principal executive and principal financial officers have concluded that our disclosure controls and procedures were not effective as of December 31, 2018 due to a material weakness in internal control over financial reporting described below.

Management's Report On Internal Control Over Financial Reporting

Management of the Company is responsible for establishing and maintaining adequate internal control over financial reporting 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. Internal control over financial reporting includes those policies and procedures that: (1) pertain to the maintenance of records that in reasonable detail accurately and fairly reflect our transactions and dispositions of assets, (2) provide reasonable assurance that transactions are recorded as necessary to permit preparation of financial statements in accordance with generally accepted accounting principles, and that our receipts and expenditures are being made only in accordance with authorizations of our management and directors, and (3) provide reasonable assurance regarding prevention or timely detection of unauthorized acquisition, use or disposition of our assets that could have a material effect on the financial statements.

Because of its inherent limitations, including the possibility of collusion or improper management override of controls, misstatements due to error or fraud, internal control over financial reporting may not prevent or detect misstatements on a timely basis or not at all. Also, projections of any evaluation of effectiveness to future periods are subject to the risk that controls may become inadequate because of changes in conditions, or that the degree of compliance with the policies or procedures may deteriorate.

Under the supervision of and with the participation of our management, we assessed the effectiveness of our internal control over financial reporting as of December 31,2018 using the criteria set forth by the Committee of Sponsoring Organizations of the Treadway Commission (COSO) in Internal Control—Integrated Framework (2013). Based on this assessment, it was identified that our Information Technology General Controls ("ITGC") related to a stand-alone system at our wholly owned subsidiary, Cincinnati Sub-Zero Products, LLC., did not operate in a way to appropriately restrict elevated access and address segregation of duty conflicts at both the information technology and end user levels. This impaired our ability to rely on the completeness and accuracy of the system generated data used in the execution and testing of our financial controls for this subsidiary.

Due to the pervasiveness of the ITGC weakness noted above and the way in which the financial controls rely on the effectiveness of these controls and system generated data, we concluded that this represented a material weakness. The Company did not maintain a control environment that was designed and operating in a way to prevent or detect a material misstatement in the Company's consolidated financial statements.

Despite the above noted material weakness, management believes that our consolidated financial statements included in this Annual Report on Form 10-K have been prepared in accordance with generally accepted accounting principles. Our principal executive officer and principal financial officer have certified that, based on each such officer's knowledge, the financial statements, and other financial information included in this Annual Report on Form 10-K, fairly present in all material respects our financial condition, results of operations, and cash flows as of, and for, the periods presented in this Annual Report on Form 10-K. There was no adjustment required as a result of this material weakness. In addition, we have developed a remediation plan for this material weakness, which is described below.

Based on the assessment described above, management of the Company believes that, as of December 31, 2018, the Company's internal control over financial reporting was not effective. Our independent registered public accounting firm, Grant Thornton LLP, independently assessed the effectiveness of our internal control over financial reporting as stated in its report included herein, which report expressed an adverse opinion on the effectiveness of our internal control over financial reporting as of December 31, 2018.

Remediation

Management plans to remediate the material weakness noted at the Cincinnati Sub-Zero Products, LLC by enhancing financial statement review controls and decommissioning the stand-alone system and integrating the location into the Company's global information technology environment. Although we believe that these corrective steps, when taken, will enable management to conclude that the internal control over financial reporting are effective, we cannot provide assurance that these steps will be sufficient or the timing thereof.

Changes in Internal Control Over Financial Reporting

There were no changes in the Company's internal control over financial reporting that have materially affected, or are reasonably likely to materially affect, Gentherm's internal control over financial reporting, expect as otherwise described in Item 9a.

ITEM 9B. OTHER INFORMATION

None

PART III

ITEM 10. DIRECTORS, EXECUTIVE OFFICERS AND CORPORATE GOVERNANCE

The information required by this item is set forth under the following captions in our proxy statement to be filed with respect to the 2019 annual meeting of shareholders (the “Proxy Statement”), all of which is incorporated herein by reference: “Proposal No. 1 – Election of Directors”, “Board Matters – The Board of Directors”, “Board Matters – Committees of the Board”, “Board Matters – Corporate Governance”, “Additional Information – Section 16(a) Beneficial Ownership Reporting Compliance” and “Additional Information – Requirements for Submission of Shareholder Proposals and Nominations for 2020 Annual Meeting.”

ITEM 11. EXECUTIVE COMPENSATION.

The information required by this item set forth under the following captions in our Proxy Statement, all of which is incorporated herein by reference: “Compensation Discussion and Analysis”, “Named Executive Officer Compensation Tables”, “Board Matters – Director Compensation”, “Compensation Committee Interlocks and Insider Participation” and “Compensation Committee Report.”

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

The information required by this item is set forth under the following captions in our Proxy Statement, all of which is incorporated herein by reference: “Additional Information – Equity Compensation Plans” and “Security Ownership of Certain Beneficial Owners and Management.”

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

The information required by this item is set forth under the following captions in our Proxy Statement, all of which is incorporated herein by reference: “Related Person Transactions” and “Proposal No. 1 – Election of Directors – Director Independence.”

ITEM 14. PRINCIPAL ACCOUNTING FEES AND SERVICES.

The information required by this item is set forth under the following captions in our Proxy Statement, which is incorporated by reference herein by reference: “Audit Committee Matters.”

PART IV

ITEM 15. EXHIBITS AND FINANCIAL STATEMENT SCHEDULES

The following documents are filed as part of this Report:

1. Financial Statements.

The following financial statements of the Company and reports of independent accountants are included in Item 15 of this Annual Report:

	Page
Reports of Independent Registered Public Accounting Firm.	F-2
Consolidated Balance Sheets	F-5
Consolidated Statements of Income	F-6
Consolidated Statements of Comprehensive Income	F-7
Consolidated Statements of Changes in Shareholders' Equity	F-8
Consolidated Statements of Cash Flows	F-9
Notes to the Consolidated Financial Statements	F-10

2. Financial Statement Schedule.

The following Schedule to Financial Statements is included herein:

Schedule II — Valuation and Qualifying Accounts.

3. Exhibits.

The exhibits to this Report are as follows:

Exhibit Number	Exhibit Description	Filed/Furnished Herewith	Incorporated by Reference Form	Period Ending	Exhibit / Appendix Number	Filing Date
2.1**	Membership Interest Purchase Agreement dated April 1, 2016 by and among the Company, Cincinnati Sub-Zero Products, LLC, CSZ Holdings, Inc., The Leonard Berke Q-Tip Trust, The Leonard Berke Exempt Q-Tip Trust, The Leonard Berke Credit Shelter Trust, Cincinnati Sub-Zero Trust F/B/O Steven Berke DTD 5/20/1999 and Steven J. Berke		8-K		2.1	4/4/16
2.2**	Real Estate Purchase Agreement		8-K		2.2	4/4/16
2.3**	Share and Asset Purchase Agreement, dated as of November 1, 2017, by and among Gentherm Incorporated, certain of its subsidiaries, Etratech Inc., Etratech Enterprises Inc., and certain subsidiaries and all of the shareholders of Etratech Enterprises Inc.		8-K		2.1	11/1/17
3.1	Second Amended and Restated Articles of Incorporation of Gentherm Incorporated (the “Company”)		8-K		3.1	5/28/15
3.2	Amended and Restated Bylaws of the Company		8-K		3.2	3/5/18
10.1*	Summary of Non-Employee Director Compensation	X				
10.2*	Amended and Restated Gentherm Incorporated Senior Level Performance Bonus Plan	X				
10.3.1*	2006 Equity Incentive Plan		Schedule 14A		A	4/24/06
10.3.2*	First Amendment to 2006 Equity Incentive Plan		10-K	12/31/06	10.3.2	2/20/07
10.3.3*	Second Amendment to 2006 Equity Incentive Plan		8-K		10.1	3/20/07
10.3.4*	Third Amendment to 2006 Equity Incentive Plan		Schedule 14A		B	4/20/09
10.3.5*	Fourth Amendment to 2006 Equity Incentive Plan		8-K		10.8	3/31/11
10.3.6*	Fifth Amendment to 2006 Equity Incentive Plan		10-K	12/31/11	10.3.6	3/15/12
10.3.7*	Sixth Amendment to 2006 Equity Incentive Plan		8-K		10.2	5/20/13
10.4.1*	2011 Equity Incentive Plan		Schedule 14A		A	5/20/11
10.4.2*	First Amendment to 2011 Equity Incentive Plan		10-K	12/31/11	10.3.8	3/15/12
10.4.3*	Second Amendment to 2011 Equity Incentive Plan		8-K		10.3	5/11/12
10.4.4*	Third Amendment to 2011 Equity Incentive Plan		8-K		10.3	5/20/13
10.5.1*	2013 Equity Incentive Plan		Schedule 14A		A	4/22/13
10.5.2*	Amendment to the Gentherm Incorporated 2013 Equity Incentive Plan		8-K		10.2	5/19/17
10.5.3*	Form of Stock Option Award Agreement under the 2013 Equity Incentive Plan		8-K		10.1	6/27/13
10.5.4*	Form of Stock Appreciation Right Award Agreement under the 2013 Equity Incentive Plan		8-K		10.2	6/27/13
10.5.5*	Form of Restricted Stock Award Agreement under the 2013 Equity Incentive Plan		8-K		10.3	6/27/13
10.5.6*	Form of Restricted Stock Award Agreement (Retention Award) under the 2013 Equity Incentive Plan		8-K		10.1	10/4/17

Exhibit Number	Exhibit Description	Filed/Furnished Herewith	Incorporated by Reference Form	Period Ending	Exhibit / Appendix Number	Filing Date
10.5.7*	Form of Restricted Stock Unit Award Agreement (Performance-Based) under the 2013 Equity Incentive Plan		8-K		10.1	6/13/18
10.5.8*	Form of Restricted Stock Unit Award Agreement (Time-Based) under the 2013 Equity Incentive Plan		8-K		10.2	6/13/18
10.5.9*	Form of Restricted Stock Unit Award Agreement (Performance-Based) under the 2013 Equity Incentive Plan – Anversa		8-K		10.2	12/12/18
10.5.10*	Form of Restricted Stock Unit Award Agreement (Time-Based) under the 2013 Equity Incentive Plan – Anversa		8-K		10.3	12/12/18
10.6.1*	The Executive Nonqualified Defined Benefit Plan of Gentherm Incorporated effective as of April 1, 2008		10-Q	6/30/08	10.18	8/11/08
10.6.2*	Amendment To The Executive Nonqualified Benefit Plan Adoption Agreement		8-K		10.1	5/19/17
10.7.1	Credit Agreement, dated as of August 7, 2014, by and among the Company, Gentherm GmbH, Gentherm (Texas), Inc., Gentherm Canada Ltd., Global Thermoelectric Inc., the lenders party thereto and Bank of America, N.A., as administrative agent		8-K		10.1	8/7/14
10.7.2	First Amendment to Credit Agreement, dated as of April 15, 2015, by and among Gentherm Incorporated, Gentherm GmbH, Gentherm (Texas), Inc., Gentherm Canada Ltd., Global Thermoelectric Inc., Gentherm Properties II, LLC, the lenders party thereto, and Bank of America, N.A., as administrative agent.		8-K		10.1	4/16/15
10.7.3	Second Amendment to Credit Agreement, dated March 17, 2016, by and among Gentherm Incorporated, Gentherm GmbH, Gentherm (Texas), Inc., Gentherm GmbH, Gentherm Global Power Technologies Inc., Gentherm Canada ULC, Gentherm Licensing, LP, Gentherm Enterprises GmbH, Gentherm Licensing GmbH, Gentherm Enterprises, Gentherm Properties III, LLC, the lenders party thereto, and Bank of America, N.A., as administrative agent.		8-K		10.1	3/18/16
10.7.4	Designated Borrower Request and Assumption Agreement		8-K		10.1	4/4/16
10.7.5	Third Amendment to Credit Agreement, dated December 15, 2016, by and among Gentherm Incorporated, Gentherm GmbH, Gentherm (Texas), Inc., Gentherm Licensing, LP, Gentherm GmbH, Gentherm Enterprises GmbH, Gentherm Licensing GmbH, Gentherm Global Power Technologies, Inc., Gentherm Canada ULC, the lenders party thereto, and Bank of America, N.A., as administrative agent.		8-K		10.1	12/16/16
10.7.6	Pledge and Security Agreement, dated as of August 7, 2014, by and among the Company, Gentherm (Texas), Inc., Westridge Haggerty LLC and Bank of America, N.A.		8-K		10.2	8/7/14
10.7.7	Fourth Amendment to Credit Agreement, dated April 24, 2018, by and among Gentherm Incorporated, Gentherm GmbH, Gentherm (Texas), Inc., Gentherm Licensing, LP, Gentherm GmbH, Gentherm Enterprises GmbH, Gentherm Licensing GmbH, Gentherm Global Power Technologies, Inc., Gentherm Canada ULC, the lenders party thereto, and Bank of America, N.A., as administrative agent		8-K		10.1	4/24/18
10.8*	Amended and Restated Gentherm Incorporated Performance Bonus Plan dated as of February 12, 2018		8-K		10.1	2/14/18
10.9.1*	Executive Relocation and Employment Agreement, dated August 1, 2015, by and between Gentherm Incorporated and Frithjof Oldorff		8-K		10.1	8/3/15

Exhibit Number	Exhibit Description	Filed/Furnished Herewith	Incorporated by Reference Form	Period Ending	Exhibit / Appendix Number	Filing Date
10.9.2*	Extension of Executive Relocation and Employment Agreement dated as of October 3, 2017		10-Q	9/30/17	10.2.2	10/30/17
10.10*	Retirement Agreement between Gentherm Incorporated and Daniel R. Coker, dated as of June 28, 2017		8-K		10.1	6/28/17
10.11.1*	Employment Contract between Gentherm Incorporated and Phillip Eyler, dated as of September 18, 2017		8-K		10.1	10/3/17
10.11.2*	Amendment to Employment Terms between Gentherm Incorporated and Phillip Eyler, dated as of December 7, 2018		8-K		10.1	12/7/18
10.12*	Separation Agreement and Release between Gentherm Incorporated and Darren Schumacher, dated as of May 29, 2018.		8-K		10.3	6/13/18
10.13*	Offer Letter between Gentherm Incorporated and Matteo Anversa, dated as of October 22, 2018		8-K		10.1	12/12/18
10.14*	Separation Agreement between Gentherm Incorporated and Barry G. Steele, dated as of December 11, 2018		8-K		10.4	12/12/18
21	List of Subsidiaries (Direct and Indirect) of the Company	X				
23.1	Consent of Grant Thornton LLP	X				
24	Power of Attorney	X				
31.1	Section 302 Certification - CEO	X				
31.2	Section 302 Certification – CFO	X				
32.1	Section 906 Certification – CEO	X				
32.2	Section 906 Certification - CFO	X				
101.INS	XBRL Instance Document.	X				
101.SCH	XBRL Taxonomy Extension Schema Document.	X				
101.CAL	XBRL Taxonomy Extension Calculation Linkbase Document.	X				
101.DEF	XBRL Taxonomy Extension Definition Linkbase Document.	X				
101.LAB	XBRL Taxonomy Extension Label Linkbase Document.	X				
101.PRE	XBRL Taxonomy Extension Presentation Linkbase Document.	X				

* Indicates management contract or compensatory plan or arrangement.

** Gentherm Incorporated agrees to furnish any omitted schedules or exhibits upon the request of the Securities and Exchange Commission.

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REPORT OF INDEPENDENT REGISTERED PUBLIC ACCOUNTING FIRM

Board of Directors and Shareholders
Gentherm Incorporated

Opinion on the financial statements

We have audited the accompanying consolidated balance sheets of Gentherm Incorporated (a Michigan corporation) and subsidiaries (the "Company") as of December 31, 2018 and 2017, the related consolidated statements of income, comprehensive income, changes in shareholders' equity, and cash flows for each of the three years in the period ended December 31, 2018, and the related notes and financial statement schedule included under Item 15(a) (collectively referred to as the "financial statements"). In our opinion, the financial statements present fairly, in all material respects, the financial position of the Company as of December 31, 2018 and 2017, and the results of its operations and its cash flows for each of the three years in the period ended December 31, 2018, in conformity with accounting principles generally accepted in the United States of America.

We also have audited, in accordance with the standards of the Public Company Accounting Oversight Board (United States) ("PCAOB"), the Company's internal control over financial reporting as of December 31, 2018, based on criteria established in the 2013 Internal Control—Integrated Framework issued by the Committee of Sponsoring Organizations of the Treadway Commission ("COSO"), and our report dated February 26, 2019 expressed an adverse opinion.

Basis for opinion

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

We conducted our audits in accordance with the standards of the PCAOB. Those standards require that we plan and perform the audit to obtain reasonable assurance about whether the financial statements are free of material misstatement, whether due to error or fraud. Our audits included performing procedures to assess the risks of material misstatement of the financial statements, whether due to error or fraud, and performing procedures that respond to those risks. Such procedures included examining, on a test basis, evidence supporting the amounts and disclosures in the financial statements. Our audits also included evaluating the accounting principles used and significant estimates made by management, as well as evaluating the overall presentation of the financial statements. We believe that our audits provide a reasonable basis for our opinion.

/s/ GRANT THORNTON LLP

We have served as the Company's auditor since 2007.

Southfield, Michigan
February 26, 2019

REPORT OF INDEPENDENT REGISTERED PUBLIC ACCOUNTING FIRM

Board of Directors and Shareholders
Gentherm Incorporated

Opinion on internal control over financial reporting

We have audited the internal control over financial reporting of Gentherm Incorporated (a Michigan corporation) and subsidiaries (the "Company") as of December 31, 2018, based on criteria established in the 2013 Internal Control—Integrated Framework issued by the Committee of Sponsoring Organizations of the Treadway Commission ("COSO"). In our opinion, because of the effect of the material weakness described in the following paragraphs on the achievement of the objectives of the control criteria, the Company has not maintained effective internal control over financial reporting as of December 31, 2018, based on criteria established in the 2013 Internal Control—Integrated Framework issued by COSO.

A material weakness is a deficiency, or 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. The following material weakness has been identified and included in management's assessment.

The Company's internal controls over the general information technology ("IT") environment and IT general controls ("ITGC") at a wholly owned subsidiary did not operate in a way to appropriately restrict elevated access and address segregation of duty conflicts at both the information technology and end user levels. This impairs the Company's ability to rely on the completeness and accuracy of the system generated data used in the execution and testing of financial controls for this entity. Due to the pervasiveness of the ITGC weakness noted and the way in which the financial controls rely on the effectiveness of these controls and system generated data, it is concluded that this represented a material weakness.

We also have audited, in accordance with the standards of the Public Company Accounting Oversight Board (United States) ("PCAOB"), the consolidated financial statements of the Company as of and for the year ended December 31, 2018. The material weakness identified above was considered in determining the nature, timing, and extent of audit tests applied in our audit of the 2018 consolidated financial statements, and this report does not affect our report dated February 26, 2019 which expressed an unqualified opinion on those financial statements.

Basis for opinion

The Company's management is responsible for maintaining effective internal control over financial reporting and for its assessment of the effectiveness of internal control over financial reporting, included in the accompanying Management's Report On Internal Control over Financial Reporting. Our responsibility is to express an opinion on the Company's internal control over financial reporting based on our audit. We are a public accounting firm registered with the PCAOB and are required to be independent with respect to the Company in accordance with the U.S. federal securities laws and the applicable rules and regulations of the Securities and Exchange Commission and the PCAOB.

We conducted our audit in accordance with the standards of the PCAOB. Those standards require that we plan and perform the audit to obtain reasonable assurance about whether effective internal control over financial reporting was maintained in all material respects. Our audit included obtaining an understanding of internal control over financial reporting, assessing the risk that a material weakness exists, testing and evaluating the design and operating effectiveness of internal control based on the assessed risk, and performing such other procedures as we considered necessary in the circumstances. We believe that our audit provides a reasonable basis for our opinion.

Definition and limitations of internal control over financial reporting

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

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

Other Information

We do not express an opinion or any other form of assurance on the Company's remediation plan disclosed as part of Management's Report on Internal Control.

/s/ GRANT THORNTON LLP

Southfield, Michigan
February 26, 2019

GENTHERM INCORPORATED

CONSOLIDATED BALANCE SHEETS

(In thousands, except share data)

	December 31, 2018	December 31, 2017
ASSETS		
Current Assets:		
Cash and cash equivalents	$ 39,620	$ 103,172
Accounts receivable, less allowance of $851 and $973, respectively	166,858	185,058
Inventory, net	112,535	121,409
Derivative financial instruments	92	213
Prepaid expenses and other assets	54,271	51,217
Assets held for sale	69,699	—
Total current assets	443,075	461,069
Property and equipment, net of accumulated depreciation of $98,705 and $83,404, respectively	171,380	200,294
Goodwill	55,311	69,685
Other intangible assets, net of accumulated amortization of $81,198 and $77,622, respectively	56,385	83,286
Deferred financing costs	647	936
Deferred income tax assets	64,024	30,152
Other non-current assets	12,225	37,983
Total assets	$ 803,047	$ 883,405
LIABILITIES AND SHAREHOLDERS' EQUITY		
Current Liabilities:		
Accounts payable	$ 93,113	$ 89,596
Accrued liabilities	65,808	77,209
Current maturities of long-term debt	3,413	3,460
Derivative financial instruments	—	1,050
Liabilities held for sale	13,062	—
Total current liabilities	175,396	171,315
Pension benefit obligations	7,211	7,913
Other Liabilities	3,087	2,747
Long-term debt, less current maturities	136,477	141,209
Deferred tax liabilities	1,177	6,347
Total liabilities	323,348	329,531
Shareholders' equity:		
Common Stock:		
No par value; 55,000,000 shares authorized, 33,856,629 and 36,761,362 issued and outstanding at December 31, 2018 and 2017, respectively	140,300	265,048
Paid-in capital	14,934	15,625
Accumulated other comprehensive loss	(39,500)	(20,444)
Accumulated earnings	363,965	293,645
Total shareholders' equity	479,699	553,874
Total liabilities and shareholders' equity	$ 803,047	$ 883,405

The accompanying notes are an integral part of these financial statements

GENTHERM INCORPORATED

CONSOLIDATED STATEMENTS OF INCOME

(In thousands, except per share data)

	Year Ended December 31, 2018	2017	2016
Product revenues	$ 1,038,259	$ 985,683	$ 917,600
Cost of sales	743,647	674,796	622,563
Gross margin	294,612	310,887	295,037
Operating costs and expenses:			
Research and development expenses	98,663	94,515	79,583
Reimbursed research and development expenses	(18,763)	(12,037)	(6,660)
Net research and development expenses	79,900	82,478	72,923
Acquisition transaction expenses	—	789	743
Selling, general and administrative expenses	127,152	130,522	115,252
Restructuring expenses	14,772	—	—
Total operating costs and expenses	221,824	213,789	188,918
Operating income	72,788	97,098	106,119
Interest expense	(4,942)	(4,885)	(3,257)
Foreign currency gain (loss)	622	(23,108)	7,810
Impairment loss	(11,476)	—	—
Other income (loss)	1,127	150	(109)
Earnings before income tax	58,119	69,255	110,563
Income tax expense	16,220	34,028	33,965
Net income	$ 41,899	$ 35,227	$ 76,598
Basic earnings per share	$ 1.17	$ 0.96	$ 2.10
Diluted earnings per share	$ 1.16	$ 0.96	$ 2.09
Weighted average number of shares—basic	35,921	36,721	36,448
Weighted average number of shares—diluted	36,177	36,814	36,601

The accompanying notes are an integral part of these financial statements

GENTHERM INCORPORATED

CONSOLIDATED STATEMENTS OF COMPREHENSIVE INCOME

(In thousands)

	Year Ended December 31,		
	2018	2017	2016
Net Income	$ 41,899	$ 35,227	$ 76,598
Other comprehensive gain (loss), gross of tax:			
Net gain (loss) on pension benefit obligations	91	244	(675)
Foreign currency translation adjustments	(19,212)	48,059	(16,678)
Unrealized gain (loss) on foreign currency derivative securities	1,096	301	(1,395)
Unrealized gain (loss) on commodity derivative securities	(218)	55	743
Other comprehensive gain (loss), gross of tax	$ (18,243)	$ 48,659	$ (18,005)
Other comprehensive gain (loss), related tax effects:			
Cumulative effect of accounting change due to ASU 2018-02	(40)	—	—
Net gain (loss) on pension benefit obligations	(15)	(60)	185
Foreign currency translation adjustments	(390)	148	297
Unrealized gain (loss) on foreign currency derivative securities	(300)	(81)	375
Unrealized gain (loss) on commodity derivative securities	(68)	(19)	(273)
Other comprehensive gain (loss), related tax effect	$ (813)	$ (12)	$ 584
Other comprehensive loss, net of tax:	$ (19,056)	$ 48,647	$ (17,421)
Comprehensive income:	22,843	83,874	59,177

The accompanying notes are an integral part of these financial statements

GENTHERM INCORPORATED

CONSOLIDATED STATEMENTS OF CHANGES IN SHAREHOLDERS' EQUITY

(In thousands)

	Common Stock Shares	Common Stock Amount	Paid-in Capital	Loss on Pension Benefit Obligation	Currency Translation Adjustment	Foreign Currency Hedge Adjustment	Commodity Hedge Adjustment	Accumulated Earnings	Total
Balance at December 31, 2015	36,322	$ 256,919	$ (1,282)	$ (2,060)	$ (49,381)	$ —	$ (229)	$ 180,324	$ 384,291
Exercise of Common Stock options for cash	113	1,939	(501)	—	—	—	—	—	1,438
Tax benefit from Exercises of Common Stock options	—	—	7,509	—	—	—	—	—	7,509
Common Stock issued to Board of Directors and employees	137	4,589	—	—	—	—	—	—	4,589
Stock option compensation	—	—	4,597	—	—	—	—	—	4,597
Cancelation of restricted stock	(38)	(1,196)	—	—	—	—	—	—	(1,196)
Net loss on pension benefit obligation, net	—	—	—	(490)	—	—	—	—	(490)
Currency translation, net	—	—	—	—	(16,381)	—	—	—	(16,381)
Foreign currency hedge, net	—	—	—	—	—	(1,020)	—	—	(1,020)
Commodity hedge, net	—	—	—	—	—	—	470	—	470
Net income	—	—	—	—	—	—	—	76,598	76,598
Balance at December 31, 2016	36,534	$ 262,251	$ 10,323	$ (2,550)	$ (65,762)	$ (1,020)	$ 241	$ 256,922	$ 460,405
Exercise of Common Stock options for cash	202	3,662	(907)	—	—	—	—	—	2,755
Cumulative effect of accounting change due to adoption of ASU 2016-09	—	—	—	—	—	—	—	1,496	1,496
Common Stock issued to Board of Directors and employees	242	6,298	—	—	—	—	—	—	6,298
Stock repurchases	(164)	(5,326)	—	—	—	—	—	—	(5,326)
Stock option compensation	—		6,209	—	—	—	—	—	6,209
Cancelation of restricted stock	(53)	(1,837)	—	—	—	—	—	—	(1,837)
Net gain on pension benefit obligation, net	—	—	—	184	—	—	—	—	184
Currency translation, net	—	—	—	—	48,207	—	—	—	48,207
Foreign currency hedge, net	—	—	—	—	—	220	—	—	220
Commodity hedge, net	—	—	—	—	—	—	36	—	36
Net income	—	—	—	—	—	—	—	35,227	35,227
Balance at December 31, 2017	36,761	$ 265,048	$ 15,625	$ (2,366)	$ (17,555)	$ (800)	$ 277	$ 293,645	$ 553,874
Exercise of Common Stock options for cash	615	18,755	(3,979)	—	—	—	—	—	14,776
Cumulative effect of accounting change due to adoption of ASU 2014-09	—	—	—	—	—	—	—	(3,264)	(3,264)
Cumulative effect of accounting change due to adoption of ASU 2016-16	—	—	—	—	—	—	—	31,645	31,645
Cumulative effect of accounting change due to adoption of ASU 2018-02	—	—	—	(49)	—	—	9	40	—
Common Stock issued to Board of Directors and employees	22	5,759	—	—	—	—	—	—	5,759
Stock repurchases	(3,470)	(148,074)	—	—	—	—	—	—	(148,074)
Stock option compensation	—	—	3,288	—	—	—	—	—	3,288
Cancelation of restricted stock	(71)	(1,188)	—	—	—	—	—	—	(1,188)
Net gain on pension benefit obligation, net	—	—	—	76	—	—	—	—	76
Currency translation, net	—	—	—	—	(19,602)	—	—	—	(19,602)
Foreign currency hedge, net	—	—	—	—	—	796	—	—	796
Commodity hedge, net	—	—	—	—	—	—	(286)	—	(286)
Net income	—	—	—	—	—	—	—	41,899	41,899
Balance at December 31, 2018	33,857	$ 140,300	$ 14,934	$ (2,339)	$ (37,157)	$ (4)	$ —	$ 363,965	$ 479,699

The accompanying notes are an integral part of these financial statements

GENTHERM INCORPORATED
CONSOLIDATED STATEMENTS OF CASH FLOWS
(In thousands)

	Year Ended December 31, 2018	2017	2016
Operating Activities:			
Net income	$ 41,899	$ 35,227	$ 76,598
Adjustments to reconcile net income to cash provided by operating activities:			
Depreciation and amortization	50,638	44,972	37,764
Deferred income taxes	6,699	5,135	(8,843)
Stock compensation	9,047	12,507	9,186
Defined benefit pension plan (income) expense	82	(23)	184
Provision for doubtful accounts	(1)	(469)	108
Loss on sale of property and equipment	2,602	1,042	468
Impairment loss	11,476	—	—
Changes in operating assets and liabilities:			
Accounts receivable	3,024	6,033	(17,971)
Inventory	(7,689)	(4,348)	(5,933)
Prepaid expenses and other assets	(4,428)	(12,334)	9,106
Accounts payable	12,380	(7,691)	4,419
Accrued liabilities	(7,295)	(30,171)	3,314
Net cash provided by operating activities	118,434	49,880	108,400
Investing Activities:			
Investment in subsidiary, net of cash acquired	(15)	(66,994)	(73,593)
Investment in development-stage entity	—	—	(4,486)
Purchases of property and equipment	(41,541)	(50,785)	(66,316)
Proceeds from the sale of property and equipment	799	91	57
Net cash used in investing activities	(40,757)	(117,688)	(144,338)
Financing Activities:			
Cash paid for financing costs	—	—	(649)
Borrowing of Debt	94,679	—	115,000
Repayments of Debt	(99,460)	(27,156)	(42,244)
Cash paid for the cancellation of restricted stock	(1,188)	(1,837)	(1,196)
Cash paid for the repurchase of common stock	(148,074)	(5,326)	—
Excess tax benefit from equity awards	—	—	7,509
Proceeds from the exercise of Common Stock options	14,777	2,755	1,438
Net cash (used in) provided by financing activities	(139,266)	(31,564)	79,858
Foreign currency effect on cash and cash equivalents	(1,963)	25,357	(11,212)
Net (decrease) increase in cash and cash equivalents	(63,552)	(74,015)	32,708
Cash and cash equivalents at beginning of period	103,172	177,187	144,479
Cash and cash equivalents at end of period	$ 39,620	$ 103,172	$ 177,187
Supplemental disclosure of cash flow information:			
Cash paid for interest	$ 5,027	$ 4,540	$ 3,029
Cash paid for taxes	$ 23,159	$ 76,741	$ 21,608
Supplemental disclosure of non-cash transactions:			
Common Stock issued to directors and employees	$ 5,759	$ 6,298	$ 4,589

The accompanying notes are an integral part of these financial statements

Note 1 — The Company

Gentherm Incorporated is a global technology and industry leader in the design, development, and manufacturing of innovative thermal management technologies. Unless the context otherwise requires, the terms "Company", "we", "us" and "our" used herein refer to Gentherm Incorporated and its consolidated subsidiaries. Our products provide solutions for automotive passenger comfort and convenience, battery thermal management, remote power generation, patient temperature management, environmental product testing and other consumer and industrial temperature control needs. Our automotive products can be found on the vehicles of nearly all major automotive manufacturers operating in North America, Europe and Asia. We operate in locations aligned with our major customers' product strategies to provide locally enhanced design, integration and production capabilities and to identify future thermal technology product opportunities in both automotive and other markets.   We concentrate our research on the development of new technologies and new applications from existing technologies to create product and market opportunities for a wide array of thermal management solutions.

New Strategic Plan

On June 25, 2018, Gentherm announced a new strategic plan intended to improve business performance and position the Company to deliver above-market growth and improved profitability to its shareholders. An important element of the strategy is the Fit-for-Growth initiative that focuses on purchasing excellence, rationalization of research and development activities, reducing selling, general and administrative expense, minimization or elimination of investments in non-core areas and developing a manufacturing footprint commensurate with the new plan. Non-core areas of investment under the Fit-for-Growth initiative are concentrated in the following areas of Gentherm's industrial segment: Non-core areas of investment under the Fit-for-Growth initiative are concentrated in the following areas of Gentherm's industrial segment: Gentherm Global Power Technologies ("GPT"), Cincinnati Sub Zero's Industrial Chamber business ("CSZ-IC") and our battery management systems division in Irvine, California. We also completed the site consolidation plan for our advanced research and development operations and vacated two lease facilities in Azusa, California. On February 1, 2019, we completed the sale of CSZ-IC to Weiss Technik North America, Inc. for total cash proceeds of $47.5 million.

The strategy also identified several product categories the Company has now exited, including furniture, aviation, battery management electronics, industrial battery packs, automotive thermoelectric generators and other non-core electronics.

Fit-for-Growth

The Fit-for-Growth cost savings initiative began in January 2018. Consultant costs associated with the initiative were reported in restructuring expenses. The total amount of consultant costs incurred during 2018 was $2,852. We expect to incur an additional $600 thousand in consultant costs in the first quarter of 2019 from implementing Fit-for-Growth.

Gentherm also recognized $6,598 in one-time employee termination costs in restructuring expenses pertaining to Fit-for-Growth. Gentherm recognized $17 in contract termination costs in restructuring expenses pertaining to Fit-for-Growth.

Advanced Research and Development Rationalization and Site Consolidation

In June 2018, Gentherm completed a sale of its battery management systems division located in Irvine, California. A loss on the sale of $1,107 was recognized in restructuring expenses.

(In thousands, except share and per share data)

Note 1 – The Company – (Continued)

Gentherm has completed its site consolidation plan of advanced research and development operations and vacated the two leased facilities in Azusa, California. Gentherm recognized $643 in contract termination costs in restructuring expenses from implementing our site consolidation plan.

Gentherm recognized $1,094 in one-time employee termination costs in restructuring expenses pertaining to the site consolidation plan of advanced research and development operations.

Lastly, Gentherm recognized $1,400 in restructuring expenses for the disposal of long-lived assets controlled and used in Azusa, California.

GPT and CSZ-IC

During 2018, Gentherm launched a program to actively market GPT and CSZ-IC to potential buyers and initiated all other actions required to complete the divestiture plan. Gentherm incurred $304 in consultant costs in restructuring expenses to launch the sales plan and does not expect to incur additional consultant costs associated with the plan in the future. Lastly, Gentherm recognized $757 in one-time employee termination costs in restructuring expenses related to the divestiture process. See Note 15 to our consolidated financial statements for additional information regarding the assets and liabilities classified as held for sale.

Restructuring Liability

A reconciliation of the beginning and ending restructuring liability is as follows:

	One-Time Employee Termination Benefit Costs	Contract Termination Costs	Consulting Costs	Asset Disposal Costs	Total
Year Ended December 31, 2018					
Balance, beginning of period	$ —	$ —	$ —	$ —	$ —
Additions, charged to costs	8,449	660	3,156	2,507	14,772
Payments	(6,370)	(271)	(3,077)	(2,507)	(12,225)
Balance, end of period	$ 2,079	$ 389	$ 79	$ —	$ 2,547

The cumulative amount of restructuring expenses incurred and recognized in the automotive reporting segment during 2018 was $9,164. The cumulative amount of restructuring expenses incurred and recognized in the industrial reporting segment during the year ended December 31, 2018 was $5,608. See Note 9 to our consolidated financial statements for a description of our reportable segments as well as their proportional contribution to the Company's reported product revenues and operating income.

Etratech

On November 1, 2017, we acquired substantially all of the assets and assumed substantially all of the operating liabilities of Etratech Inc., an Ontario corporation and all of the outstanding shares of Etratech Hong Kong, an entity organized under the laws of Hong Kong, in an all-cash transaction. Etratech manufactures advanced electronic controls and control systems for the automotive, recreational vehicle, marine, security, medical and other industries. Etratech's world headquarters and North American manufacturing operations are located in Burlington, Canada. See Note 17 to the consolidated financial statements for additional information regarding the acquisition of Etratech.

Note 1 — The Company – (Continued)

North American Reorganization

On January 4, 2016 and January 5, 2016, the Company completed reorganization transactions (the "Reorganization") related to our North American business (the "Windsor Operations"). As part of our original integration plan to eliminate redundancies associated with the 2011 acquisition of Gentherm GmbH (formerly named W.E.T. Automotive Systems AG), the Windsor Operations have been consolidated into our existing European and North American facilities. As a result of the Reorganization, some of the business activities previously performed by the Windsor Operations are now being performed by other subsidiaries.

Related to the Reorganization, the Company declared intercompany dividends, incurred and paid withholding taxes to the Canadian Revenue Agency of $7,600 during 2016. Additionally, the Company incurred income tax expense of $2,500 related to the intercompany dividends. These amounts incurred are expected to cover all future intercompany dividends needed to distribute the remaining earnings of the subsidiary to its parent in conjunction with the potential future liquidation of the subsidiary.

In addition to the $7,600 of withholding tax and $2,500 of income taxes, the Reorganization required the Company to make a one-time income tax payment of approximately $32,600. The one-time income tax payment was accrued during the first quarter of 2016; however, the Company also recorded an offsetting deferred charge for approximately the same amount because the one-time income tax payment will result in tax deductions against income taxes in future periods. Therefore, the income tax payment did not have a material impact on the Company's earnings during the first quarter of 2016 nor any subsequent quarter. The withholding tax payment was paid entirely in 2016. The income tax payments of $2,500 and $32,600 were paid during the first quarter of 2017. No payments related to the Reorganization were made in 2018.

Reportable Segments

The Company has two reportable segments for financial reporting purposes: Automotive and Industrial.

Automotive

The Automotive reporting segment is comprised of the results from our global automotive businesses. Operating results from our climate comfort systems, specialized automotive cable systems, battery thermal management, and automotive electronic and software systems are all reported in the Automotive segment because of their complementary focus on automotive content, passenger thermal comfort and convenience. Etratech's operating results are included within Gentherm's Automotive segment due to the concentration of product applications within the automotive, RV and marine industries.

Climate comfort system solutions include seat heaters, variable temperature Climate Control Seats ("CCS") designed to provide individualized thermal comfort to automobile passengers, and integrated electronic components, such as blowers and electronic control units and that utilize our proprietary electronics technology and software. Other climate comfort system solutions include steering wheel heaters, neck climate control systems and surface climate control system products for doors, armrests, cupholders and storage bins.

Industrial

The Industrial reporting segment represents the combined results from our remote power generation systems business, our patient temperature management systems business, our environmental testing equipment business and our advanced research and product development division. Our remote power generation systems business is managed by our subsidiary Gentherm Global Power Technologies ("GPT") and our patient temperature management and environment test equipment businesses are managed by our subsidiary Cincinnati Sub-Zero ("CSZ"). The advanced research and product development division is engaged in projects to improve the efficiency and functionality of thermal management technologies and to develop, market, and distribute products based on these new technologies. The operating results from these businesses and division are presented together as one reporting segment because of their joint concentration on identifying new markets and product applications based on thermal management technologies.

Note 1 — The Company – (Continued)

See Note 9 of the consolidated financial statements for information regarding the Company's segment revenues from external customers, including geographic composition, operating income, depreciation and amortization, and goodwill.

Note 2 — Summary of Significant Accounting Policies and Basis of Presentation

Consolidation

The consolidated financial statements at and for the years ended December 31, 2018, 2017 and 2016, reflect the consolidated financial position and consolidated operating results of the Company. Investments in affiliates in which Gentherm does not have control but does have the ability to exercise significant influence over operating and financial policies, are accounted for under the equity method. Intercompany accounts have been eliminated in consolidation. Certain reclassifications of prior year's amounts have been made to conform with the current year's presentation. Notably, results from asset disposals during 2017 were reclassified from other income to cost of sales.

Use of Estimates

The presentation of financial statements in conformity with generally accepted accounting principles in the United States of America requires management to make estimates and assumptions that affect the reported amounts of assets and liabilities at the date of the financial statements and the reported amounts of revenues and expenses during the reporting period. Actual results could differ from those estimates.

Revenue Recognition

Revenue is recognized from agreements containing enforceable rights and obligations when promised goods are delivered or services are completed, the price is fixed or determinable, and payment has been received or is collectable. The amount of revenue recognized is net of the Company's obligation for returns, rebates, discounts, taxes, if any, collected from customers, and consideration that is paid to a customer, unless such payment is in exchange for a distinct good or service. The amount of revenue recognized from a contract with a customer reflects the amount of consideration expected to be received in exchange for the transfer of goods or services.

Automotive Revenues

The Company sells automotive climate comfort solution, specialized automotive cable systems and automotive thermal convenience products under long-term supply agreements ("LTAs") and, for arrangements that are less than one year in length, purchase orders. LTAs are multiple-year business awards to provide custom designed parts for a particular automotive vehicle program in quantities and at intervals of the customer's choosing. LTAs are often multiple-element agreements. The main element in LTAs are production parts; distinct promises from which the customer can benefit separately from other promises or elements in the contract. A second element in LTAs are production part purchase options that provide customers the ability to purchase additional parts at set prices in the future. Judgement is used to determine whether a production part purchase option represents a material right to the customer and should be accounted for as a separate performance obligation. LTAs that provide customers with a purchase option discount incrementally higher than the range discounts typically given to automotive customers contain a material right. The magnitude of change in the year-over-year option prices and the total number of units expected to be ordered are important factors in the calculation of the option's fair value and the allocation of transaction price.

Note 2 – Summary of Significant Accounting Policies and Basis of Presentation – (Continued)

The price for parts is set at the point in time the customer exercises its option to purchase additional parts from the Company. A firm order, stating the number of each production part to be delivered, is an independent contract with a discrete transaction price. Revenues are allocated to production parts based on the relative standalone selling prices observed on the LTAs. As a practical alternative to estimating the standalone selling price of an option that provides a customer with a material right, the Company allocates transaction price to options by reference to the production part volumes expected to be ordered and the consideration expected to be received. The Company satisfies its obligation to provide product parts to the customer upon shipment.

When an option to purchase additional production parts in the future represents a material right, the customer effectively is paying Gentherm in advance for production parts each time it exercises the option by placing a firm order commitment. Revenue from options containing a material right are recognized on the basis of direct measurement of the value of production parts transferred to date relative to the total number of production parts expected to be delivered over the life of the vehicle program. Judgement is required to determine the pattern and timing with which an option containing a material right is satisfied and the production part is transferred to a customer.

Industrial Revenues

Our industrial business unit generates revenue from the sale of products and services by our wholly-owned subsidiaries CSZ and GPT. Industrial business unit revenues and medical business unit revenues discussed below are reported within the Company's industrial reportable segment (see Note 9). Industrial business unit customers commonly enter into multiple-element agreements for the purchase of products and services. Installation services, for example, are separate and distinct performance obligations that are often included in contracts to purchase customized environmental test chambers. Depending on the application, delivery of an environmental test chamber or remote power generation system to the customer's place of business can range from two weeks to nine months from commencement of the contract. Installation services, while reliant on the specifications and timing from the customer, rarely remain incomplete more than two months after delivery.

Revenues allocated to environmental test chambers or remote power systems are based on the stand alone selling price of products themselves. Judgement is used to determine the degree to which early pay discounts and other credits are utilized in the calculation of standalone selling price, and only included to the extent it is probable that a significant reversal of any incremental revenue will not occur. Revenues are recognized at the point in time the chamber or power system is shipped to the customer. For contracts that also include a promise for installation, the portion of total transaction price allocated to the installation is recognized as revenue at the point in time the installation is complete.

Revenues from our medical business unit are generated from the sale of products and equipment. Our medical products and equipment focus on body and blood temperature management. The Company sells medical products and equipment primarily through distributor and group purchasing organization agreements. These agreements allow member participants to the distributor or group purchasing organization to make purchases at discounted prices negotiated by the distributor or group purchasing organization. A rebate is incurred at the point in time a member participant purchases product covered under these types of agreements. Rebates are accounted for as variable consideration, using an expected value, probability weighted approach, based on the level of sales to the distributor and the time lag between the initial sale and the rebate claim in determining the transaction price of a contract. Revenue is recognized at the point in time the medical products or equipment is transferred to the customer.

Contract Balances

We record a receivable when revenue is recognized at the time of invoicing and unearned revenue when revenue is recognized subsequent to invoicing. For contracts where control of the goods or service is transferred to the customer over time, or whose terms require the customer to make milestone payments throughout the fulfillment period, the timing of revenue recognition is likely to differ from the timing of invoicing to customers.

Note 2 – Summary of Significant Accounting Policies and Basis of Presentation – (Continued)

The opening balance of our accounts receivable, net of allowance for doubtful accounts, was $185,058 as of January 1, 2018.

Most of Gentherm's unearned revenue pertains to LTAs containing a material right. In the early periods of an LTA containing a material right, when payments collected from the customer are greater than the standalone selling price of the production parts, revenue associated with the material right is deferred. In future periods, when amounts collected from customers as payment is less than the standalone selling price of the production parts delivered, the deferred revenue is reversed into revenue. For LTAs containing a material right and, thus, the timing of revenue recognition is likely to differ from the timing of invoicing to customer, the aggregate amount of transaction price allocated to material rights that remained unsatisfied under LTAs as of December 31, 2018 was $1,597. We expect to recognize into revenue, 64% of this balance in 2019, and the remaining 19%, 10%, 4%, 3% in 2020, 2021, 2022 and 2023, respectively.

Gentherm often requires milestone payments for contracts to provide environmental test chambers or remote power systems to customers. Milestone payments do not provide the Company with a right to payment for the work completed to date and do not represent the satisfaction of a performance obligation. Milestone payments are deferred and reported within unearned revenue until construction is complete and the unit has been delivered or is installed. If the environmental test chamber contract includes a separate promise to provide installation services, any installation-related payments received from the customer are deferred until the point in time the installation is complete.

The total amount of unearned revenue associated with environmental chamber and remote power system contracts, including environmental chamber contracts that include a separate obligation to provide installation, that existed as of December 31, 2018 was $5,296. Unearned revenue associated with environmental chamber and remote power system contracts is classified within Liabilities held for sale on the consolidated balance sheet at December 31, 2018 and within Accrued liabilities. See Note 15 to our consolidated financial statement for information about the assets and liabilities classified as held for sale. This entire balance is expected to be recognized into revenue during the next 12 months.

See Note 16 for information regarding the unearned revenue associated with these arrangements, including unearned revenue by segment and amounts recognized into revenue during the year ended December 31, 2018.

Payment terms for contracts with customers generally range from 30 to 120 days from the date of shipment of goods or completion of service or, if applicable, the scheduled milestone payment due date, and do not include components designed to provide customers with financing. For 2018, our revenues from sales to our three largest customers, Lear, Adient and Bosch Automotive were $181,000, $166,900 and $79,900, respectively, representing 17%, 16% and 8% of our total revenues, respectively.

Assets Recognized from the Costs to Obtain a Contract with a Customer

We recognize an asset for the incremental costs of obtaining a contract with a customer if the benefits of those costs are expected to be realized for a period greater than one year. Total capitalized costs to obtain a contract were immaterial during 2018 and are included in prepaid expenses and other assets and other non-current assets.

Cash and Cash Equivalents

The Company considers all highly liquid investments purchased with original maturities of less than 90 days to be cash equivalents. Cash balances in individual banks may exceed the federally insured limit by the Federal Deposit Insurance Corporation. The Company had cash and cash equivalents of $33,955 and $88,440 held in foreign jurisdictions as of December 31, 2018 and 2017, respectively.

(In thousands, except share and per share data)

Note 2 – Summary of Significant Accounting Policies and Basis of Presentation – (Continued)

Disclosures About Fair Value of Financial Instruments

The carrying amounts of financial instruments comprising cash and cash equivalents, short-term investments and accounts receivable approximate fair value because of the short maturities of these instruments. The carrying amount of the Company's U.S. Revolving Note approximates its fair value because interest charged on the loan balance is variable. See Note 11 for information about the techniques used to assess the fair value of financial assets and liabilities, including our fixed rate debt instruments.

Concentration of Credit Risk

Financial assets, which subject the Company to concentration of credit risk, consist primarily of cash equivalents, short-term investments and accounts receivable. Cash equivalents consist primarily of money market funds managed by major financial services companies. The credit risk for these cash equivalents is considered low. The Company does not require collateral from its customers. As of December 31, 2018, Lear, Adient and Faurecia comprised 21%, 18% and 9% respectively, of the Company's accounts receivable balance. As of December 31, 2017, Lear, Adient, and Magna comprised 24%, 20% and 7% respectively, of the Company's accounts receivable balance. These accounts are currently in good standing.

Allowance for Doubtful Accounts

We record an allowance for doubtful accounts once exposure to collection risk of an account receivable is specifically identified. We analyze the length of time an account receivable is outstanding, as well as a customer's payment history and ability to pay to determine the need to record an allowance for doubtful accounts.

Activity in the allowance for doubtful accounts was as follows:

	December 31, 2018	December 31, 2017
Balance at beginning of year	$ 973	$ 1,391
Additions charged to costs	1,005	1,239
Recoveries recognized in costs	(1,006)	(1,708)
Reclassified to assets held for sale	(96)	—
Adjustment due to currency translation	(25)	51
Balance at end of year	$ 851	$ 973

Inventory

The Company's inventory is measured at the lower of cost or market, with cost being determined using the first-in first-out basis. Raw materials, consumables and commodities are measured at cost of purchase and unfinished and finished goods are measured at cost of production, using the weighted average method. If the net realizable value expected on the reporting date is below cost, a write-down is recorded to adjust inventory to its net realizable value. We recognize a reserve for obsolete and slow moving inventories based on estimates of future sales and an inventory item's capacity to be repurposed for a different use. We consider the number of months supply on hand based on current planned requirements, uncommitted future projections and historical usage in estimating the inventory reserve. Additional provisions are made for supplier claims for obsolete materials, prototype inventory, spare or customer service inventory and, for all periods other than at year-end, estimates for physical inventory adjustments.

(In thousands, except share and per share data)

Note 2 — Summary of Significant Accounting Policies and Basis of Presentation – (Continued)

The following is a reconciliation of the changes in the inventory reserve:

	December 31, 2018	December 31, 2017
Balance at beginning of year	$ 7,887	$ 4,790
Expense	2,712	3,521
Inventory write off	(3,282)	(726)
Reclassified to assets held for sale	(899)	—
Adjustment due to currency translation	(148)	302
Balance at end of year	$ 6,270	$ 7,887

Property and Equipment

Property and equipment, including additions and improvements, are recorded at cost less accumulated depreciation. Expenditures for repairs and maintenance are charged to expense as incurred. When property or equipment is retired or otherwise disposed of, the related cost and accumulated depreciation are removed from the accounts. Gains or losses from retirements and disposals are recorded as operating income or expense.

Depreciation and amortization are computed using the straight-line method. The estimated useful lives of the Company's property and equipment are as follows:

Asset Category	Useful Life
Buildings and building improvements	2 to 50 years
Plant and Equipment	1 to 20 years
Production tooling	2 to 7 years
Leasehold improvements	Term of lease
Computer equipment and software	1 to 10 years
Capital Leases	Term of lease

The Company recognized depreciation expense of $36,270, $32,224 and $24,873 for the years ended December 31, 2018, 2017 and 2016, respectively.

Goodwill and Other Intangible Assets

Goodwill and other intangible assets recorded in conjunction with business combinations are based on the Company's estimate of fair value, as of the date of acquisition.

The fair value and corresponding useful lives for acquired intangible assets are listed below as follows:

Asset Category	Useful Life
Customer relationships	8-15 years
Technology	2-10 years
Production Development Costs	5-10 years

Our business strategy largely centers on designing products based upon internally developed and purchased technology. When possible, we protect these technologies with patents. Our policy is to expense all costs associated with the development and issuance of new patents as incurred. Such costs are classified as research and development expenses in our consolidation statements of income.

(In thousands, except share and per share data)

Note 2 — Summary of Significant Accounting Policies and Basis of Presentation – (Continued)

Patents purchased as part of a business combination are capitalized based on their fair values. Periodically, we review the recoverability and remaining lives of our capitalized patents, and if necessary, make adjustments to reported amounts, based upon unfavorable impacts from market conditions, the emergence of competitive technologies and changes in our projected business plans.

A total of $14,043, $12,425 and $12,675 in other intangible assets, including capitalized patent costs, were amortized in 2018, 2017 and 2016, respectively.

An estimate of intangible asset amortization by year, is as follows:

2019	$	10,464
2020		8,710
2021		7,887
2022		7,853
2023		7,853
Thereafter		13,619

Impairments of Long-Lived Assets, Other Intangible Assets and Goodwill

Whenever events or changes in circumstances indicate that it is more likely than not that a long-lived asset's fair value, other intangible asset's fair value or a reporting unit's fair value is less than it's carrying amount, the Company then compares the fair value of the long-lived asset, other intangible asset or reporting unit to the related net book value. If the net book value of a long-lived asset, other intangible asset or reporting unit exceeds its fair value, an impairment loss is recognized for the amount by which the carrying amount of the asset exceeds its fair value. The fair value of a long-lived asset, other intangible asset or reporting unit is estimated by analyzing internal inputs (level 3) to calculate forward values and discounting those values to the present value.

During 2018, Gentherm determined GPT and CSZ-IC met the held for sale criteria, described below, and recorded an impairment loss on assets held for sale, goodwill and other intangible assets of $2,190, $6,151 and $3,135, respectively. An impairment of long-lived assets, goodwill or other intangible assets did not occur during the periods ending December 31, 2017 and 2016, respectively.

A roll forward of goodwill from December 31, 2016 to December 31, 2018 is as follows:

December 31, 2016	$	51,735
Goodwill arising from the acquisition of Etratech		14,881
Exchange rate impact		3,069
December 31, 2017	$	69,685
Reclassification to assets held for sale		(6,844)
Impairment of goodwill		(6,151)
Exchange rate impact		(1,379)
December 31, 2018	$	55,311

Accrued Warranty Costs

The Company accrues warranty obligations for products sold based on management estimates of future failure rates and current claim cost experience, with support from the sales, engineering, quality and legal functions. Using historical information available to the Company, including claims already filed by customers, the warranty accrual is adjusted quarterly to reflect management's best estimate of future claims.

(In thousands, except share and per share data)

Note 2 — Summary of Significant Accounting Policies and Basis of Presentation – (Continued)

The following is a reconciliation of the changes in accrued warranty costs for the reporting period:

	December 31, 2018	December 31, 2017
Balance at beginning of year	$ 5,382	$ 5,443
Warranty claims paid	(905)	(979)
Warranty expense for products shipped during the current period	2,678	3,162
Adjustments to warranty estimates from prior periods	(608)	(2,655)
Reclassification to liabilities held for sale	(1,884)	—
Adjustment due to currency translation	(149)	411
Balance at end of year	$ 4,514	$ 5,382

Tooling

The Company incurs costs related to tooling used in the manufacture of products sold to its customers. In some cases, the Company enters into contracts with its customers whereby the Company incurs the costs to design, develop and purchase tooling and is then reimbursed by the customer under a reimbursement contract. Tooling costs that will be reimbursed by customers are included in prepaid expenses and other current assets at the lower of accumulated cost or the customer reimbursable amount. Approximately $6,628 and $6,994 of reimbursable tooling was capitalized within prepaid expenses and other current assets as of December 31, 2018 and 2017, respectively. Company-owned tooling is included in property and equipment and depreciated over its expected useful life, generally two to seven years. Management periodically evaluates the recoverability of tooling costs, based on estimated future cash flows, and makes provisions, where appropriate, for tooling costs that will not be recovered.

Research and Development Expenses

Research and development activities are expensed as incurred. The Company groups development and prototype costs and related reimbursements in research and development. The Company recognizes amounts due as reimbursements for expenses as these expenses are incurred.

Income Taxes

The Company records income tax expense using the liability method which specifies that deferred tax assets and liabilities be measured each year based on the difference between the financial statement and tax base of assets and liabilities at the applicable enacted tax rates. A valuation allowance is provided for deferred tax assets when management considers it more likely than not that the asset will not be realized. At December 31, 2018 and 2017, a valuation allowance has been provided for certain deferred tax assets which the Company has concluded are more likely than not to not be realized. If future annual taxable income were to be significantly less than current and projected levels, there is a risk that certain of our deferred tax assets not already provided for by the valuation allowance would expire prior to utilization.

The Company recognize the financial statement benefit of a tax position only after determining that the relevant tax authority would more likely than not sustain the position following an audit. For tax positions meeting the more-likely-than-not threshold, the amount recognized in the financial statements is the largest benefit that has a greater than 50 percent likelihood of being realized upon ultimate settlement with the relevant tax authority. The Company recognizes interest and penalties related to income tax matters in income tax expense.

Note 2 — Summary of Significant Accounting Policies and Basis of Presentation – (Continued)

Derivative Financial Instruments – Hedge Accounting

The Company accounts for some of its derivative financial instruments as cash flow hedges as defined in Financial Accounting Standards Board Accounting Standards Codification ("ASC") Topic 815. For derivative contracts which can be classified as a cash flow hedge, the effective potion of the change in the fair value of the derivative is recorded to accumulated other comprehensive income in the consolidated balance sheet. When the underlying hedge transaction is realized, the gain or loss included in accumulated other comprehensive income is recorded in earnings in the consolidated statement of income on the same line as the gain or loss on the hedged item attributable to the hedged risk. Any ineffective portion of the gain or loss is recognized in the income statement under foreign currency (loss) gain or revaluation of derivatives gain (loss). These hedging transactions and the respective correlations meet the requirements for hedge accounting.

Earnings per Share

Basic earnings per share is computed by dividing net income by the weighted average number of shares of Common Stock outstanding during the respective period. The Company's diluted earnings per common share give effect to all potential shares of Common Stock outstanding during a period that are not anti-dilutive. In computing the number of diluted shares outstanding, the treasury stock method is used in order to arrive at a net number of shares created upon the conversion of Common Stock equivalents.

Stock Based Compensation

Share based payments that involve the issuance of Common Stock to employees, including grants of employee stock options, restricted stock, and time-based and performance-based restricted stock units, are recognized in the financial statements as compensation expense based upon the fair value on the date of grant. Performance-based restricted stock unit awards are measured based on either a target return on invested capital ratio ("ROIC"), as defined in the award agreement, for a specified fiscal year, or the Company's common stock market price returning a target total shareholder return ("TSR"), as defined, during a specific three-year measurement period. Upon achievement of the performance measurement, performance based restricted stock units vest over a three-year period.

Share based payments that are satisfied only by the payment of cash, such as stock appreciation rights, are accounted for as liabilities. The liability is reported at market value of the vested portion of the underlying units. During each period, the change in the liability is recorded as compensation expense during periods when the liability increases or income during periods in which the liability decreases.

The Company's stock-based compensation expense and related deferred tax benefit were $12,177 and $2,434, respectively, for the year ended December 31, 2018, $12,727 and $4,339, respectively, for the year ended December 31, 2017, and $8,147 and $2,891, respectively, for the year ended December 31, 2016.

Pension Plans

The Company's obligations and expenses for its pension plans are dependent on the Company's selection of discount rate, expected long-term rate of return on plan assets and other assumptions used by actuaries to calculate these amounts.

Note 2 — Summary of Significant Accounting Policies and Basis of Presentation – (Continued)

Assets and Liabilities Held for Sale

The Company classifies assets and liabilities (disposal groups) to be sold as held for sale in the period in which all of the following criteria are met: management, having the authority to approve the action, commits to a plan to sell the disposal group; the disposal group is available for immediate sale in its present condition subject only to terms that are usual and customary for sales of such disposal groups; an active program to locate a buyer and other actions required to complete the plan to sell the disposal group have been initiated; the sale of the disposal group is probable, and transfer of the disposal group is expected to qualify as a completed sale within one year, except if events or circumstances beyond the Company’s control extend the period of time required to sell the disposal group beyond one year; the disposal group is being actively marketed for sale at a price that is reasonable in relation to its current fair value; and actions required to complete the plan indicate that it is unlikely that significant changes to the plan will be made or that the plan will be withdrawn.

The Company initially measures a disposal group that is classified as held for sale at the lower of its carrying value or fair value less any costs to sell. Any loss resulting from this measurement is recognized in the period in which the held for sale criteria are met. Gains are not recognized on the sale of a disposal group until the date of sale. The Company assesses the fair value of a disposal group, less any costs to sell, each reporting period it remains classified as held for sale and reports any subsequent losses as an adjustment to the carrying value of the disposal group.

The Company reports assets and liabilities of the disposal group in the line items assets held for sale and liabilities held for sale in the Consolidated Balance Sheet in the period the disposal group meets the criteria to be classified as held for sale. See Note 15 to our consolidated financial statement for information about the assets and liabilities classified as held for sale.

Subsequent Events

We have evaluated subsequent events through the date that our consolidated financial statements are issued. On February 1, 2019, we completed the sale of CSZ-IC and the CSZ headquarters facility to Weiss Technik North America, Inc. for total cash proceeds of $47,500.

(In thousands, except share and per share data)

Note 3 — Details of Certain Financial Statement Components

	December 31, 2018	December 31, 2017
Inventory:		
Raw materials, net of reserve	$ 61,679	$ 64,175
Work in process, net of reserve	5,939	16,139
Finished goods, net of reserve	44,917	41,095
	$ 112,535	$ 121,409
Property and equipment:		
Buildings, plant and equipment	$ 213,257	$ 213,329
Automobiles	1,180	1,281
Production tooling	15,526	16,540
Leasehold improvements	10,320	15,263
Computer equipment and software	26,381	27,880
Construction in progress	3,421	9,405
	270,085	283,698
Less: Accumulated depreciation	(98,705)	(83,404)
	$ 171,380	$ 200,294
Other intangible assets:		
Customer relationships	$ 87,316	$ 101,213
Technology	39,167	47,641
Product development costs	11,100	12,054
	$ 137,583	$ 160,908
Less: Accumulated amortization	(81,198)	(77,622)
	$ 56,385	$ 83,286
Accrued liabilities:		
Tax accruals	$ 6,468	$ 16,169
Accrued warranty	4,514	5,382
Accrued employee liabilities	25,449	25,503
Liabilities from discounts and rebates	16,907	16,057
Other accrued liabilities	12,470	14,098
	$ 65,808	$ 77,209

Note 4 — Income Taxes

U.S. Tax Reform

As of December 31, 2017, the Company had not completed its accounting for the tax effects of the Tax Cuts and Jobs Act (Tax Act); however, in accordance with guidance provided by Staff Accounting Bulletin No. 118 (SAB 118), the Company made a provisional estimate of $20,153 for the effects on our existing deferred tax balances, the one-time transition tax and our indefinite reinvestment assertion regarding foreign subsidiary earnings. The measurement period begins in the reporting period that includes the Tax Act’s enactment date, which was December 22, 2017, and ends when the additional information is obtained, prepared, or analyzed to complete the accounting requirements under ASC Topic 740. The measurement periods should not extend beyond one year from the enactment date.

(In thousands, except share and per share data)

Note 4 — Income Taxes – (Continued)

As of December 31, 2018, the Company evaluated the provisional amounts initially recorded for the year ended December 31, 2017 and recorded adjustments based on updates to the Company's assumptions and the application of additional interpretative guidance as issued during 2018. The adjustments are primarily a result of refining the net deferred tax asset position with the completion of our 2017 U.S. income tax return and changing tax accounting methods that affected the timing of certain US tax deductions. These adjustments resulted in (i) a decrease in our existing deferred tax asset balances which resulted in an income tax expense of $4,950 and (ii) a net increase to the one-time transition tax which resulted in an income tax expense of $24,625. No adjustment was required to the $9,578 tax benefit included in the provision for income taxes as of December 31, 2017 to offset the one-time transition tax related to the previous deferred tax liability that existed for the undistributed foreign earnings that were not permanently reinvested. As of December 31, 2018, the total income tax expense was $19,997 for the year ended December 31, 2017, as compared to the provisional estimate of $20,153. In accordance with the Security and Exchange Commission's Staff Accounting Bulletin No. 118 (SAB 118), at December 31, 2018, the Company had completed its accounting for the tax effects of the Tax Act.

The deferred tax assets and deferred tax liabilities and related valuation allowance were comprised of the following:

	December 31,	
	2018	2017
Deferred tax assets:		
Net operating losses	7,666	12,731
Intangible assets	42,853	—
Research and development credits	8,211	27,257
Depreciation	6,321	5,571
Valuation reserves and accrued liabilities	4,849	6,020
Foreign tax credit	376	—
Stock compensation	4,128	3,955
Inventory	1,069	2,062
Patents	150	163
Defined benefit obligation	1,796	1,977
Other credits	1,291	589
Unrealized foreign currency exchange loss	—	2,556
Other	2,499	36
	81,209	62,917
Valuation allowance	(9,977)	(27,578)
Deferred tax liabilities:		
Intangible assets	—	(2,925)
Unrealized foreign currency exchange gains	(554)	—
Undistributed profits of subsidiary	(4,352)	(6,450)
Property and equipment	(2,896)	(1,611)
Other	(583)	(548)
	(8,385)	(11,534)
Net deferred tax asset	$ 62,847	$ 23,805

(In thousands, except share and per share data)

Note 4 — Income Taxes – (Continued)

Reconciliations between the statutory Federal income tax rate of 21% and 34% and the effective rate of income tax expense for each of the three years in the period ended December 31, 2018 are as follows:

	Year Ended December 31, 2018	2017	2016
Statutory Federal income tax rate	21.0%	34.0%	34.0%
Increase (Decrease) resulting from:			
U.S. Taxes on foreign income, net of taxes paid credit	—	—	1.3%
Change in valuation allowance	(6.6%)	10.6%	5.3%
Foreign, state and local tax, net of Federal benefit	1.8%	0.8%	1.1%
Nondeductible expenses	3.4%	2.4%	2.4%
Stock option compensation	—	(2.2%)	—
Research and development credits	(2.5%)	(4.6%)	(0.7%)
Effect of different tax rates of foreign jurisdictions	(6.6%)	(20.8%)	(15.0%)
Undistributed profits of subsidiaries	1.2%	5.8%	7.9%
Tax reform items	10.8%	29.1%	—
Other tax exempt income	—	—	—
Tax effects of intercompany transfers	0.8%	(5.0%)	(5.3%)
Other	4.6%	(1.0%)	(0.3%)
Effective rate	27.9%	49.1%	30.7%

The Company has Net Operating Loss ("NOL") carryforwards as follows:

Jurisdiction	Amount as of December 31, 2018	Years of Expiration
U.S. Federal and state income tax	$ 80,337	2019- 2037
Foreign	$ 15,912	2019- 2038
Foreign	$ 5,776	Indefinite

A portion of the U.S. Federal NOLs was incurred prior to the June 8, 1999 Preferred Financing, which qualified as a change in ownership under Section 382 of the Internal Revenue Code ("IRC"). Due to this change in ownership, the NOL accumulated prior to the change in control can only be utilized against current earnings up to a maximum annual limitation of approximately $591. As a result of the annual limitation, approximately $2,191 remaining of these carryforwards are expected to expire before ultimately becoming available to reduce future tax liabilities in addition to $17,158 in NOLs generated prior to the change in control which have already expired without being utilized.

We have incurred NOLs in various states associated with the benefits of the state dividends received reduction along with the foreign royalty exclusion. The state net operating loss carryforwards expire at various dates from 2019 to 2037. Management has concluded that it is more likely than not that a majority of these NOLs will not be utilized, and thus has not recognized the benefit of these NOLs.

At December 31, 2018, certain non-U.S. subsidiaries have net operating loss carryforwards totaling $21,688. This amount includes $15,912 in NOLs that expire at various dates from 2019 through 2038 and the remaining $5,776 have no expiration date. The Company has a valuation allowance recorded against $5,746 of the total non-U.S. subsidiaries' net operating loss carryforwards as of December 31, 2018. In 2014 through 2018, we incurred NOLs in Vietnam associated with the startup activities of new production facilities. The remaining NOLs are expected to be utilized in 2019 through 2020 as the locations maintain profitability. We also incur NOLs in Luxembourg associated with our foreign holding company legal structure. Management has concluded that it is more likely than not these NOLs will not be utilized, and thus has not recognized the benefit of these NOLs.

(In thousands, except share and per share data)

Note 4 — Income Taxes – (Continued)

On January 1, 2017, the Company adopted Accounting Standards Update (“ASU”) 2016-09, “Improvements to Employee Share-Based Payment Accounting.” Under the new standard, income tax benefits and deficiencies are recognized as an income tax expense or benefit in the income statement and the tax effects of exercised or vested awards should be treated as discrete items in the period they occur. The update also requires the Company to recognize excess tax benefits regardless of whether the benefit reduces taxes payable in the current period. The standard also required a modified retrospective adoption for previously unrecognized excess tax benefits. Accordingly, the Company recognized a deferred tax asset and a corresponding credit to retained earnings equal to $1,496 in conjunction with the adoption. The effects of adopting the other provisions of ASU 2016-09 resulted in approximately 2% reduction of the effective tax rate during 2017.

The earnings before income taxes and our tax provision are comprised of the following:

	Year Ended December 31,		
	2018	2017	2016
Income before income taxes:			
Domestic	$ 10,092	$ 1,258	$ 12,981
Foreign	48,027	67,997	97,582
Total income before income taxes	$ 58,119	$ 69,255	$ 110,563

	Year Ended December 31,		
	2018	2017	2016
Current income tax expense (benefit):			
Federal	$ 340	$ 4,140	$ 9,215
State and local	(71)	150	749
Foreign	9,224	24,672	32,844
Total current income tax expense	$ 9,493	$ 28,962	$ 42,808
Deferred income tax expense (benefit):			
Federal	$ (1,422)	$ 15,207	$ (10,597)
State and local	20	2,308	(742)
Foreign	8,129	(12,449)	2,496
Total deferred income tax expense	$ 6,727	$ 5,066	$ (8,843)
Total tax expense	$ 16,220	$ 34,028	$ 33,965

As of December 31, 2018 the previously recognized deferred taxes related to earnings from foreign subsidiaries has been reversed since all of these earnings are subject to the one-time transition tax and are not taxable upon repatriation to the United States. However, the Company continues to provide a deferred tax liability for foreign withholding tax that will be incurred with respect to the undistributed foreign earnings that are not permanently reinvested.

The Company is subject to taxation in the United States and various state and foreign jurisdictions. As of December 31, 2018, the Company is no longer subject to U.S. Federal examinations by tax authorities for tax years before 2014 and is no longer subject to foreign examinations by tax authorities for tax years before 2012.

During 2015, to entice the Company to construct a new facility in Macedonia, the government of Macedonia granted the Company a tax holiday that released the Company from the obligation to pay corporate income taxes for a ten year period, subject to certain limitations. The amount of corporate income tax savings realized by the Company as a result of this tax holiday during 2018 and 2017, respectively, was zero as a result of operating losses generated during each period. The aggregate dollar effect and per share effect of the corporate income tax holiday during 2018 and 2017 was, therefore, immaterial.

(In thousands, except share and per share data)

Note 4 — Income Taxes – (Continued)

At December 31, 2018, 2017 and 2016, the Company had total unrecognized tax benefits of $2,854, $4,522 and $4,486, respectively, all of which, if recognized, would affect the effective income tax rates. The reconciliation of the beginning and ending amount of unrecognized tax benefits is as follows:

	Year Ended December 31,		
	2018	2017	2016
Balance at beginning of year	$ 4,522	$ 4,486	$ 4,443
Additions based on tax position related to current year	221	1,758	80
Additions based on tax positions related to prior year	458	4	366
Reductions from settlements and statute of limitation expiration	(2,179)	(2,247)	(299)
Effect of foreign currency translation	(168)	529	(104)
Balance at end of year	$ 2,854	$ 4,522	$ 4,486

The Company classifies income tax-related penalties and net interest as income tax expense. In the years ended December 31, 2018, 2017 and 2016 income tax related interest and penalties were insignificant. The Company believes that it is reasonably possible that there may be a decrease to its unrecognized tax benefits in the next 12 months due to audit settlements and statute expirations, but the amount expected to reverse is insignificant in relation to the consolidated financial statements.

Note 5 — Debt

Credit Agreement

The Company, together with certain direct and indirect subsidiaries, have an outstanding credit agreement (the “Credit Agreement”) with a consortium of lenders and Bank of America, N.A., as administrative agent. The Credit Agreement provides the Company a revolving credit note (“U.S. Revolving Note”) with a maximum borrowing capacity of $350,000.

All subsidiary borrowers and guarantors participating in the Credit Agreement have entered into a related pledge and security agreement. The security agreement grants a security interest to the lenders in substantially all of the personal property of subsidiaries designated as borrowers to secure their respective obligations under the Credit Agreement, including stock and membership interest of specified subsidiaries (limited to 66% of the stock in case of certain non-U.S. subsidiaries). The Credit Agreement restricts the amount of dividend payments the Company can make to shareholders.

The Credit Agreement requires the Company to maintain a minimum Consolidated Interest Coverage Ratio and a Consolidated Leverage Ratio. Definitions for these financial ratios are provided in the Credit Agreement.

Under the Credit Agreement, U.S. Dollar denominated loans bear interest at either a base rate (“Base Rate Loans”) or Eurocurrency rate (“Eurocurrency Rate Loans”), plus a margin (“Applicable Rate”). The base rate is equal to the highest of the Federal Funds Rate (2.40% at December 31, 2018) plus 0.50%, Bank of America’s prime rate (5.50% at December 31, 2018), or a one month Eurocurrency rate (0.00% at December 31, 2018) plus 1.00%. The Eurocurrency rate for loans denominated in U.S. Dollars is equal to the London Interbank Offered Rate (2.50% at December 31, 2018). All loans denominated in a currency other than the U.S. Dollar must be Eurocurrency Rate Loans. Interest is payable at least quarterly.

The Applicable Rate varies based on the Consolidated Leverage Ratio reported by the Company. As long as the Company is not in default of the terms and conditions of the Credit Agreement, the lowest and highest possible Applicable Rate is 1.25% and 2.00%, respectively, for Eurocurrency Rate Loans and 0.25% and 1.00%, respectively, for Base Rate Loans.

The Company also has two fixed interest rate loans with the German Investment Corporation (“DEG”), a subsidiary of KfW banking group, a German government-owned development bank.

(In thousands, except share and per share data)

Note 5 — Debt – (Continued)

DEG China Loan

The first, a loan we used to fund capital investments in China (the "DEG China Loan"), is subject to semi-annual principal payments that began March, 2015 and end September, 2019. Under the terms of the DEG China Loan, the Company must maintain a minimum Debt-to-Equity Ratio, Current Ratio and Debt Service Coverage Ratio, as defined by the DEG China Loan agreement, based on the financial statements of Gentherm's wholly owned subsidiary, Gentherm Automotive Systems (China) Ltd.

DEG Vietnam Loan

The Company's second fixed interest rate senior loan agreement with DEG was used to finance the construction and set up of the Vietnam production facility ("DEG Vietnam Loan"). The DEG Vietnam Loan is subject to semi-annual principal payments that began November, 2017 and will end May, 2023. Under the terms of the DEG Vietnam Loan, the Company must maintain a minimum Currency Ratio, Equity Ratio and Enhanced Equity Ratio, as defined by the DEG Vietnam Loan agreement, based on the financial statements of Gentherm's wholly owned subsidiary, Gentherm Vietnam Co. Ltd.

As of December 31, 2018, we were in compliance with all terms as outlined in the Credit Agreement, DEG China Loan and DEG Vietnam Loan. Undrawn borrowing capacity under the U.S. Revolving Note was $221,871 as of December 31, 2018. The following table summarizes the Company's debt at December 31, 2018.

	Interest Rate	Principal Balance
Credit Agreement:		
U.S. Revolving Note (U.S. Dollar Denominations)	4.02%	$ 122,000
U.S. Revolving Note (Euro Denominations)	1.50%	$ 5,727
DEG China Loan	4.25%	913
DEG Vietnam Loan	5.21%	11,250
Total debt		$ 139,890
Current portion		(3,413)
Long-term debt, less current maturities		$ 136,477

The following table summarizes the Company's debt at December 31, 2017.

	Interest Rate	Principal Balance
Credit Agreements:		
U.S. Revolving Note (U.S. Dollar Denominations)	3.07%	129,000
DEG China Loan	4.25%	1,919
DEG Vietnam Loan	5.21%	13,750
Total debt		$ 144,669
Current portion		(3,460)
Long-term debt, less current maturities		$ 141,209

(In thousands, except share and per share data)

Note 5 — Debt – (Continued)

The scheduled principal maturities of our debt as of December 31, 2018 is as follows:

Year	U.S. Revolving Note	DEG China Loan	DEG Vietnam Loan	Total
2019	$ —	$ 913	$ 2,500	$ 3,413
2020	—	—	2,500	2,500
2021	127,727	—	2,500	130,227
2022	—	—	2,500	2,500
2023	—	—	1,250	1,250
Total	$ 127,727	$ 913	$ 11,250	$ 139,890

Note 6 — Accounting for Stock Based Compensation

On May 16, 2013, the Compensation Committee of the Company's Board of Directors (the "Board") approved the Gentherm Incorporated 2013 Equity Incentive Plan (the "2013 Plan"), covering 3,500,000 shares of our Common Stock. On May 19, 2017 the 2013 Plan was amended, increasing the amount of available shares by 2,000,000. The 2013 Plan permits the granting of various awards including stock options (including both nonqualified options and incentive options), stock appreciation rights ("SARs"), restricted stock and restricted stock units, performance shares and certain other awards to employees, outside directors and consultants and advisors of the Company. All shares of our Common Stock that remained available for issuance under the Amended and Restated 2006 Stock Incentive Plan (the "2006 Plan") and the Gentherm Incorporated 2011 Equity Incentive Plan (the "2011 Plan), were reduced to zero; however, some options under the 2006 Plan are still outstanding. As of December 31, 2018, the Company had an aggregate of 1,567,594 shares of Common Stock available to issue under the 2013 Plan.

All plans are administered by the Compensation Committee of the Board. The selection of participants, allotment of shares, determination of price and other conditions are determined by the Compensation Committee at its sole discretion, in order to attract and retain personnel instrumental to the success of the Company. Stock options, for example, granted under such plans have lives for a period of up to ten years from the date of grant at an exercise price which is not less than the fair market value of the Common Stock on the date of the grant.

During the three year period ended December 31, 2018, the Company has outstanding stock options, stock appreciation rights ("SARs"), restricted stock awards and restricted stock units to employees, directors and consultants. These awards become available to the recipient upon the satisfaction of a vesting condition, either based on a period of service or based on the performance of a specific achievement. For equity based awards with a service condition, the requisite service period typically ranges between three to five years for employees and consultants and one year for directors. As of December 31, 2018, there were 129,577 performance based restricted stock units outstanding. These awards vest over a three-year period after the Company's achievement of either a target return on invested capital ratio ("ROIC"), as defined in the award agreement, for a specified fiscal year, or the Company's common stock market price returning a target total shareholder return ("TSR"), as defined, during a specific three-year measurement period. Approximately one-half of the performance based restricted stock units are paid based on the ROIC condition, while the other one-half are paid based on the TSR condition. In each case, awards will pay out 50% of the target number of shares for achieving a minimum threshold or up to 200% of the target number of shares for exceeding the target. All other outstanding, unvested equity-based awards were service based. Equity-based award vesting may be accelerated at the discretion of the Board.

Total unrecognized compensation cost related to nonvested options, restricted stock and SARs outstanding under all of the Company's equity plans was $15,932 and $18,593 as of December 31, 2018 and 2017, respectively. That cost is expected to be recognized over a weighted average period of two years. Compensation expense for the years ended December 31, 2018, 2017 and 2016 was $12,177, $12,727 and $8,147, respectively. No share-based payment arrangements expired during the three-year period ended December 31, 2018. If Gentherm were to realize expired shared-based payment arrangements, they would be reported as a forfeit in the activity roll forward tables below.

(In thousands, except share and per share data)

Note 6 — Accounting for Stock Based Compensation – (Continued)

Stock Options

The following table summarizes stock option activity during the three-year period ended December 31, 2018:

Options	Shares	Weighted-Average Exercise Price	Weighted-Average Remaining Contractual Term	Aggregate Intrinsic Value
Outstanding at December 31, 2015	1,530,845	$ 27.46		
Granted	862,000	40.87		
Exercised	(112,875)	13.24		
Forfeited	(176,500)	39.32		
Outstanding at December 31, 2016	2,103,470	$ 32.72	4.86	$ 12,265
Granted	808,500	37.23		
Exercised	(202,328)	13.62		
Forfeited	(57,500)	42.54		
Outstanding at December 31, 2017	2,652,142	$ 35.34	4.76	$ 6,964
Granted	—	—		
Exercised	(615,358)	24.01		
Forfeited	(383,784)	39.59		
Outstanding at December 31, 2018	1,653,000	38.53	4.28	$ 3,610
Exercisable at December 31, 2016	675,152	$ 21.40	3.45	$ 9,646
Exercisable at December 31, 2017	984,374	$ 29.84	3.44	$ 6,534
Exercisable at December 31, 2018	788,125	$ 38.15	3.71	$ 2,200

The fair value of each option is estimated on the date of grant using the Black-Scholes option-pricing model in order to measure the compensation cost associated with the award. This model incorporates certain assumptions for inputs including a risk-free interest rate, expected dividend yield of the underlying Common Stock, expected option life and expected volatility in the market value of the underlying Common Stock. The following assumptions were used for options issued in the following periods:

	2018	2017	2016
Expected volatility	NA	33%	37%
Weighted average expected volatility	NA	33%	37%
Expected lives	NA	3 yrs.	3 yrs.
Risk-free interest rate	NA	1.49-1.93%	0.90-1.07%
Expected dividend yield	none	none	none

NA – No new stock options were granted during 2018.

Expected volatilities are based on the historical volatility of the Company’s Common Stock. The Company uses historical exercise data and several other factors in developing an assumption for the expected lives of stock options, including the average holding period of outstanding options and their remaining terms. The risk-free interest rate is based upon quoted market yields for United States Treasury debt securities. The expected dividend yield is based upon the Company’s history of having never issued a dividend, the limitations to issue a dividend under terms of the Credit Agreement and management’s current expectation regarding future dividends. We do not expect any of the options granted to be forfeited for purposes of computing fair value.

(In thousands, except share and per share data)

Note 6 — Accounting for Stock Based Compensation – (Continued)

The weighted-average grant-date fair value of options granted during the year ended December 31, 2017 and 2016 was $9.11 and $10.74, respectively. There were no stock options granted during the year ended December 31, 2018. The total intrinsic value of options exercised during the year ended December 31, 2018, 2017 and 2016 was $5,061, $4,715 and $2,456, respectively.

Restricted Stock

The following table summarizes restricted stock activity during the three-year period ended December 31, 2018:

Unvested Restricted Shares	Shares	Weighted-Average Grant-Date Fair Value
Outstanding at December 31, 2015	179,026	$ 34.92
Granted	141,784	39.73
Vested	(100,330)	32.47
Forfeited	(9,999)	40.99
Outstanding at December 31, 2016	210,481	$ 39.02
Granted	237,542	37.30
Vested	(165,923)	37.99
Forfeited	—	—
Outstanding at December 31, 2017	282,100	$ 38.06
Granted	21,681	35.00
Vested	(130,684)	38.62
Forfeited	(36,531)	37.60
Outstanding at December 31, 2018	136,566	$ 37.16

The compensation cost associated with restricted shares is estimated on the date of grant using quoted market prices (Level 1 input). The total fair value of restricted shares vested in 2018, 2017 and 2016 was $4,599, $6,006 and $3,865, respectively.

Restricted Stock Units

The following table summarizes restricted stock unit activity during the year ended December 31 2018:

		Performance Based Awards		
Unvested Restricted Stock Units	Time Vesting Shares	ROIC Target Shares	TSR Target Shares	Total
Outstanding at December 31, 2017	—	—	—	—
Granted	86,392	64,785	64,792	215,969
Vested	—	—	—	—
Forfeited	—	—	—	—
Outstanding at December 31, 2018	86,392	64,785	64,792	215,969

No restricted stock units were granted prior to 2018.

(In thousands, except share and per share data)

Note 6 — Accounting for Stock Based Compensation – (Continued)

Stock Appreciation Rights

The following table summarizes SARs activity during the three-year period ended December 31, 2018:

Stock Appreciation Rights	Units		Weighted-Average Exercise Price	Weighted-Average Remaining Contractual Term		Aggregate Intrinsic Value
Outstanding at December 31, 2015	1,049,850	$	34.61			
Granted	244,000		40.64			
Exercised	(18,750)		24.28			
Forfeited	(30,500)		28.23			
Outstanding at December 31, 2016	1,244,600	$	36.11	4.80	$	3,511
Granted	235,000		38.05			
Exercised	(94,250)		22.21			
Forfeited	(193,000)		32.53			
Outstanding at December 31, 2017	1,192,350	$	38.17	4.36	$	2,278
Granted	—		—			
Exercised	(204,250)		26.35			
Forfeited	—		—			
Outstanding at December 31, 2018	988,100	$	40.61	3.57	$	2,064
Exercisable at December 31, 2016	424,992	$	34.49	4.39	$	2,315
Exercisable at December 31, 2017	613,808	$	37.68	3.72	$	1,904
Exercisable at December 31, 2018	683,600	$	41.21	3.09	$	1,728

The total intrinsic value of SARs converted during the year ended December 31, 2018, 2017 and 2016 was $3,532, $1,495 and $261, respectively.

Note 7 — Earnings Per Share

The Company's diluted earnings per share give effect to all potential common shares outstanding during a period that do not have an anti-dilutive impact to the calculation. The following summarizes the shares included in the dilutive shares as disclosed in the statements of income:

	Year ended December 31,		
	2018	2017	2016
Weighted average number of shares for calculation of basic EPS – Common Stock	35,920,782	36,720,749	36,448,138
Stock options, restricted stock awards and restricted stock units under equity incentive plans	256,362	92,970	152,665
Weighted average number of shares for calculation of diluted EPS – Common Stock	36,177,144	36,813,719	36,600,803

The accompanying table represents Common Stock issuable upon the exercise of certain stock options and that have been excluded from the diluted earnings calculation because the effect of their inclusion would be anti-dilutive.

	Year ended December 31,		
	2018	2017	2016
Stock options outstanding for equity incentive plans	898,250	2,055,784	1,314,784

(In thousands, except share and per share data)

Note 7 — Earnings Per Share – (Continued)

See Note 6 for information about the Company's different equity incentive plans.

Note 8 — Commitments and Contingencies

The Company's operating leases cover primarily buildings and underlying real estate, office equipment and automobiles. The Company has also entered into multiple year software subscription service agreements We do not have lease arrangements with related parties. A summary of lease and purchase commitments as of December 31, 2018, under all non-cancelable operating leases and service agreements with terms exceeding one year is as follows:

2019	$	7,530
2020		5,016
2021		2,468
2022		2,152
2023		1,532
2024 or later		4,021
Total	$	22,719

The Company does not have any outstanding capital lease agreements or purchase obligations that exceed one year. Rent expense under all of the Company's operating leases was $8,366, $ 8,424 and $7,479 for 2018, 2017 and 2016, respectively.

We are subject to litigation from time to time in the ordinary course of our business; however, there is no current material pending litigation to which we are a party as of December 31, 2018 and 2017, respectively. No material legal proceeding was terminated, settled or otherwise resolved during the fiscal year ended December 31, 2018 and 2017, respectively.

Note 9 — Segment Reporting

Segment information is used by management for making operating decisions for the Company. Management evaluates the performance of the Company's segments based primarily on operating income or loss. As discussed in Note 17, Gentherm acquired Etratech on November 1, 2017. The acquisition enhances key elements of our business strategy by greatly expanding our knowledge and capability to produce in-house electronic components for next generation intelligent thermal management products.

The Company's reportable segments are as follows:

- *Automotive* — this segment represents the design, development, manufacturing and sales of automotive climate comfort solutions, battery sub-systems, specialized automotive cable systems and automotive thermal convenience products. All of our activities with respect to electronics are also included in our Automotive segment because a majority of these activities relate to the manufacture of electronic components for our automotive products or the automotive products of third parties. Etratech's operating results are included within Gentherm's Automotive segment due to the concentration of Etratech's product applications within the automotive, recreational vehicle and marine industries.
- *Industrial* — the combined operating results of GPT, CSZ and Gentherm's advanced research and development division. We perform advanced research and development on thermal management systems, including those that utilize new proprietary comfort software algorithms, to enhance the efficiency and functionality of our automotive heating and cooling products. Unlike research and development that relates to a specific product application for a customer, advanced research and development activities affect products and technologies that aren't currently generating product revenue. The segment includes government sponsored research projects. See Note 15 for information regarding the Industrial segment assets and liabilities classified as held for sale.
- *Reconciling Items* — include corporate selling, general and administrative costs and acquisition transaction costs.

(In thousands, except share and per share data)

Note 9 — Segment Reporting – (Continued)

The tables below present segment information about the reported product revenues and operating income of the Company for years ended December 31, 2018, 2017 and 2016. With the exception of goodwill, asset information by segment is not reported since the Company does not manage assets at a segment level. As of December 31, 2018, goodwill assigned to our Automotive and Industrial segments were $37,533 and $17,778, respectively. Due to the classification GPT's and CSZ-IC's assets as held for sale, an additional $6,844 of goodwill is classified within assets held for sale on Gentherm's consolidated balance sheet as of December 31, 2018. As of December 31, 2017, goodwill assigned to our Automotive and Industrial segments were $38,912 and $30,773, respectively.

	Automotive	Industrial	Reconciling Items	Consolidated Total
2018:				
Product revenues	$ 948,592	$ 89,667	$ —	$ 1,038,259
Depreciation and amortization	43,621	4,384	2,633	50,638
Operating income (loss)	152,051	(22,530)	(56,733)	72,788
2017:				
Product revenues	$ 879,457	$ 106,226	$ —	$ 985,683
Depreciation and amortization	36,801	5,399	2,772	44,972
Operating income (loss)	166,378	(14,751)	(54,529)	97,098
2016:				
Product revenues	$ 847,428	$ 70,172	$ —	$ 917,600
Depreciation and amortization	31,826	3,789	2,149	37,764
Operating income (loss)	174,027	(16,702)	(51,206)	106,119

Automotive and Industrial segment product revenues by product category for each of the years ended December 31, 2018, 2017 and 2016 are as follows:

	2018	%	2017	%	2016	%
Climate Control Seat (CCS)	$ 374,816	36%	$ 387,961	40%	$ 405,795	44%
Seat Heaters	305,337	29%	307,309	31%	288,939	32%
Steering Wheel Heaters	69,845	7%	62,125	6%	49,516	5%
Automotive Cables	98,931	9%	92,093	9%	85,283	9%
Battery Thermal Management (BTM) (1)	28,472	3%	10,043	1%	6,546	1%
Etratech	54,267	5%	8,398	1%	—	0%
Other Automotive	16,924	2%	11,528 (2)	1%	11,349	1%
Subtotal Automotive	948,592	91%	879,457	89%	847,428	92%
Remote Power Generation (GPT)	19,222	2%	31,891	3%	18,628	2%
Cincinnati Sub-Zero Products (CSZ)	70,445	7%	74,335	8%	51,544	6%
Subtotal Industrial	89,667	9%	106,226	11%	70,172	8%
Total Company	$ 1,038,259	100%	$ 985,683	100%	$ 917,600	100%

(1) Battery Thermal Management or BTM product revenues include Gentherm's automotive grade, low cost, heat resistant fans and blowers used by customer for battery cooling through ventilation and production level shipments of the advanced TED based active cool system which began during the fourth quarter of 2017.

(2) Includes $2.0 million rebate to customer during 2017.

(In thousands, except share and per share data)

Note 9 — Segment Reporting – (Continued)

The Industrial operating loss is net of reimbursement for developmental expenses of $1,117, $2,116 and $641 for the years ended 2018, 2017 and 2016, respectively. Reconciling items include selling, general and administrative costs of $42,857, $43,457 and $39,059, respectively, for the years ended December 31, 2018, 2017 and 2016 and acquisition costs of $0, $789 and $743 for the years ended December 31, 2018, 2017 and 2016, respectively.

Revenue (based on shipment destination) by geographic area is as follows:

	2018	%	2017	%	2016	%
United States	$ 488,926	47%	$ 454,669	46%	$ 449,065	49%
China	93,628	9%	93,645	9%	80,493	9%
Germany	88,366	9%	71,768	7%	70,258	8%
Japan	62,633	6%	57,467	6%	45,103	5%
South Korea	58,717	6%	64,715	7%	75,396	8%
Canada	44,500	4%	46,368	5%	37,954	4%
Czech Republic	42,665	4%	38,828	4%	38,164	4%
United Kingdom	37,533	4%	36,033	4%	28,540	3%
Romania	22,435	2%	18,050	2%	11,907	1%
Other	98,856	9%	104,320	10%	80,720	9%
Total Non U.S.	549,333	53%	531,014	54%	468,535	51%
	$ 1,038,259	100%	$ 985,683	100%	$ 917,600	100%

We rely on three customers, two domestic and one foreign, to derive a significant portion of our product revenues. The table below lists the percentage of total product revenues generated from sales to these customers:

	2018	2017	2016
Lear (domestic)	17%	20%	21%
Adient (domestic)	16%	18%	21%
Bosch (foreign)	8%	8%	8%

Note 10 — Pension and Other Post Retirement Benefit Plans

On August 8, 2008 the Company established The Executive Nonqualified Defined Benefit Plan of Gentherm Incorporated (the “Plan”), an unfunded executive pension plan, with an effective date of April 1, 2008. The Company’s former Chief Executive Officer, Daniel R. Coker, is the only participant in the Plan.

On May 10, 2017 the Company amended (the “Plan Amendment”) the Plan. Prior to the Plan Amendment, the Plan provided for 15 annual retirement benefit payments of $300,000 each beginning January 1, 2018. Mr. Coker became fully vested in the benefits under the Benefit Plan on April 1, 2017. The Plan Amendment provided that if Mr. Coker continued to provide employment service to the Company through and including January 1, 2018, the fifteen annual retirement benefit payments would be increased to $342,000, otherwise the 15 annual retirement benefits would remain at $300,000.

On June 28, 2017, the same day a leader transition plan leading up to Mr. Coker’s retirement was announced, the Company entered into a Retirement Agreement with Mr. Coker (the “Retirement Agreement”). The Retirement Agreement provided that if Mr. Coker’s retirement date was prior to January 1, 2018, the Company would amend the terms of the Plan, as amended, to accelerate the in-service vesting date to ensure an increase in the annual accrued benefit from $300,000 to $342,000. Mr. Coker became fully vested in the incremental benefit, as described in the Plan Amendment, on December 4, 2017.

(In thousands, except share and per share data)

Note 10 — Pension and Other Post Retirement Benefit Plans – (Continued)

The Company records a projected benefit obligation representing the present value of future plan benefits when earned by the participant. The following table sets forth the benefit obligation, amounts recognized in the Company's financial statements and the principal assumptions used:

	2018	2017
Change in projected benefit obligation:		
Benefit obligation at beginning of year	$ 4,218	$ 3,419
Service cost	—	101
Interest cost	114	111
Actuarial (gain) loss	(158)	78
Prior service cost	(342)	509
Benefit obligation at end of year	$ 3,832	$ 4,218

The portion of the benefit obligation from the Plan expected to be paid in 2019 is classified as a current liability within accrued liabilities in the Company's consolidated balance sheet. The remaining portion is classified as a non-current liability within pension benefit obligations. Service and interest cost is included in selling, general and administrative expenses in the Company's consolidated statements of income and actuarial gains and losses are included the Company's consolidated balance sheet as part of accumulated other comprehensive income within shareholders' equity. Actuarial gains or losses are amortized to selling, general and administrative expense in the Company's consolidated statements of income based on the average future service life of the Plan using the corridor method. A discount rate assumption of 3.65%, 2.95% and 3.25% was used to determine the benefit obligation for the years ended December 31, 2018, 2017 and 2016, respectively. A discount rate assumption of 2.95%, 3.25% and 3.40% was used to determine the net periodic service cost for years ended December 31, 2018, 2017 and 2016, respectively. Prior service costs reflect an increase to the projected benefit obligation as a result of the Plan Amendment, which retroactively increased benefits. Prior service cost is included in selling, general and administrative expenses in the Company's consolidated statements of income. We do not expect contributions to be paid to the Plan during the next fiscal year.

Although the Plan is not funded, the Company has established a separate trust having the sole purpose of paying benefits under the Plan. The only asset of the trust is a corporate-owned life insurance policy ("COLI"). The COLI is valued at fair value using quoted prices listed in active markets (Level 1 input based on the U.S. GAAP fair value hierarchy). The policy value of the COLI was $2,148 and $2,353 as of December 31, 2018 and 2017, respectively, and was included in other non-current assets.

Components of the Plan's net periodic pension benefit cost for the years ended December 31, 2018, 2017 and 2016 are as follows:

	2018	2017	2016
Service cost	$ —	$ 101	$ 387
Interest cost	114	111	98
Amortization of prior service cost	—	509	—
Net periodic benefit cost	$ 114	$ 721	$ 485

(In thousands, except share and per share data)

Note 10 — Pension and Other Post Retirement Benefit Plans – (Continued)

Pretax amounts recognized in other comprehensive income for the years ended December 31, 2018, 2017 and 2016 are as follows

	2018	2017	2016
Actuarial Losses/(gains)	$ (158)	$ 78	$ 36
Amortization of actuarial losses	—	—	—
Establish prior service cost	—	509	—
Amortization prior service cost	—	(509)	—
	$ (158)	$ 78	$ 36

Tax expense of $73 was recognized in other comprehensive income related to the Plan for the year ended December 31, 2018, which included $40 due to the adoption of ASU 2018-02. See Note 13 for additional information about ASU 2018-02 and its impact in to Gentherm’s financial statements. Tax benefit of $26 was recognized in other comprehensive income related to the Plan for the year ended December 31, 2017. Tax expense of $14 was recognized in other comprehensive income related to the Plan for the year ended December 31, 2016.

Pretax unrecognized actuarial losses recorded in accumulated other comprehensive loss not yet recognized in net periodic benefit cost were $222 and $380 as of December 31, 2018 and 2017, respectively. No amount of pretax unrecognized actuarial loss recorded in accumulated other comprehensive income as of December 31, 2018 are expected to be recognized as components of net periodic benefit cost in the year ending December 31, 2019.

Gentherm GmbH has an established defined benefit plan for retired and current members of its executive management team.

Gentherm GmbH records a projected benefit obligation representing the present value of future plan benefits when earned by the participant. The following table sets forth the benefit obligation and amounts recognized in the Company’s financial statements:

	2018	2017
Change in projected benefit obligation:		
Benefit obligation at beginning of year	$ 7,927	$ 7,326
Interest cost	147	130
Paid pension distributions	(292)	(272)
Actuarial (gains)/losses	114	(257)
Exchange rate impact	(367)	1,000
Benefit obligation at end of year	$ 7,529	$ 7,927

The following table sets forth the fair value of the plan assets for the periods ending December 31, 2018 and 2017:

	2018	2017
Change in plan assets:		
Plan assets at beginning of year	$ 3,891	$ 3,326
Actual return on plan assets	130	121
Contributions	292	272
Paid pension distributions	(292)	(272)
Actuarial losses	(30)	(28)
Exchange rate impact	(183)	472
Plan assets at end of year	$ 3,808	$ 3,891

(In thousands, except share and per share data)

Note 10 — Pension and Other Post Retirement Benefit Plans – (Continued)

The $3,720 and $4,036 net liability from the Gentherm GmbH plan as of December 31, 2018 and 2017, respectively, is classified as a noncurrent liability in pension benefit obligation.

Pretax amounts recognized in other comprehensive (loss) income for the years ended December 31, 2018, 2017 and 2016 are as follows:

	2018	2017	2016
Actuarial (gains)/losses	$ 143	$ (229)	$ 718
Amortization of actuarial losses	(73)	(78)	(48)
Amortization of prior service cost	—	—	—
	$ 70	$ (307)	$ 670

Tax expense of $19 was recognized in other comprehensive income related to the Gentherm GmbH defined benefit plan for the year ended December 31, 2018. Tax expense of $86 and tax benefit of $171 were recognized in other comprehensive income for the years ended December 31, 2017 and 2016, respectively.

Pretax unrecognized actuarial losses recorded in accumulated other comprehensive loss not yet recognized in net periodic benefit cost were $2,372 and $2,416 as of December 31, 2018 and 2017, respectively. We expect $74 of pretax unrecognized actuarial loss recorded in accumulated other comprehensive income as of December 31, 2018 to be recognized as components of net periodic benefit cost in the year ending December 31, 2019.

Components of the Plan's net periodic pension benefit cost for the years ended December 31, 2018, 2017 and 2016 are as follows:

	2018	2017	2016
Interest cost	$ 147	$ 130	$ 154
Return on plan assets	(130)	(121)	(125)
Amortization of prior service cost	—	—	—
Amortization of actuarial loss (gains)	73	78	48
Net periodic benefit cost	$ 90	$ 87	$ 77

The Gentherm GmbH defined benefit plan is underfunded by $3,720 and $4,036 as of December 31, 2018 and 2017, respectively. The net periodic benefit cost is included in selling, general and administrative expenses in the Company's consolidated statements of income and actuarial gains and losses are included the Company's consolidated balance sheet as part of accumulated other comprehensive income within shareholders' equity. Actuarial gains or losses are amortized to selling, general and administrative expense in the Company's consolidated statements of income using the corridor method. The following table describes the actuarial assumptions used to determine the benefit obligation and the net periodic service cost:

	2018	2017	2016
Discount rate	2.04%	1.93%	1.69%
Expected long term rate of return on plan assets	3.40%	3.40%	3.40%

(In thousands, except share and per share data)

Note 10 — Pension and Other Post Retirement Benefit Plans – (Continued)

Plan assets are comprised of Gentherm GmbH's pension insurance policies and are pledged to the beneficiaries of the plan. A market valuation technique, based on observable underlying insurance charges, is used to determine the fair value of the pension plan assets (Level 2). The expected return on plan assets assumption used to calculate Gentherm GmbH's pension benefit obligation was determined using actual returns realized on plan assets in the prior year. We do not expect contributions to be paid to the Gentherm GmbH defined benefit plan during the next fiscal year.

The schedule of expected pension payments made to Gentherm GmbH defined benefit plan participants over the next 10 years is as follows:

Year		
2019	$	287
2020		285
2021		283
2022		279
2023		290
2024 - 2028		1,344
Total	$	2,768

Gentherm has adopted a 401(k) plan to provide all eligible employees a means to accumulate retirement savings on a tax-advantaged basis, and eligible executive officers can participate in this plan on the same basis as other participants. Participants may defer specified portions of their compensation. On a discretionary basis, the Company matches a portion of the employee contributions. The Plan also allows for additional discretionary contributions. Gentherm made $1,471, $1,396 and $1,289 in matching contributions to the 401(k) plan in 2018, 2017 and 2016, respectively.

On December 31, 2018, Gentherm adopted the Gentherm Incorporated Deferred Compensation Plan (the "Management Plan"), effective January 1, 2019. The Management Plan's purpose is to attract and retain a select group of management or highly compensated employees who will contribute significantly to the future business success of the Company by providing supplemental retirement income benefits. No contributions were made to the Management Plan as of December 31, 2018.

Note 11 — Fair Value Measurement

The Company bases fair value on the price that would be received to sell an asset or paid to transfer a liability in an orderly transaction between market participants at the measurement date. We have adopted a fair value hierarchy to measure fair value into three broad levels, which are described below:

Level 1: Quoted prices (unadjusted) in active markets that are accessible at the measurement date for assets or liabilities. The fair value hierarchy gives the highest priority to Level 1 inputs.

Level 2: Inputs, other than quoted market prices included in Level 1, that are observable either directly or indirectly for the asset or liability

Level 3: Unobservable inputs are used when little or no market data is available. The fair value hierarchy gives the lowest priority to Level 3 inputs.

In determining fair value, the Company utilizes valuation techniques that maximize the use of observable inputs and minimize the use of unobservable inputs to the extent possible and also considers counterparty credit risk in its assessment of fair value.

Note 11 — Fair Value Measurement – (Continued)

Except for derivative instruments (see Note 12), pension liabilities, pension plan assets and a corporate owned life insurance policy (see Note 10), and assets and liabilities held for sale (see Note 15), the Company has no financial assets and liabilities that are carried at fair value at December 31, 2018 and 2017. The carrying amounts of financial instruments comprising cash and cash equivalents, accounts receivable, accounts payable and accrued liabilities approximate their fair values due to the relatively short maturity of such instruments. The Company uses an income valuation technique to measure the fair values of its debt instruments by converting amounts of future cash flows to a single present value amount using rates based on current market expectations (Level 2 inputs).

As of December 31, 2018 and 2017, the carrying values of the Company's Credit Agreement indebtedness were not materially different than their estimated fair values because the interest rates on variable rate debt approximated rates currently available to the Company (see Note 5). Discount rates used to measure the fair value of Gentherm's DEG Vietnam Loan and DEG China Loan are based on quoted swap rates. As of December 31, 2018, the carrying values of the DEG Vietnam Loan and DEG China Loan were $11,250 and $913, respectively, as compared to an estimated fair value of $11,100 and $900, respectively. As of December 31, 2017, the carrying value of the DEG Vietnam Loan and DEG China Loan were $13,750 and $1,919, as compared to an estimated fair value of $13,600 and $2,000, respectively.

Certain Company assets are required to be recorded at fair value on a non-recurring basis when events and circumstances indicate that the carrying value may not be recoverable. See Note 15 for information regarding impairment losses recognized on assets and liabilities classified as held for sale in 2018. As of December 31, 2017, the Company did not realize any changes to the fair value of these assets due to the non-occurrence of events or circumstances that could negatively impact their recoverability.

Note 12 — Derivative Financial Instruments

We are exposed to market risk from changes in foreign currency exchange rates, short-term interest rates and price fluctuations of certain material commodities such as copper. Market risks for changes in interest rates relate primarily to our debt obligations under our Amended Credit Agreement. Foreign currency exchange risks are attributable to sales to foreign customers and purchases from foreign suppliers not denominated in a location's functional currency, foreign plant operations, intercompany indebtedness, intercompany investments and include exposures to the European Euro, Mexican Peso, Canadian Dollar, Hungarian Forint, Macedonian Denar, Ukrainian Hryvnia, Japanese Yen, Chinese Renminbi, Korean Won and Vietnamese Dong.

The Company regularly enters into derivative contracts with the objective of managing its financial and operational exposure arising from these risks by offsetting gains and losses on the underlying exposures with gains and losses on the financial instruments used to hedge them. The maximum length of time over which we hedge our exposure to foreign currency exchange risks is one year. We had foreign currency derivative contracts with a notional value of $33,250 and $29,273 outstanding at December 31, 2018 and 2017, respectively.

The maximum length of time over which we hedge our exposure to price fluctuations in material commodities is two years. We had copper commodity swap contracts with a notional value of $0 and $404 outstanding at December 31, 2018 and 2017, respectively.

(In thousands, except share and per share data)

Note 12 — Derivative Financial Instruments – (Continued)

We do not enter into derivative financial instruments for speculative or trading purposes. Our hedging relationships are formally documented at the inception of the hedge, and hedges must be highly effective in offsetting changes to future cash flows on hedged transactions both at the inception of a hedge and on an ongoing basis to be designated for hedge accounting treatment. For derivative contracts which can be classified as a cash flow hedge, the effective portion of the change in the fair value of the derivative is recorded to accumulated other comprehensive loss in the consolidated balance sheet. When the underlying hedge transaction is realized, the gain or loss included in accumulated other comprehensive loss is recorded in earnings in the consolidated statement of income on the same line as the gain or loss on the hedged item attributable to the hedged risk. We record the ineffective portion of foreign currency hedging instruments, if any, to foreign currency gain (loss) in the consolidated statements of income. See Note 14 for the amount of unrealized loss associated with foreign currency derivatives and copper commodity derivatives reported in accumulated other comprehensive income as of December 31, 2017 that was reclassified into earnings during 2018. Though we continuously monitor the hedging program, derivative positions and hedging strategies, foreign currency forward exchange agreements have not always been designated as hedging instruments for accounting purposes.

The Company uses an income approach to value derivative instruments, analyzing quoted market prices to calculate the forward values and then discounts such forward values to the present value using benchmark rates at commonly quoted intervals for the instrument's full term.

Information related to the recurring fair value measurement of derivative financial instruments in our consolidated balance sheet as of December 31, 2018 is as follows:

			Asset Derivatives		Liability Derivatives		
	Hedge Designation	Fair Value Hierarchy	Balance Sheet Location	Fair Value	Balance Sheet Location	Fair Value	Net Asset/ (Liabilities)
Foreign currency derivatives	Cash flow hedge	Level 2	Current assets	$ 92	Current liabilities	$ —	$ 92

Information related to the recurring fair value measurement of derivative financial instruments in our consolidated balance sheet as of December 31, 2017 is as follows:

			Asset Derivatives		Liability Derivatives		
	Hedge Designation	Fair Value Hierarchy	Balance Sheet Location	Fair Value	Balance Sheet Location	Fair Value	Net Asset/ (Liabilities)
Foreign currency derivatives	Cash flow hedge	Level 2	Current assets	$ 141	Current liabilities	$ (1,050)	$ (909)
Commodity derivatives	Cash flow hedge	Level 2	Current assets	$ 72			$ 72

(In thousands, except share and per share data)

Note 12 — Derivative Financial Instruments – (Continued)

Information related to the effect of derivative instrument`s on our consolidated statements of income is as follows:

	Location	Year Ended December 31, 2018	Year Ended December 31, 2017
Foreign currency derivatives	Product Revenues	$ —	$ (3)
	Cost of sales	(444)	2,209
	Selling, general and administrative	75	(216)
	Other comprehensive income	1,096	302
	Foreign currency gain	50	(112)
Total foreign currency derivatives		$ 777	$ 2,180
Commodity derivatives	Cost of sales	$ 145	$ 202
	Other comprehensive (loss) income	$ (218)	$ 54
Total commodity derivatives		$ (73)	$ 256

We did not incur any hedge ineffectiveness during the years ended December 31, 2018 and 2017.

Note 13 — New Accounting Pronouncements

Recently Adopted Accounting Pronouncements

Revenue from Contracts with Customers

In May 2014, the FASB issued Accounting Standard Update ("ASU") 2014-09, "Revenue from Contracts with Customers." ASU 2014-09 was developed to enable financial statement users to better understand the nature, amount, timing and uncertainty of revenue and cash flows arising from contracts with customers. The update's core principal is that an entity should recognize revenue to depict the transfer of promised goods or services to customers in an amount that reflects the consideration to which the entity expects to be entitled in exchange for those good or services. Issuers are to use a five-step contract review model to ensure revenue is measured, recognized, and disclosed in accordance with this principle. The FASB issued several amendments to the update, including a one-year deferral of the original effective date, and new methods for identifying performance obligations that are intended to reduce the cost and complexity of compliance.

We adopted ASU 2014-09 and related amendments effective January 1, 2018 using the cumulative catch-up transition method, which required us to disclose the cumulative effect of initially applying the update recognized at the date of initial application. We elected to apply the guidance in ASU 2014-09 to contracts that were not completed at January 1, 2018.

The most significant impact from adoption of ASU 2014-09 occurred within our Automotive segment and relates to our accounting for production part purchase options that grant customers a material right to purchase additional parts under long-term supply agreements in the future. Due to the complexity of certain of our automotive supply contracts, the actual revenue recognition treatment for customer purchase options will depend on contract-specific terms and could vary from other contracts that are similar in nature. Revenue recognition related to goods and services reported in the Industrial segment remains substantially unchanged.

(In thousands, except share and per share data)

Note 13 – New Accounting Pronouncements – (Continued)

The amount by which each financial statement line item was affected by application of ASU 2014-09 and related amendments during 2018 is as follows:

	Revenue Based on Previously Effective Guidance	New Revenue Standard Adjustment	Revenue Based on New Revenue Standard
Year Ended December 31, 2018			
Product revenues	$ 1,035,773	$ 2,486	$ 1,038,259
Income tax expense	16,727	507	16,220
Net income	39,920	1,979	41,899
Basic earnings per share	1.11	0.06	1.17
Diluted earnings per share	1.10	0.06	1.16

	Revenue Based on Previously Effective Guidance	New Revenue Standard Adjustment	Revenue Based on New Revenue Standard
Balance Sheet December 31, 2018			
Accounts receivable, net of allowance for doubtful accounts	$ 166,858	$ —	$ 166,858
Accrued liabilities(a)	$ 64,211	$ 1,597	$ 65,808
Unearned revenue(a)	$ —	$ 1,597	$ 1,597
Deferred income taxes, net	$ 62,522	$ 325	$ 62,847
Accumulated earnings	$ 365,237	$ (1,272)	$ 363,965

a) During 2018, unearned revenues associated with GPT and CSZ-IC were classified as liabilities held for sale. As of December 31, 2018, 5,351 in unearned revenues associated with GPT and CSZ-IC were classified as liabilities held for sale.

Adoption of ASU 2014-09 and related amendments had no impact to cash from or used in operating, investing or financing activities on our consolidated statements of cash flows.

Statement of Cash Flows

In August 2016, the FASB issued ASU 2016-15, “Statement of Cash Flows (Topic 230): Classification of Certain Cash Receipts and Cash Payments.” ASU 2016-15 provides guidance on the classification of eight specific cash receipt and cash payment transactions in the statement of cash flows. The Company focused its evaluation on the following transactions to determine the effect ASU 2016-15 will have on the Company’s Consolidated Statements of Cash Flows:

1) Debt extinguishment payments and debt prepayments are to be shown as cash outflows for financing activities. Previously, Gentherm classified debt extinguishment payments within operating activities.

2) Payments made to settle contingent consideration liabilities not made soon after the acquisition date of a business combination should be recognized as cash outflows for financing activities up to the amount of the liability recognized at the acquisition date. Payments, or the portion of a payment, to settle contingent consideration liabilities that exceed the amount of the liability recognized at the acquisition date will be recognized as cash outflows for operating activities.

3) Cash receipts from the settlement of insurance claims, excluding those related to corporate-owned life insurance policies shall be classified on the basis of the related insurance coverage. For example, proceeds received to cover claims issued under product recall liability insurance would be classified as cash inflows from operating activities.

4) Cash receipts from the settlement of corporate-owned life insurance policies shall be classified as cash inflows from investing activities.

Note 13 – New Accounting Pronouncements – (Continued)

We have adopted ASU 2016-15 and related amendments effective January 1, 2018. None of the cash receipt and cash payment transactions addressed by the update occurred during any of the periods presented in this report. Adoption of this update and related amendments did not have a material impact on the cash flows of the Company.

Income Taxes

In October 2016, the FASB issued ASU 2016-16, "Income Taxes (Topic 740): Intra-Entity Transfers of Assets Other Than Inventory." ASU 2016-16 modifies the current prohibition to recognize deferred income taxes from differences between the tax basis of assets in the buyer's tax jurisdiction and their cost resulting from an intra-entity transfer from one tax-paying component to another tax-paying component of the same consolidated group. Under current GAAP, deferred income taxes for intra-entity asset transfers are not recognized until the asset is sold to an outside party. ASU 2016-16 allows entities to recognize the income tax consequences of an intra-entity transfer of an asset other than inventory when the transfer occurs.

We adopted ASU 2016-16 and related amendments effective January 1, 2018 on a modified retrospective basis through a cumulative-effect adjustment directly to retained earnings as of such adoption date. As a result of the amendments in ASU 2016-16, a favorable adjustment of $31,645 was recorded directly to retained earnings. The new deferred tax assets will be recognized ratably over the useful life of the applicable assets.

Accumulated Other Comprehensive Income

In February 2018, the FASB issued ASU 2018-02, "Income Statement – Reporting Comprehensive Income (Topic 220): Reclassification of Certain Tax Effects from Accumulated Other Comprehensive Income." ASU 2018-02 provides a remedy to a narrow-scope financial reporting issue created by the Tax Act. The Tax Act required entities to adjust deferred tax assets and liabilities to reflect the impact from newly enacted lower corporate income tax rates and recognize the effect in income from continuing operations. This requirement applied to all deferred tax assets and liabilities, even those which arose from transactions originally recognized in other comprehensive income. The amendments in ASU 2018-02 allow adjustments to deferred tax assets and liabilities due to newly enacted lower corporate income tax rates to be recognized in retained earnings, if those deferred tax balances arose from transactions originally recognized in other comprehensive income.

Income tax effects are released from accumulated other comprehensive income and recorded against the deferred tax balance in the consolidated balance sheet when the underlying activity is realized.

ASU 2018-02 is effective for annual and interim periods beginning after December 15, 2018. Early adoption of the amendments in this update is permitted, including adoption in any interim period for which financial statements have not yet been issued. The amendments in ASU 2018-02 must be applied in the period of adoption or retrospectively to each period in which the effect of the change in U.S. federal corporate income tax rate in the Tax Act is recognized. We elected to early adopt ASU 2018-02 and related amendments effective January 1, 2018. An adjustment of $40 was recognized against retained earnings for effect of the change in the federal corporate income tax rate on deferred tax amounts. There are no related adjustments to the Company's valuation allowance and no other income tax effects from the Tax Act on balances that remain in accumulated other comprehensive income were reclassified.

Tax Act

In January 2018, the FASB released guidance on the accounting for tax on the global intangible low-taxed income ("GILTI") provisions of the Tax Act. The GILTI provisions impose a tax on foreign income in excess of deemed return on tangible assets of foreign corporations. During the first quarter of 2018, the Company elected to treat any potential GILTI inclusions as a period cost.

Note 13 – New Accounting Pronouncements – (Continued)

Goodwill Impairment

In January 2017, the FASB issued ASU 2017-04, "Intangibles – Goodwill and Other (Topic 350): Simplifying the Test for Goodwill Impairment." ASU 2017-04 modified the concept of impairment of goodwill to be a condition that exists when the carrying value of a reporting unit that includes goodwill exceeds its fair value. An entity should recognize an impairment charge for the amount by which the carrying amount exceeds the reporting unit's fair value, limited to the total amount of goodwill allocated to that reporting unit. Entities no longer will determine goodwill impairment by calculating the implied fair value of goodwill by assigning the fair value of a reporting unit to all of its assets and liabilities as if the reporting unit had been acquired in a business combination.

ASU 2017-04 is effective for annual and any interim goodwill impairment tests in fiscal years beginning after December 15, 2019. Early adoption of the amendments in this update is permitted. The amendments in ASU 2017-04 must be applied on a prospective basis and in the initial period of adoption, entities must disclose the nature of and reason for the change in accounting principle. The Company has adopted the accounting principles in ASU 2017-04 and applied them to our test for goodwill impairment. See Note 15 for information about the goodwill impairment loss recognized during 2018.

Recently Issued Accounting Pronouncements Not Yet Adopted

Derivatives and Hedging

In October 2018, the FASB issued ASU 2018-16, "Derivatives and Hedging (Topic 815): Inclusion of the Secured Overnight Financing Rate (SOFR) Overnight Index Swap (OIS) Rate as a Benchmark Interest Rate for Hedge Accounting Purposes." ASU 2018-16 adds the OIS Rate based on SOFR to the list of eligible benchmark interest rates that can be used for hedge accounting purposes under Topic 815. SOFR is a volume-weighted median interest rate that is calculated daily based on overnight transactions from the prior day's trading activity in specified segments of the U.S. Treasury repo market. The designation of the OIS rate based on SOFR as a benchmark interest rate for hedge accounting purposes is in response to ongoing concerns about the sustainability of LIBOR and the Federal Reserve's intent to have a suitable alternative to USD LIBOR that is more firmly based on actual transactions in a robust market. Prior to this update, the only eligible benchmark interest rates were the interest rates on direct Treasury obligations of the U.S. government (UST), the LIBOR swap rate, the OIS Rate based on the Fed Funds Effective Rate and the Securities Industry and Financial Markets Association (SIFMA) Municipal Swap Rate.

ASU 2018-16 is effective for annual and interim periods beginning after December 15, 2018. Early adoption of the amendments in this update is permitted. The amendments in this update should be adopted on a prospective basis for qualifying new or redesigned hedging relationships entered into on or after the date of adoption. While the Company has not executed any U.S. benchmark interest rate transactions in order to apply hedge accounting under Topic 815, we are currently in the process of determining the impact implementation of ASU 2018-16 will have on our strategy approach to the management of interest rate risk.

Cloud Computing Arrangements That Are Service Contracts

In August 2018, the FASB issued ASU 2018-15, "Intangibles – Goodwill and Other – Internal-Use Software (Subtopic 350-40): Customer's Accounting for Implementation Costs Incurred in a Cloud Computing Arrangement That Is a Service Contract." ASU 2018-15 provides guidance on when costs incurred to implement a hosting arrangement that is a service contract are and are not capitalized, aligning with the guidance for capitalizing implementation costs incurred to develop or obtain internal-use software. Entities must first determine the project stage of the implementation activity; depending on their nature, costs for implementation activities in the application development stage are capitalized and costs incurred during the preliminary project and post-implementation stages are expensed as the activities are performed. Capitalized implementation costs should be amortized over the term of the hosting arrangement on a straight-line basis and presented in the same line items in the consolidated statement of income as the expense for fees for the associated hosting arrangements. Similarly, capitalized implementation costs should be presented in same line item in the balance sheet as prepaid fees for the associated hosting arrangement and cash flows from capitalized implementation costs should be classified in the same manner as cash flows for the fees for the associated hosting arrangement.

Note 13 – New Accounting Pronouncements – (Continued)

ASU 2018-15 is effective for annual and interim periods beginning after December 15, 2019. Early adoption of the amendments in this update is permitted, including adoption in any interim period for which financial statements have not yet been issued. ASU 2018-15 permits two methods of adoption: prospectively to costs for activities performed on or after the date the entity first applies the content from the update, or retrospectively to all periods presented. We are currently in the process of determining the impact implementation of ASU 2018-15 will have on the Company's financial statement note disclosures.

Retirement Benefits

In August 2018, the FASB issued ASU 2018-14, "Compensation – Retirement Benefits – Defined Benefit Plans – General (Subtopic 715-20): Disclosure Framework – Changes to the Disclosure Requirements for Defined Benefit Plans." The amendments in ASU 2018-14 were developed using the concepts incorporated in the FASB's Concepts Statement, *Conceptual Framework for Financial Reporting – Chapter 8: Notes to Financial Statements,* which were finalized in August 2018. The amendments in this update remove the following disclosure requirements, among others, from Subtopic 715-20:

1) The amounts in accumulated other comprehensive income expected to be recognized as components of net periodic benefit cost over the next fiscal year.
2) The amount and timing of plan assets expected to be returned to the employer.

The following disclosure requirements were added to Subtopic 715-20:

1) The weighted-average interest crediting rates for cash balance plans and other plans with promised interest crediting rates.
2) An explanation of the reasons for significant gains and losses related to changes in the benefit obligation for the period.

ASU 2018-14 is effective for annual periods ending after December 15, 2020. Early adoption of the amendments in this update are permitted. Entities should apply the amendments in this update on a retrospective basis to all periods presented. We are currently in the process of determining the impact implementation of ASU 2018-14 will have on the Company's financial statement note disclosures.

Fair Value Measurement

In August 2018, the FASB issued ASU 2018-13, "Fair Value Measurement (Topic 820): Disclosure Framework – Changes to the Disclosure Requirements for Fair Value Measurement." The amendments in ASU 2018-13 were developed using the concepts incorporated in the FASBs Concepts Statement, *Conceptual Framework for Financial Reporting – Chapter 8: Notes to Financial Statements,* which were finalized in August 2018. The amendments in this update remove the following disclosure requirements from Topic 820:

1) The amount of and reasons for transfers between Level 1 and Level 2 of the fair value hierarchy.
2) The policy for timing of transfer between levels.
3) The valuation processes for Level 3 fair value measurements.

The following disclosure requirements were added to Topic 820:

1) The changes in unrealized gains and losses for the period included in other comprehensive income for recurring Level 3 fair value measurements held at the end of the reporting period.
2) The range and weighted average of significant unobservable inputs used to develop Level 3 fair value measurements.

Note 13 – New Accounting Pronouncements – (Continued)

ASU 2018-13 is effective for annual and interim periods beginning after December 15, 2019. Early adoption of disclosures that are removed is permitted, but adoption is delayed for the new additional disclosures until their effective date. The amendments in ASU 2018-13 that provide for new additional disclosure should be applied on a prospective basis, while all other amendments should be applied retrospectively to all periods presented upon their effective date. We are currently in the process of determining the impact implementation of ASU 2018-13 will have on the Company's financial statement note disclosures.

Leases

In February 2016, the FASB issued ASU 2016-02, "Leases (Topic 842)." ASU 2016-02 requires lessees to recognize on their balance sheet a liability to make lease payments and a right-of-use asset representing its right to use the underlying asset for the lease term. Payments to be made in optional periods should be included in the measurement of lease assets and liabilities if the lessee is reasonably certain it will exercise an option to extend the lease or not exercise an option to terminate the lease. While ASU 2016-02 continues to differentiate between finance or capital leases and operating leases, the principal change from current lease accounting guidance is that lease assets and liabilities arising from operating leases will be recognized on the balance sheet.

ASU 2016-02 is effective for fiscal years and interim periods beginning after December 15, 2018. Early adoption of the amendments in this update are permitted. The FASB has issued several amendments to ASU 2016-02, including ASU 2018-11, "Leases (Topic 842): Targeted Improvements" that introduced an additional transition method permitting an entity to initially apply the new lease standard at the adoption date and recognize a cumulative-effect adjustment to the opening balance of retained earnings in the period of adoption. We expect elect this transition method.

ASU 2016-02 includes optional practical expedients intended to reduce the cost and complexity to implement the new lease standard, such as an option to maintain the current lease classification for all existing lease arrangements and the option to use hindsight in evaluating lessee options to extend or terminate a lease. We expect to elect these practical expedients. The Company expects to add right-of-use assets and the corresponding liabilities to the consolidated balance sheet equal to approximately 1.5% to 2.5% of total assets as of the implementation date. Any differences between the total carrying value of right-of-use assets and lease liabilities will be recognized as a reduction to the 2019 opening balance in retained earnings.

(In thousands, except share and per share data)

Note 14 – Reclassifications Out of Accumulated Other Comprehensive Income (Loss)

Reclassification adjustments and other activities impacting accumulated other comprehensive income (loss) during the year ended December 31, 2018, December 31, 2017 and December 31, 2016 are as follows:

	Defined Benefit Pension Plans	Foreign Currency Translation Adjustments	Commodity Hedge Derivatives	Foreign Currency Hedge Derivatives	Total
Balance at December 31, 2017	$ (2,366)	$ (17,555)	$ 277	$ (800)	$ (20,444)
Cumulative effect of accounting change due to adoption of ASU 2018-02	(49)	—	9	—	(40)
Other comprehensive income (loss) before reclassifications	18	(19,212)	—	1,342	(17,852)
Income tax effect of other comprehensive income (loss) before reclassifications	(15)	(390)	—	(337)	(742)
Amounts reclassified from accumulated other comprehensive income (loss) into net income	73	—	(218) [a]	(246) [a]	(391)
Income taxes reclassified into net income	—	—	(68)	37	(31)
Net current period other comprehensive income (loss)	27	(19,602)	(277)	796	(19,056)
Balance at December 31, 2018	$ (2,339)	(37,157)	—	(4)	(39,500)

(a) The amounts reclassified from accumulated other comprehensive income (loss) are included in cost of sales. See Note 12 for information related to the effect of commodity and foreign currency derivative instrument`s on our consolidated statements of income.

	Defined Benefit Pension Plans	Foreign Currency Translation Adjustments	Commodity Hedge Derivatives	Foreign Currency Hedge Derivatives	Total
Balance at December 31, 2016	$ (2,550)	$ (65,762)	$ 241	$ (1,020)	$ (69,091)
Other comprehensive income (loss) before reclassifications	166	48,059	254	2,123	50,602
Income tax effect of other comprehensive income (loss) before reclassifications	(60)	148	(93)	(570)	(575)
Amounts reclassified from accumulated other comprehensive income (loss) into net income	78	—	(199) [a]	(1,822) [a]	(1,943)
Income taxes reclassified into net income	—	—	74	489	563
Net current period other comprehensive income (loss)	184	48,207	36	220	48,647
Balance at December 31, 2017	$ (2,366)	$ (17,555)	$ 277	$ (800)	$ (20,444)

(a) The amounts reclassified from accumulated other comprehensive income (loss) are included in cost of sales. See Note 12 for information related to the effect of commodity and foreign currency derivative instrument`s on our consolidated statements of income.

(In thousands, except share and per share data)

Note 14 – Reclassifications Out of Accumulated Other Comprehensive Income (Loss) – (Continued)

	Defined Benefit Pension Plans	Foreign Currency Translation Adjustments	Commodity Hedge Derivatives	Foreign Currency Hedge Derivatives	Total
Balance at December 31, 2015	$ (2,060)	$ (49,381)	$ (229)	$ —	$ (51,670)
Other comprehensive income (loss) before reclassifications	(723)	(16,678)	154	(1,351)	(18,598)
Income tax effect of other comprehensive income (loss) before reclassifications	185	297	(57)	363	788
Amounts reclassified from accumulated other comprehensive income (loss) into net income	48	—	589 [a]	(44) [a]	593
Income taxes reclassified into net income	—	—	(216)	12	(204)
Net current period other comprehensive income (loss)	(490)	(16,381)	470	(1,020)	(17,421)
Balance at December 31, 2016	$ (2,550)	$ (65,762)	$ 241	$ (1,020)	$ (69,091)

(a) The amounts reclassified from accumulated other comprehensive income (loss) are included in cost of sales. See Note 12 for information related to the effect of commodity and foreign currency derivative instrument`s on our consolidated statements of income.

We expect all of the existing gains and losses related to foreign currency and commodity derivatives reported in accumulated other comprehensive income as of December 31, 2018 to be reclassified into earnings during the twelve month period ending December 31, 2019.

Note 15 – Assets and Liabilities Held for Sale

During 2018, Gentherm determined GPT and CSZ-IC met the held for sale criteria and recorded an impairment on assets held for sale of $2,190 in impairment loss to adjust net book value to fair value less costs to sell. See Note 2 for information about the Company’s held for sale accounting policy, including a description of the criteria necessary for a disposal group to qualify for classification as held for sale. GPT and CSZ-IC did not meet the criteria to be classified as a discontinued operation.

(In thousands, except share and per share data)

Note 15 – Assets and Liabilities Held for Sale – (Continued)

The assets and liabilities of the disposal group classified as held for sale as of December 31, 2018 are as follows:

Accounts receivable, less allowance of $96	$	10,868
Inventory, net		13,925
Prepaid expenses and other assets		263
Property and equipment, net		29,459
Goodwill		6,844
Other intangible assets, net		6,326
Deferred income tax assets		4,204
Other non-current assets		—
Impairment loss		(2,190)
Total assets held for sale	$	69,699
Accounts payable	$	2,614
Accrued liabilities		10,448
Total liabilities held for sale	$	13,062

Losses before income taxes from GPT and CSZ-IC during 2018, including $2,190 in impairment loss recognized on held for sale assets, $6,151 in impairment loss on goodwill and $3,135 in impairment loss recognized on other intangible assets, were $15,747. Losses before income taxes from GPT and CSZ-IC during 2017 were $1,949. Management's estimates used to record impairment expense are inherently uncertain and may change in future periods.

Note 16 – Unearned Revenue

Unearned revenue by segment was as follows:

	December 31, 2018	December 31, 2017
Automotive	$ 1,597	$ —
Industrial	—	4,889
Total	$ 1,597	$ 4,889

Changes in unearned revenue were as follows:

Year Ended December 31, 2018		
Balance, beginning of period	$	4,889
Additions to unearned revenue		21,774
Reclassified to revenue		(19,677)
Reclassified to liabilities held for sale		(5,351)
Currency impacts		(38)
Balance, end of period	$	1,597

Revenue allocated to remaining performance obligations represent contracted revenue that has not yet been recognized, which includes unearned revenue and amounts that will be invoiced and recognized as revenue in future periods.

(In thousands, except share and per share data)

Note 17 — Etratech Acquisition

Etratech designs, develops, manufactures and sells electronic control modules and control systems to customers across a range of industries, including automotive, recreational vehicles and marine, HVAC systems and medical, amongst others. Each function is part of an integrated, customer-focused process designed to exceed customer expectations for product quality, reliability and cost. Etratech's global manufacturing footprint will enable us to provide customers with scalable and flexible manufacturing solutions across a variety of application and geographies.

Results of operations for Etratech are included in the Company's consolidated financial statements beginning November 1, 2017. Etratech contributed $8,398 in product revenues and a net loss of $510 for the year ended December 31, 2017.

Purchase Price Allocation

The purchase price of $65,009, net of cash acquired of $670, has been allocated to the values of assets acquired and liabilities assumed as of November 1, 2017. An appraisal by an independent third party valuation firm was completed to assist management in determining the fair value of acquired assets and assumed liabilities, including identifiable intangible assets. The fair values of acquired assets and assumed liabilities were determined using the cost approach that relied primarily internal sources of data to make assumptions that are not observable in the market (Level 3 inputs). The purchase price allocation was finalized during the first quarter of 2018. The allocation as of November 1, 2017 was as follows:

Accounts receivable	$	12,654
Inventory		7,014
Prepaid expenses and other assets		535
Property and equipment		6,205
Customer relationships		24,774
Technology		8,588
Goodwill		14,881
Assumed liabilities		(9,642)
Net assets acquired		65,009
Cash acquired		670
Purchase price	$	65,679

The gross contractual amount due of accounts receivable is $12,654, all of which was subsequently collected.

Supplemental Pro Forma Information

The unaudited pro forma combined historical results including the amounts of Etratech revenue and earnings that would have been included in the Company's consolidated statements of income had the acquisition date been January 1, 2017 or January 1, 2016 are as follows:

	Twelve Months Ended December 31,			
	2017		2016	
Product revenues	$	1,032,273	$	966,355
Net income	$	35,911	$	77,577
Basic earnings per share	$	0.98	$	2.13
Diluted earnings per share	$	0.98	$	2.12

The pro forma information includes adjustments for the effect of the amortization of intangible assets recognized in the acquisition. This pro forma information is not indicative of future operating results.

(In thousands, except share and per share data)

Note 17 – Etratech Acquisition – (Continued)

Goodwill

We recorded goodwill of approximately $14,881 arising from the acquisition. The acquired goodwill represents intangible assets that do not qualify for separate recognition. It is estimated that approximately $8,787 of the goodwill recognized will not be deductible for income tax purposes.

Intangible Assets

In conjunction with the acquisition, intangible assets of $33,362 were recorded. The Company's estimate of the fair value of these assets at the time of the acquisition was determined with the assistance of an independent third-party valuation firm. As part of the estimated valuation, an estimated useful life for the assets was determined.

Intangible assets, net consisted of the following:

	December 31, 2017			
	Gross Value	Accumulated Amortization	Net Value	Useful Life
Customer relationships	$ 24,774	$ 358	$ 24,416	8 -12 yrs
Technology	8,588	277	8,311	5 -6 yrs
Total	$ 33,362	$ 635	$ 32,727	

Amortization expense of $635 for the period November 1, 2017 through December 31, 2017 was recorded as follows:

	Three Months Ended December 31, 2017	Twelve Months Ended December 31, 2017
Product revenues	$ 358	$ 358
Research and development expenses	277	277

Amortization expense for the prospective five years is as follows:

2018	$ 3,769
2019	$ 3,769
2020	$ 3,769
2021	$ 3,706
2022	$ 3,278

Property, Plant & Equipment

Property and equipment consist of the following:

Asset category	Useful life	Amount
Leasehold improvements	10 yrs	$ 342
Machinery and equipment	4-11 yrs	5,248
Furniture and fittings	4 yrs	230
Motor Vehicles	3 yrs	25
Computer hardware and software	1 yrs	360
		$ 6,205

GENTHERM INCORPORATED

SCHEDULE II — VALUATION AND QUALIFYING ACCOUNTS

For the Years Ended December 31, 2018, 2017 and 2016

(In thousands)

Description	Balance at Beginning of Period	Charged to Costs and Expenses	Charged to Other Accounts	Deductions from Reserves	Balance at End of Period
Allowance for Doubtful Accounts					
Year Ended December 31, 2016	955	1,469	(270)	(763)	1,391
Year Ended December 31, 2017	1,391	1,239	51	(1,708)	973
Year Ended December 31, 2018	973	1,005	(121)	(1,006)	851
Allowance for Deferred Income Tax Assets					
Year Ended December 31, 2016	13,418	5,706	180	—	19,304
Year Ended December 31, 2017	19,304	6,700	1,574	—	27,578
Year Ended December 31, 2018	27,578	—	(14,009)	(3,592)	9,977
Reserve for Inventory					
Year Ended December 31, 2016	4,308	876	(68)	(326)	4,790
Year Ended December 31, 2017	4,790	3,521	302	(726)	7,887
Year Ended December 31, 2018	7,887	2,712	(1,047)	(3,282)	6,270

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.

GENTHERM INCORPORATED

By: /s/ Phillip Eyler
Phillip Eyler
Chief Executive Officer

Date: February 26, 2019

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 in the capacities and on the dates indicated.

Signature	Capacity	Date
/s/ PHILLIP EYLER PHILLIP EYLER	Director, President and Chief Executive Officer (Principal Executive Officer)	February 26, 2019
/s/ MATTEO ANVERSA MATTEO ANVERSA	Vice President of Finance, Chief Financial Officer and Treasurer (Principal Financial Officer and Principal Accounting Officer)	February 26, 2019
* FRANCOIS CASTAING	Director, Chairman of the Board	February 26, 2019
* SOPHIE DESORMIERE	Director	February 26, 2019
* MAURICE GUNDERSON	Director	February 26, 2019
* YVONNE HAO	Director	February 26, 2019
* RONALD HUNDZINSKI	Director	February 26, 2019
* CHARLES KUMMETH	Director	February 26, 2019
* BYRON SHAW	Director	February 26, 2019
* JOHN STACEY	Director	February 26, 2019

*By: /s/ Phillip Eyler
Phillip Eyler, Attorney-in-Fact

Exhibit 10.1

GENTHERM INCORPORATED

SUMMARY OF NON-EMPLOYEE DIRECTOR COMPENSATION

Non-employee directors of the Board receive a mix of cash and share-based compensation. Directors who are employees or officers of the Corporation do not receive any additional compensation for Board service. Cash compensation is paid in advance at the annual meeting of shareholders.

The compensation described herein will have effect starting with the 2019 annual meeting of shareholders.

In addition to reimbursement for out-of-pocket expenses, including those incurred in attending Board and committee meetings, non-employee directors receive the following:

- an annual fee of $75,000 ($115,000 for the Chairman of the Board and $80,000 for the Lead Independent Director, if one exists);

- an annual fee of $5,000 ($10,000 for the committee chair) for Compensation, Technology, and Corporate Governance Committee members;

  an annual fee of $5,000 ($15,000 for the committee chair) for Audit Committee members;

- an annual fee of $1,000 ($5,000 for the committee chair) for Nominating Committee members; and

- $100,000 in restricted stock granted as of the date of the annual meeting of shareholders; such restricted stock vests on the first anniversary of the date of grant, subject to the applicable director's continued service or retirement (all as under the terms of the Corporation's then-applicable incentive equity plan).

Exhibit 10.2

Amended and Restated
Gentherm Incorporated
Senior Level Performance Bonus Plan

(Effective as of January 1, 2019)

1. Purpose

The purpose of this Gentherm Incorporated Senior Level Performance Bonus Plan (the "Plan") is to attract, motivate, reward and retain eligible employees by making a portion of their cash compensation dependent on (i) the performance of Gentherm Incorporated (the "Company"), and (ii) individual performance.

2. Participants

The individuals to whom incentive bonus payments may be made hereunder shall be the executive officers of the Company, as determined by the Company's Board of Directors (the "Executive Officer Participants"), and such other key employees of the Company and subsidiaries of the Company as the Chief Executive Officer shall determine in his or her sole discretion (the "Other Participants" and, together with the Executive Officer Participants, the "Participants").

3. The Committee

(a) The Compensation Committee of the Board of Directors of the Company (the "Committee") shall administer and interpret the Plan for the Executive Officer Participants. With the oversight of the Committee, the Chief Executive Officer shall administer and interpret the Plan for the Other Participants; provided, however, that the Chief Executive Officer's administration and interpretation shall not be in direct conflict with the actions taken by the Committee. The Committee and the Chief Executive Officer, in the exercise of the foregoing powers, shall be referred to as the "Administrator."

(b) Subject to the express provisions and limitations of this Plan, applicable law and the listing standards of the Nasdaq Stock Market (or other national securities exchange, as applicable), the Administrator shall be authorized and empowered to do all things necessary or desirable, in its sole discretion, in connection with the administration of the Plan, including, without limitation, the following:

(i) To prescribe, amend and rescind rules and regulations relating to the Plan and to define terms not otherwise defined herein, and to take or approve such further actions as it determines necessary or appropriate to the administration of the Plan, such as correcting a defect or supplying any omission, or reconciling any inconsistency so that the Plan or any award complies with applicable law, regulations and listing requirements and so as to avoid unanticipated consequences or address unanticipated events deemed by the Administrator to be inconsistent with the purposes of the Plan;

(ii) To designate Participants, to establish performance goals, and to determine the incentive bonus payments, if any, to be made to such Participants;

(iii) To prescribe and amend the terms of any agreements or other documents under the Plan;

(iv) To determine whether, and the extent to which, adjustments are required pursuant to Section 5 hereof;

(v) To interpret and construe the Plan, any rules and regulations under the Plan, and the terms and conditions of any incentive bonus payment provided hereunder, and to make exceptions to any such provisions in good faith and for the benefit of the Company; and

(vi) To make all other determinations deemed necessary or advisable for the administration of the Plan.

(c) All decisions, determinations and interpretations by the Administrator regarding the Plan and incentive bonus payments shall be final and binding on all Participants. The Administrator may consider such factors, as it deems relevant to making such decisions, determinations and interpretations including, without limitation, the recommendations or advice of any director, officer or employee of the Company and such attorneys, consultants and accountants as it may select.

4. Target Bonus and Earned Bonus

(a) Each Participant will have a target incentive bonus for each fiscal year during the term of this Plan stated as a percentage of his or her annual base salary (the "Target Bonus Percentage"). Bonus payments under this Plan, if any, shall be paid based on performance measurements determined at the end of each year. Bonuses are based on Company and individual performances for the entire year.

As an example of the foregoing, if an individual with a salary of $100,000 has a 20% Target Bonus Percentage, such individual has a target bonus of $20,000. Example computations of the bonus payments to such hypothetical individual (the "Example Participant") are set forth further below.

(b) A Participant's annual base salary as of the last business day of the applicable Performance Period (as defined herein), as reflected in the Company's payroll records, shall be used to calculate the earned bonus for such Performance Period; provided, however, (i) for terminations under Sections 6(a)(i) or (iii) hereof prior to last business day of the Performance Period, the annual base salary in effect as of the date of termination shall be used and (ii) for a new hire under Section 7(a) hereof that is hired after the beginning of a Performance Period, the annual base salary in effect on the date of hire shall be used. The annual base salary used to calculate the earned bonus shall not be reduced for any contributions made to the Company's 401(k) plan or other deferred compensation plans, and shall be exclusive of any awards under the Plan or any other bonus, incentive (including equity incentive) or special pay awards.

(c) No incentive bonus payment shall be paid to a Participant unless he or she is an employee of the Company as of the payment date for the applicable Performance Period, except as permitted by Section 6 hereof.

(d) Financial results for Company Performance Goals (as defined herein) must be finalized as appropriate by the Chief Financial Officer (or person having similar duties) and must be computed using financial results audited by an independent registered public accounting firm before earned bonuses can be calculated and paid. Further, no incentive bonus payments will be made unless and until the Administrator approves payments in accordance with the Plan. The incentive bonus payments hereunder shall be made in cash in the employee's local currency (the same currency for which the employee receives his or her regular salary).

(e) Notwithstanding Section 4(d) hereof, Earned Bonuses (as defined herein) shall be paid in February or March of the year subsequent to the Performance Period, with the specific date of payment in such applicable periods determined by the Administrator.

5. Performance Measures and Earned Bonus

(a) January 1 through December 31 of each calendar year is referred to herein as the "Performance Period".

(b) A base bonus shall be determined for each Participant for each Performance Period based upon the achievement of the Company Performance Goals (defined below) for the applicable Performance Period (referred to as the "Base Bonus"). The Base Bonus shall be modified by the Individual Performance Modifier as set forth below, and as so modified shall be referred to as the "Modified Bonus". The Modified Bonus may be further modified by the Administrator in its sole discretion, and as so further modified or not, shall be referred to as the "Earned Bonus".

(c) Company Performance Goals.

(i) Unless other specific financial or non-financial measurements are established by the Committee, the Base Bonus shall be based upon the Company's actual revenue and the Company's actual earnings before interest, taxes, depreciation and amortization, deferred financing cost amortization, transaction expenses, debt retirement expenses, unrealized currency gain or loss, unrealized revaluation of derivatives and any other non-recurring adjustments that the Committee determines, in its discretion, should be excluded ("Adjusted EBITDA") for the Performance Period measured against revenue and Adjusted EBITDA targets pre-established by the Committee (the "Company Performance Goals"). If an unusual or extra-ordinary event significantly impacts the Company Performance Goals, the Committee has the discretion to adjust the Company Performance Goals as appropriate. The Committee shall determine, for each Performance Period, the relative weight of the revenue and Adjusted EBITDA targets (or other established targets) that comprise the Company Performance Goals. For example, the Committee may determine that the Company Performance Goals for a particular Performance Period should be based 50% on achievement of revenue targets and 50% on achievement of EBITDA targets. The Committee shall also determine, for each Performance Period, the "Threshold Company Performance", which is the minimum Company financial achievement necessary before any bonus may be paid under the Plan. The Threshold Company Performance for any particular Performance Period may be based solely on actual revenue, solely on actual Adjusted EBITDA, on a combination of both or on some other measurement.

(ii) The Base Bonus shall be calculated as 0% to 150% of the Target Bonus Percentage based on the achievement of each Company Performance Goal for the applicable Performance Period, as set forth in the table below. There shall be a linear increase in the Base Bonus earned between such threshold, target and maximum amounts.

Company Performance Goal	**Degree of Performance Achieved**	**Percent of Applied Target Bonus Percentage to Compute Base Bonus**
Below Threshold Company Performance	Below Threshold	0%
Threshold Company Performance	Threshold	50%
100% of Target	Target	100%
Maximum % or more of Target as established by the Committee	Maximum	150%

As an example of the foregoing, if, during a Performance Period, the Threshold Company Performance was established as 85% of target Adjusted EBITDA, the Company achieved more than 85% of the target Adjusted EBITDA and the Company achieved 95% of the Company Performance Goals (taking into account the relative weight of the Company Performance Goals), then, with respect to the Example Participant, the Base Bonus would be 83.33% of the Target Bonus (determined based on a linear increase between the Threshold and the Target above), which is 16.66% (83.33% x 20%) of salary for the Performance Period or $16,666.

(d) Individual Performance Modifier. The "Modified Bonus" shall be calculated as the Base Bonus multiplied by the Performance Modifier, as determined below. In no case, however, will the Modified Bonus exceed 200% of the Target Bonus. If any computation under this Plan results in a Modified Bonus in excess of 200% of the Target Bonus, then the Modified Bonus will be deemed to be exactly equal to 200% of the Target Bonus.

The Performance Modifier will be determined based on the achievement of individual goals for the Performance Period that may be objective and/or subjective as determined by the Administrator. One or more individual goals will be established for each Participant, with corresponding threshold, target and stretch performance measurement points. Each goal will be weighted so that the total weight of all goals is 100%. Achievement of the threshold performance for a particular goal, the lowest level of acceptable performance, will result in a 50% score for that goal; achievement of the target performance for a particular goal will result in a 100% score for that goal; and achievement of stretch performance for a particular goal, a superior level of performance above which no further increase in scoring is possible, will result in a 150% score for that goal. There shall be a linear adjustment to each score if goal achievement is between threshold and target or between target and stretch measurement points. The product of each goal's weight multiplied by the score for such goal is that goal's "Weighted Score". The sum of the Weighted Scores for all of a Participant's goals results in that Participant's Performance Modifier.

Continuing the example from above, if, during a Performance Period, the Example Participant had the following goals (which goals could be established in a wide variety of units, such as dollars, ratios, percentages, parts, units, time periods, incidents, etc.):

Goal #1 Threshold: 100Target: 200Stretch: 300Weight: 30%
Goal #2 Threshold: 40%Target: 50%Stretch: 60%Weight: 25%
Goal #3 Threshold: 0.5 Target: 1Stretch: 1.75Weight: 10%
Goal #4 Threshold: 30Target: 60Stretch: 120Weight: 35%

And if the Example Participant's actual results were as follows:

Goal #1: 190 Goal #2: 55%Goal #3: 0.4Goal #4: 130

Then the Example Participant's Weighted Score by Goal would be as follows (these computations determine where on the linear threshold/target/stretch lines the actual results lie, and that score is adjusted by the applicable weight assigned to the goal):

*Goal #1 = [90/100] * 50% + 50% = 95% * 30% weight = 28.5%*
*Goal #2 = [5/10] * 50% + 100% = 125% * 25% weight = 31.25%*
*Goal #3 = 0 (below threshold) * 10% weight = 0%*
*Goal #4 = 150% (above stretch) * 35% weight = 52.5%*
Total = 112.25%

The Base Bonus would be multiplied by 112.25% for a blended percentage of 93.54% [83.33% x 112.25%] and the Modified Bonus would be $18,708, [93.54% x $20,000 Target Bonus], prior to any adjustments by the Administrator as permitted under the Plan.

(e) Notwithstanding the attainment of financial results, all earned bonuses under the Plan are subject to reduction or elimination by the Administrator prior to payment. For example, but not as a limitation of the foregoing general provision, a reduction in any and all earned bonuses may be made if earnings are achieved in ways that are considered not in the best interests of the Company's shareholders or not authorized by the Board of Directors or management. Furthermore, the Administrator also may adjust individual performance ratings and/or Performance Modifiers in order to ensure the Company's aggregate payments under the Plan do not exceed the funding authorized under the Plan.

(f) The Earned Bonus, based on the Modified Bonus as adjusted by the Administrator as permitted under this Plan, shall be payable at the time set forth in Section 4(e).

6. Termination of Employment; Change in Control.

(a) Death or Disability During the Performance Period.

(i) If a Participant's employment is terminated due to death, the bonus will be earned and paid (to the estate of the Participant) on a pro rata basis. The pro rata period will be from the beginning of the Performance Period until the date of death.

(ii) A Participant's disability of 30 calendar days or less will not have an impact on the Participant's eligibility to earn a bonus under the Plan.

(iii) If a Participant's disability lasts more than 30 calendar days, then a bonus may be earned only for fiscal quarters in which the Participant works more than 60 calendar days and will be earned on a pro rata basis for days worked in the applicable fiscal quarters.

(b) Voluntary Termination. If a Participant's employment is terminated due to a voluntary termination, excluding a retirement that meets the definition of retirement established by the Committee, no bonus will be earned by or paid to the Participant. In the case of qualifying retirement, the Administrator shall have the discretion, but not the obligation, to pay a pro rata bonus to such Participant for the Performance Period during which the Participant retired in accordance with Section 7.

(c) Involuntary Termination. If a Participant's employment is terminated for cause (but excluding any other event otherwise described in this Section 6), no bonus will be earned by or paid to the Participant. For purposes of the Plan, a termination for "cause" means a material failure to perform such employee's duties and responsibilities to a satisfactory degree, any violation of laws or regulations or a material violation of Company policies and procedures. If a Participant's employment is terminated without cause, the Administrator shall have the discretion, but not the obligation, to approve a pro rata bonus for the applicable Participant for the Performance Period during which the Participant was terminated in accordance with Section 7.

(d) Change in Control. If there is a Change in Control (as defined under the Company's 2013 Equity Incentive Plan, as amended, or any successor equity incentive plan) and a Participant is terminated by the Company (or any successor thereof, by merger, acquisition or otherwise) within six months of such Change in Control for any reason other than for intentional acts of material misconduct or omission in carrying out the duties and responsibilities of such Participant's position, such Participant shall earn a cash bonus equal to the Target Bonus Percentage for the applicable Performance Period in which the Change in Control occurred multiplied by the greater of his or her actual base salary in effect on the date of (i) the employment termination and (ii) the Change in Control. Such payments shall be paid in cash to the Participant as soon as administratively possible, but not later than 30 days following such termination.

(e) Section 409A. Notwithstanding anything in this Plan to the contrary, if it is determined that any payment hereunder constitutes "nonqualified deferred compensation" that would be paid upon "separation from service" of a "specified employee" (as such terms are defined in Section 409A of the Internal Revenue Code of 1986, as amended), then such payment that otherwise would have been paid within six months after the Participant's "separation from service" shall be accrued, without interest, and its payment delayed until the first day of the seventh month following the Participant's "separation from service," or if earlier, the Participant's death, at which point the accrued amount will be paid as a single, lump sum cash payment.

(f) Timing of Payments. Except as set forth in Sections (6)(d) and (e) hereof, earned bonuses under this Section 6 will be paid to Participants at the same time as bonuses are made to other Participants under the Plan for the applicable Performance Period.

7. Pro Rata Bonuses.

(a) New Hires. A new employee who becomes a Participant in connection with such hire shall earn a pro rata bonus from the date of hire, but only if the date of hire is on or before September 30 of the Performance Period.

(b) Transfer; Promotion; Demotion; Retirement; Involuntary Termination Without Cause.

(i) For an existing employee who is transferred to a new position which results in such employee becoming a Participant, the pro rata period shall begin from the date of transfer.

(ii) For an existing employee who was a Participant prior to a promotion and who continues to be a Participant thereafter, and the Target Bonus Percentage is increased, the earned bonus will be based on two pro rata periods: (i) from the beginning of the Performance Period through the date immediately preceding such promotion, and (ii) from the date of such promotion until the end of the Performance Period.

(iii) For an existing employee who was a Participant and who is demoted such that the employee is no longer a Participant thereafter, the pro rata period will end on the date immediately preceding such demotion.

(iv) For an existing employee who retires and for whom a pro rata bonus is approved by the Administrator under Section 6(b), the pro rata period will end on the date immediately preceding such retirement.

(v) For an existing employee who was a Participant and who is involuntary terminated without cause and for whom a pro rata bonus is approved by the Administrator under Section 6(c), the pro rata period will end on the date immediately preceding such termination.

(c) Achievement of Performance Period Company Performance Measures. A pro rata bonus will be earned only if the applicable Company Performance Goals also are satisfied for the full Performance Period.

(d) Timing of Pro Rata Payments. Earned pro rata bonuses under this Section 7 will be paid to Participants at the same time as bonuses are made to other Participants under the Plan for the applicable Performance Period

8. Bonus Clawback.

If the Company's financial statements are the subject of a restatement due to error or misconduct, to the extent permitted by governing law, the Company is authorized under this Plan to seek reimbursement of excess incentive bonus payments under the Plan to Executive Officer Participants for the relevant Performance Periods; provided, this Section 8 only shall apply to any bonuses earned for the three completed fiscal years prior to the date the Company determines such restatement is required. For purposes of this Plan, an excess incentive bonus payment means the positive difference, if any, between (i) the bonus paid to the Executive Officer Participant and (ii) the bonus that would have been made to the Executive Officer Participant had the performance been calculated based on the Company's financial statements as restated. The Company will not be required to award any Participants an additional bonus should the restated financial statements result in a higher bonus.

9. General

(a) Amendment and Termination. The Company reserves the right to amend or terminate this Plan at any time by action of the Board of Directors or the Committee with respect to future services of Participants. To comply with local laws, the Company (acting through the Administrator) reserves the right to adopt amendments, rules, procedures, guidelines or other documents (collectively "Addendums") affecting this Plan at any time that are applicable only to such local jurisdictions; provided, however, that any Addendums that are applicable to any Executive Officer Participants must be reflected in a written amendment to this Plan that is approved by the Committee.

(b) Tax Withholding. The Company shall have the right to make all payments or distributions pursuant to the Plan to any person, net of any applicable federal, state and local payroll or withholding taxes, or the applicable taxes of any foreign jurisdiction (collectively, "Taxes"), required to be paid or withheld. The Company shall have the right to withhold from wages or other amounts otherwise payable to such Participant such Taxes as may be required by law, or if permitted by law, to otherwise require the Participant to pay such Taxes. If such person shall fail to make such Tax payments as are required, the Company shall, to the extent permitted by law, have the right to deduct any such Taxes from any payment of any kind otherwise due to such Participant or to take such other action as may be necessary to satisfy such Tax obligations.

(c) No Assignment. Unless the Committee expressly provides otherwise in writing, no Participant nor any other person may sell, assign, convey, gift, pledge or otherwise hypothecate or alienate any bonus payment.

(d) Non-Exclusivity. The adoption of the Plan by the Board of Directors shall not be construed as creating any limitations on the power of the Board of Directors or Administrator to adopt such other incentive arrangements as either may deem desirable, including, without limitation, cash or equity-based compensation arrangements, either tied to performance or otherwise, and any such other arrangements as may be either generally applicable or applicable only in specific cases.

(e) Employment at Will. Neither the Plan, the selection of a person as a Participant, the payment of any bonus to any Participant, nor any action by the Company or the Administrator shall be held or construed to confer upon any person any right to be continued in the employ of the Company. The Company expressly reserves the right to discharge any Participant whenever in the sole discretion of the Company its interest may so require.

(f) No Vested Interest or Right. Except as specified under Section 6 hereof, at no time before the actual payment of a bonus to any Participant or other person shall any Participant or other person accrue any vested interest or right whatsoever under the Plan, and the Company has no obligation to treat Participants identically under the Plan.

(g) Beneficiary Designation. Each Participant may name, from time to time, any beneficiary (who may be named contingently or successively) to whom any benefit under the Plan is to be paid in case of his or her death before he or she receives any or all of such benefit. Each designation will revoke all prior designations by the same Participant, shall be in a form prescribed by the Company, and will be effective only when filed by the Participant in writing with the Company during his or her lifetime.

(h) Headings. Headings are given to the sections and subsections of the Plan solely as a convenience to facilitate reference. Such headings shall not be deemed in any way material or relevant to the construction or interpretation of the Plan or any provision thereof.

(i) Governing Law. The Plan and any agreements and documents hereunder shall be governed, construed and administered in accordance with the laws of the State of Michigan (regardless of the laws that might otherwise govern under applicable principles of conflicts of laws of such jurisdiction or any other jurisdiction) and applicable federal law.

(j) Code Section 409A. It is intended that this Plan be exempt from or comply with Code Section 409A, and the Plan shall be interpreted and administered consistent with that intent; provided, however, that under no circumstances whatsoever shall the Company be liable for any additional tax, interest or penalty imposed upon a Participant, or any other damage suffered by a Participant, on account of the bonus plan being subject to but not in compliance with Code Section 409A.

LIST OF SUBSIDIARIES

Name	Jurisdiction of Formation
Gentherm Holding (Malta) Ltd.	Malta
Gentherm Automotive Systems (Malta) Ltd.	Malta
Gentherm Automotive Technologies (Shanghai) Co. Ltd.	China
Gentherm Electronics (Shenzhen) Co. Ltd.	China
Gentherm Automotive Systems (China) Ltd.	China
Gentherm International Holdings (Hong Kong) Limited	China
Etratech Hong Kong Limited	China
Etratech Asia-Pacific Limited	China
Etratech Holdings Asia-Pacific Limited	China
Etratech Asia-Pacific Electronics (Shenzhen) Ltd.	China
Gentherm GmbH	Germany
Gentherm Enterprises GmbH	Germany
Gentherm Licensing GmbH	Germany
CSZ International GmbH	Germany
Gentherm Vietnam Co. Ltd.	Vietnam
Gentherm Japan Inc.	Japan
Gentherm Korea Inc.	South Korea
Gentherm Properties I, LLC	Michigan
Gentherm Properties II, LLC	Michigan
Gentherm Equity, LLC	Michigan
Gentherm Licensing, L.P.	Michigan
Gentherm Medical, LLC	Ohio
Gentherm (Texas), Inc.	Texas
Gentherm Hungary Kft	Hungary
Gentherm Ukraine TOV	Ukraine
Gentherm de Mexico S.A. de C.V	Mexico
Gentherm Canada ULC	Canada
Gentherm Global Power Technologies Inc.	Canada
Gentherm U.K. LTD.	United Kingdom
Gentherm Luxembourg I S.a.r.l.	Luxembourg
Gentherm Luxembourg II S.a.r.l	Luxembourg
Gentherm Macedonia DOOEL	Macedonia

Exhibit 23.1

CONSENT OF INDEPENDENT REGISTERED PUBLIC ACCOUNTING FIRM

We have issued our reports dated February 26, 2019, with respect to the consolidated financial statements and internal control over financial reporting included in the Annual Report of Gentherm Incorporated on Form 10-K for the year ended December 31, 2018. We consent to the incorporation by reference of said reports in the Registration Statements of Gentherm Incorporated on Form S-3 (File No. 333-202561) and on Forms S-8 (File No. 333-139868, as amended, 333-164990, as amended, 333-176884, as amended, 333-181975, as amended, 333-189442, and 333-218155).

/s/ GRANT THORNTON LLP

Southfield, Michigan
February 26, 2019

Exhibit 24

POWER OF ATTORNEY

Each of the undersigned, being a Member of the Board of Directors of Gentherm Incorporated (the "Registrant"), hereby severally constitutes and appoints Phillip Eyler, the Registrant's Chief Executive Officer, with full powers of substitution and resubstitution, his true and lawful attorney, with full powers to sign for him, in his name, in the capacity indicated herein, (a) the annual report of the Registrant for the fiscal year ending December 31, 2018 on Form 10-K and (b) any and all amendments to such Form 10-K, and to file or cause to be filed the same, with all exhibits thereto and other documents in connection therewith, with the Securities and Exchange Commission, granting unto said attorney, full power and authority to do and perform each and every act and thing requisite and necessary to be done in connection therewith, as fully to all intents and purposes said attorney might or could do in person, and hereby ratifying and confirming all that said attorney, or his substitute or substitutes, shall do or cause to be done by virtue of this Power of Attorney. This power of attorney may be executed in separate original or facsimile counterparts.

IN WITNESS WHEREOF, the undersigned have executed this instrument this 25th day of February, 2019.

/s/ Francois Castaing
Francois Castaing

/s/ Sophie Desormière
Sophie Desormière

/s/ Maurice Gunderson
Maurice Gunderson

/s/ Yvonne Hao
Yvonne Hao

/s/ Ronald Hundzinski
Ronald Hundzinski

/s/ Charles Kummeth
Charles Kummeth

/s/ Byron Shaw
Byron Shaw

/s/ John Stacey
John Stacey

Exhibit 31.1

CERTIFICATION

I, Phillip Eyler, certify that:

1. I have reviewed this annual report on Form 10-K for the period ended December 31, 2018 of Gentherm Incorporated;
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.

/s/ Phillip Eyler

Phillip Eyler
President & Chief Executive Officer
February 26, 2019

Exhibit 31.2

CERTIFICATION

I, Matteo Anversa, certify that:

1. I have reviewed this annual report on Form 10-K for the period ended December 31, 2018 of Gentherm Incorporated;
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.

/s/ Matteo Anversa
Matteo Anversa
Chief Financial Officer
February 26, 2019

Exhibit 32.1

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

In connection with the Annual Report on Form 10-K for the period ended December 31, 2018 of Gentherm Incorporated (the “Company”) as filed with the Securities and Exchange Commission on the date hereof (the “Report”), I, Phillip Eyler, President & 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 result of operations of the Company.

/s/ Phillip Eyler
Phillip Eyler
President & Chief Executive Officer
February 26, 2019

Exhibit 32.2

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

In connection with the Annual Report on Form 10-K for the period ended December 31, 2018 of Gentherm Incorporated (the “Company”) as filed with the Securities and Exchange Commission on the date hereof (the “Report”), I, Matteo Anversa, 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 result of operations of the Company.

/s/ Matteo Anversa
Matteo Anversa
Chief Financial Officer
February 26, 2019