

UNITED STATES
SECURITIES AND EXCHANGE COMMISSION
Washington, D.C. 20549
Form 10-K

ANNUAL REPORT PURSUANT TO SECTION 13 OR 15(d) OF THE SECURITIES EXCHANGE ACT OF 1934

For the fiscal year ended December 31, 2019

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 1-10235

IDEX CORPORATION

(Exact name of registrant as specified in its charter)

Delaware

*(State or other jurisdiction of
incorporation or organization)*

1925 West Field Court, Suite 200, Lake Forest, Illinois

(Address of principal executive offices)

36-3555336

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

60045

(Zip Code)

Registrant's telephone number, including area code:

(847) 498-7070

Securities Registered Pursuant to Section 12(b) of the Act:

Title of Each Class	Trading Symbol(s)	Name of Each Exchange on Which Registered
Common Stock, par value \$.01 per share	IEX	New York Stock Exchange

Securities Registered Pursuant to Section 12(g) of the Act:

None

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

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

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

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

Indicate by check mark whether the registrant is a large accelerated filer, an accelerated filer, a non-accelerated filer, a smaller reporting company, or an emerging growth company. See 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, as of the last business day of the registrant's most recently completed second fiscal quarter, of the common stock (based on the June 28, 2019 closing price of \$172.14) held by non-affiliates of IDEX Corporation was \$12,993,666,859.

The number of shares outstanding of IDEX Corporation's common stock, par value \$.01 per share, as of February 18, 2020 was 76,205,390.

DOCUMENTS INCORPORATED BY REFERENCE

Portions of the proxy statement with respect to the IDEX Corporation 2020 annual meeting of stockholders (the "2020 Proxy Statement") are incorporated by reference into Part III of this Form 10-K.

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PART I

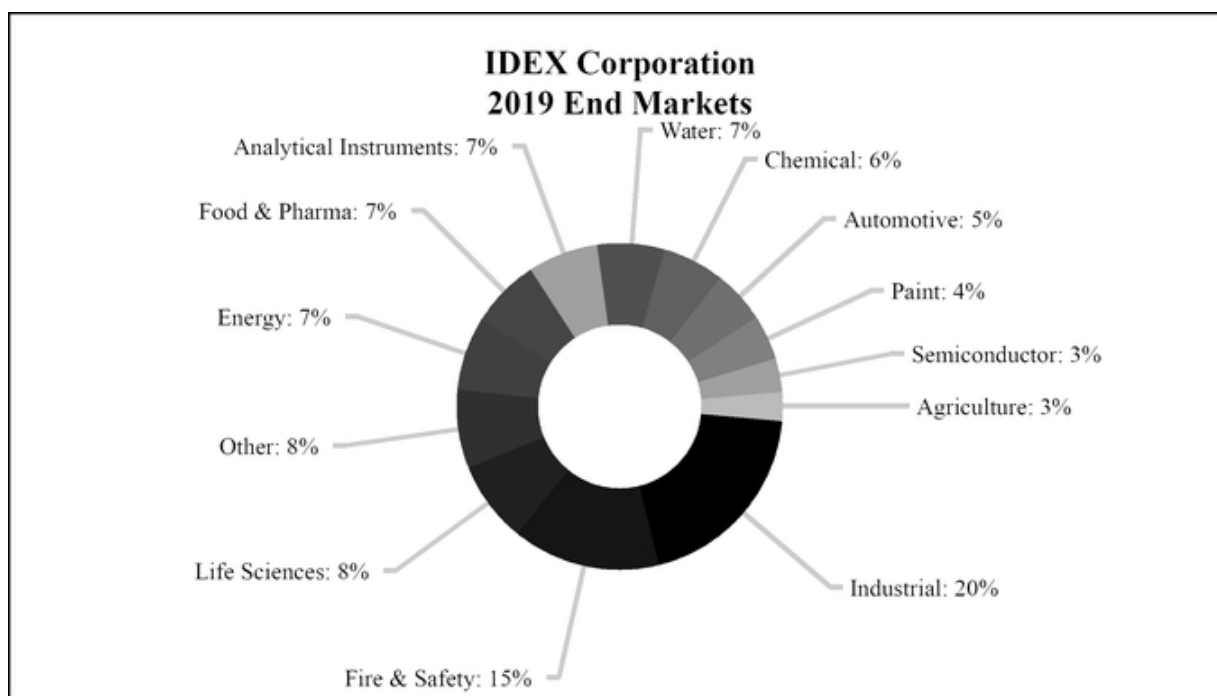
Cautionary Statement Under the Private Securities Litigation Reform Act

This report contains “forward-looking” statements within the meaning of the Private Securities Litigation Reform Act of 1995, as amended. These statements may relate to, among other things, capital expenditures, acquisitions, cost reductions, cash flow, cash requirements, revenues, earnings, market conditions, global economies, the anticipated timing of our acquisition of Flow Management Devices, LLC, plant and equipment capacity and operating improvements, and are indicated by words or phrases such as “anticipates,” “estimates,” “plans,” “expects,” “projects,” “forecasts,” “should,” “could,” “will,” “management believes,” “the Company believes,” “the Company intends,” and similar words or phrases. These statements are subject to inherent uncertainties and risks that could cause actual results to differ materially from those anticipated at the date of this report. The risks and uncertainties include, but are not limited to, the following: economic and political consequences resulting from terrorist attacks and wars; levels of industrial activity and economic conditions in the U.S. and other countries around the world; pricing pressures and other competitive factors and levels of capital spending in certain industries, all of which could have a material impact on order rates and the Company’s results, particularly in light of the low levels of order backlogs it typically maintains; the Company’s ability to make acquisitions and to integrate and operate acquired businesses on a profitable basis; the relationship of the U.S. dollar to other currencies and its impact on pricing and cost competitiveness; political and economic conditions in foreign countries in which the Company operates; developments with respect to trade policy and tariffs; interest rates; capacity utilization and the effect this has on costs; labor markets; market conditions and material costs; and developments with respect to contingencies, such as litigation and environmental matters and the other risk factors discussed in Item 1A, “Risk Factors” of this annual report. The forward-looking statements included here are only made as of the date of this report, and management undertakes no obligation to publicly update them to reflect subsequent events or circumstances, except as may be required by law. Investors are cautioned not to rely unduly on forward-looking statements when evaluating the information presented here.

Item 1. *Business.*

IDEX Corporation (“IDEX,” the “Company,” “us,” “our,” or “we”) is a Delaware corporation incorporated on September 24, 1987. The Company is an applied solutions business that sells an extensive array of pumps, valves, flow meters and other fluidics systems and components and engineered products to customers in a variety of markets around the world. All of the Company’s business activities are carried out through wholly-owned subsidiaries.

The Company has three reportable business segments: Fluid & Metering Technologies (“FMT”), Health & Science Technologies (“HST”) and Fire & Safety/Diversified Products (“FSDP”). Within our three reportable segments, the Company maintains 13 platforms, where we focus on organic growth and strategic acquisitions. Each of our 13 platforms is also a reporting unit that we annually test for goodwill impairment.

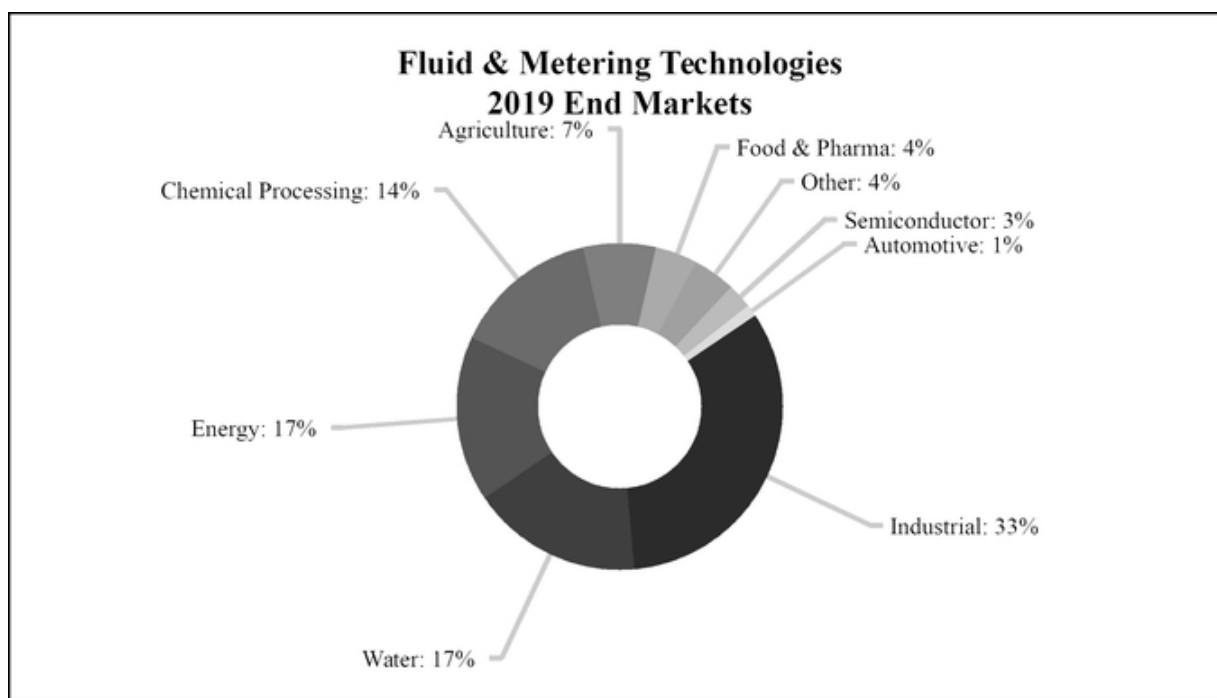


The FMT segment contains the Energy platform (comprised of Corken, Liquid Controls, SAMPI and Toptech), the Valves platform (comprised of Alfa Valvole, Richter and Aegis), the Water platform (comprised of Pulsafeeder, OBL, Knight, ADS, Trebor and iPEK), the Pumps platform (comprised of Viking and Warren Rupp) and the Agriculture platform (comprised of Banjo). The HST segment contains the Scientific Fluidics & Optics platform (comprised of Eastern Plastics, Rheodyne, Sapphire Engineering, Upchurch Scientific, ERC, CiDRA Precision Services, thinXXS Microtechnology (“thinXXS”), CVI Melles Griot, Semrock, AT Films and Finger Lakes Instrumentation (“FLI”)), the Sealing Solutions platform (comprised of Precision Polymer Engineering, FTL Seals Technology, Novotema, SFC Koenig and Velcora Holding AB (“Velcora”)), the Gast platform, the Micropump platform and the Material Processing Technologies platform (comprised of Quadro, Fitzpatrick, Microfluidics and Matcon). The FSDP segment is comprised of the Fire & Safety platform (comprised of Class 1, Hale, Godiva, Akron Brass, Weldon, AWG Fittings, Dinglee, Hurst Jaws of Life, Lukas and Vetter), the Band-It platform and the Dispensing platform.

IDEX believes that each of its reporting units is a leader in its product and service areas. The Company also believes that its strong financial performance has been attributable to its ability to design and engineer specialized quality products, coupled with its ability to successfully identify, acquire and integrate strategic acquisitions.

FLUID & METERING TECHNOLOGIES SEGMENT

The Fluid & Metering Technologies segment designs, produces and distributes positive displacement pumps, flow meters, injectors and other fluid-handling pump modules and systems and provides flow monitoring and other services for the food, chemical, general industrial, water and wastewater, agriculture and energy industries. Fluid & Metering Technologies application-specific pump and metering solutions serve a diverse range of end markets, including industrial infrastructure (fossil fuels, refined and alternative fuels and water and wastewater), chemical processing, agriculture, food and beverage, pulp and paper, transportation, plastics and resins, electronics and electrical, construction and mining, pharmaceutical and bio-pharmaceutical, machinery and numerous other specialty niche markets.



Fluid & Metering Technologies accounted for 38% of IDEX's sales in each of 2019, 2018 and 2017, respectively, with approximately 43% of its 2019 sales to customers outside the U.S. The segment accounted for 44%, 42% and 42% of total segment operating income in 2019, 2018 and 2017, respectively.

Energy. Energy consists of the Company's Corken, Liquid Controls, SAMPI and Toptech businesses. Energy is a leading supplier of flow meters, electronic registration and control products, rotary vane and turbine pumps, reciprocating piston compressors and terminal automation control systems. Applications for Liquid Controls and SAMPI consist of positive displacement flow meters and electronic registration and control products, including mobile and stationary metering installations for wholesale and retail distribution of petroleum and liquefied petroleum gas, aviation refueling and industrial metering and dispensing of liquids and gases. Corken products consist of positive-displacement rotary vane pumps, single and multistage regenerative turbine pumps and small horsepower reciprocating piston compressors. Toptech supplies terminal automation hardware and software to control and manage inventories as well as transactional data and invoicing to customers in the oil, gas and refined-fuels markets. Energy maintains facilities in Lake Bluff, Illinois (Liquid Controls products); Longwood, Florida and Zwijndrecht, Belgium (Toptech products); Oklahoma City, Oklahoma (Corken products); and Altopascio, Italy (SAMPI products). Approximately 44% of Energy's 2019 sales were to customers outside the U.S.

Valves. Valves consists of the Company's Alfa Valvole, Richter and Aegis businesses. Valves is a leader in the design, manufacture and sale of specialty valve products for use in the chemical, petro-chemical, energy and sanitary markets as well as a leading producer of fluoroplastic lined corrosion-resistant magnetic drive and mechanical seal pumps, shut-off, control and safety valves for corrosive, hazardous, contaminated, pure and high-purity fluids. Alfa Valvole's products are used in various industrial fields for fluid control, in both gas and liquid form, in all sectors of plant engineering, cosmetics, detergents, food industry, electric energy, pharmaceutical, chemical plants, petrochemical plants, oil, heating/air conditioning and also on ships, ferries and marine oil platforms. Richter's products offer superior solutions for demanding and complex pump and valve applications in the process industry. Aegis produces specialty chemical processing valves for use in the chemical, petro-chemical, chlor-alkali and pulp and paper industries. Valves maintains operations in Casorezzo, Italy (Alfa Valvole products); Cedar Falls, Iowa, Kempen, Germany and Suzhou, China (Richter products); and Geismar, Louisiana (Aegis products). Approximately 78% of Valves' 2019 sales were to customers outside the U.S.

Water. Water consists of the Company's ADS, iPEK, Knight, Trebor, Pulsafeeder and OBL businesses. Water is a leading provider of metering technology, flow monitoring products and underground surveillance services for wastewater markets, alloy and non-metallic gear pumps, peristaltic pumps, transfer pumps as well as dispensing equipment for industrial laundries, commercial dishwashing and chemical metering. ADS' products and services provide comprehensive integrated solutions that enable industry, municipalities and government agencies to analyze and measure the capacity, quality and integrity of wastewater collection systems,

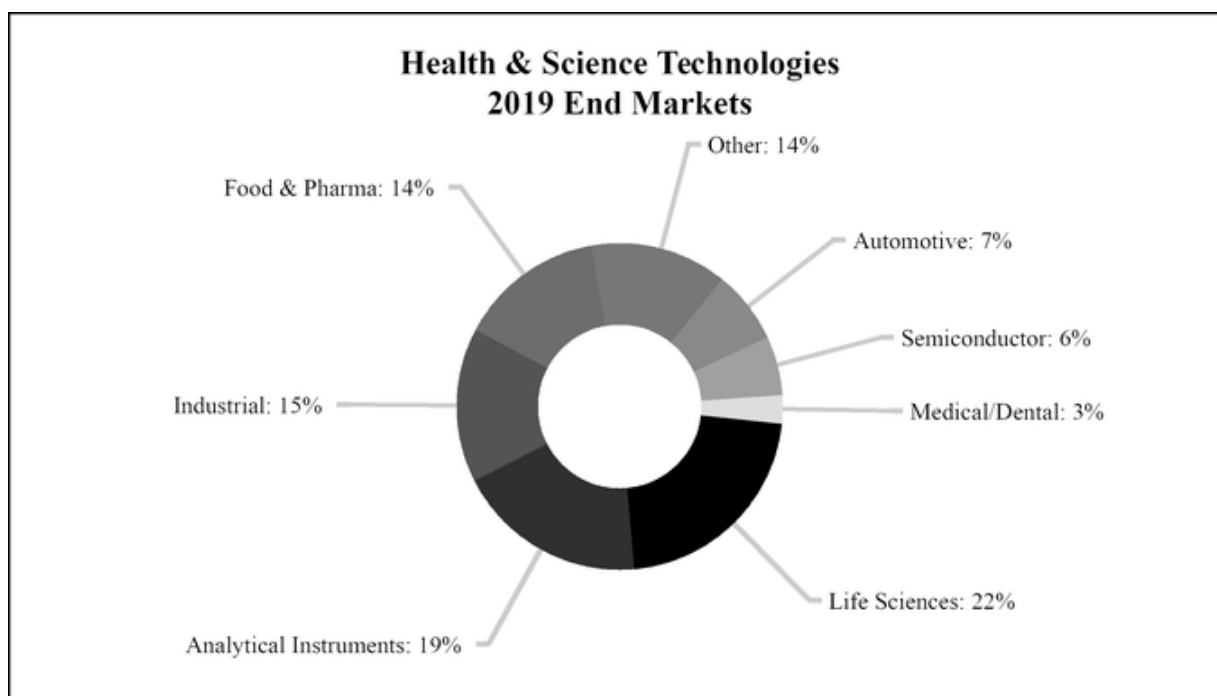
including the maintenance and construction of such systems. iPEK supplies remote controlled systems used for infrastructure inspection. Knight is a leading manufacturer of pumps and dispensing equipment for industrial laundries, commercial dishwashing and chemical metering. Trebor is a leader in high-purity fluid handling products, including air-operated diaphragm pumps and deionized water-heating systems. Trebor products are used in the manufacturing of semiconductors, disk drives and flat panel displays. Pulsafeeder products (which also include OBL products) are used to introduce precise amounts of fluids into processes to manage water quality and chemical composition as well as peristaltic pumps. Its markets include water and wastewater treatment, oil and gas, power generation, pulp and paper, chemical and hydrocarbon processing and swimming pools. Water maintains operations in Huntsville, Alabama and various other locations in the United States, Canada and Australia (ADS products and services); Hirscheegg, Austria and Sulzberg, Germany (iPEK products); Rochester, New York, Punta Gorda, Florida, and Milan, Italy (Pulsafeeder products); West Jordan, Utah (Trebor products); Irvine, California, Mississauga, Ontario, Canada, and Lewes, England (Knight products); and a maquiladora in Ciudad Juarez, Chihuahua, Mexico (Knight products). Approximately 44% of Water's 2019 sales were to customers outside the U.S.

Pumps. Pumps consists of the Company's Viking and Warren Rupp businesses. Pumps is a leading manufacturer of rotary internal gear, external gear, vane and rotary lobe pumps, custom-engineered OEM pumps, strainers, gear reducers and engineered pump systems. Viking's products consist of external gear pumps, strainers and reducers and related controls used for transferring and metering thin and viscous liquids sold under the Viking and Wright Flow brands. Viking products primarily serve the chemical, petroleum, pulp and paper, plastics, paints, inks, tanker trucks, compressor, construction, food and beverage, personal care, pharmaceutical and biotech markets. Warren Rupp products (which include Versa-Matic products) are used for abrasive and semisolid materials as well as for applications where product degradation is a concern or where electricity is not available or should not be used. Warren Rupp products, which include air-operated double diaphragm pumps, primarily serve the chemical, paint, food processing, electronics, construction, utilities, oil and gas, mining and industrial maintenance markets. Pumps maintains operations in Cedar Falls, Iowa (Viking and Wright Flow products); Eastbourne, England (Wright Flow products); Shannon, Ireland (Viking and Blagdon products); and Mansfield, Ohio (Warren Rupp products). Pumps primarily uses independent distributors to market and sell its products. Approximately 37% of Pumps' 2019 sales were to customers outside the U.S.

Agriculture. Agriculture consists of the Company's Banjo business. Banjo is a provider of special purpose, severe-duty pumps, valves, fittings and systems used in liquid handling. Banjo is based in Crawfordsville, Indiana with distribution facilities in Didam, The Netherlands and Valinhos, Brazil. Its products are used in agriculture (approximately 71% of revenue) and industrial (approximately 29% of revenue) applications. Approximately 20% of Banjo's 2019 sales were to customers outside the U.S.

HEALTH & SCIENCE TECHNOLOGIES SEGMENT

The Health & Science Technologies segment designs, produces and distributes a wide range of precision fluidics, rotary lobe pumps, centrifugal and positive displacement pumps, roll compaction and drying systems used in beverage, food processing, pharmaceutical and cosmetics, pneumatic components and sealing solutions, including very high precision, low-flow rate pumping solutions required in analytical instrumentation, clinical diagnostics and drug discovery, high performance molded and extruded sealing components, custom mechanical and shaft seals for a variety of end markets including food and beverage, marine, chemical, wastewater and water treatment, engineered hygienic mixers and valves for the global biopharmaceutical industry, biocompatible medical devices and implantables, air compressors used in medical, dental and industrial applications, optical components and coatings for applications in the fields of scientific research, defense, biotechnology, aerospace, telecommunications and electronics manufacturing, laboratory and commercial equipment used in the production of micro and nano scale materials, precision photonic solutions used in life sciences, research and defense markets and precision gear and peristaltic pump technologies that meet exacting original equipment manufacturer specifications.



Health & Science Technologies accounted for 37%, 36% and 36% of IDEX's sales in 2019, 2018 and 2017, respectively, with approximately 55% of its 2019 sales to customers outside the U.S. The segment accounted for 31%, 32% and 32% of total segment operating income in 2019, 2018 and 2017, respectively.

Scientific Fluidics & Optics. Scientific Fluidics & Optics consists of the Company's Eastern Plastics, Rheodyne, Sapphire Engineering, Upchurch Scientific, ERC, CiDRA Precision Services, thinXXS, CVI Melles Griot, Semrock, AT Films (including Precision Photonics products) and FLI businesses. Eastern Plastics products, which consist of high-precision integrated fluidics and associated engineered manifolds, are used in a broad set of end markets including medical diagnostics, analytical instrumentation and laboratory automation. Rheodyne products consist of injectors, valves, fittings and accessories for the analytical instrumentation market. These products are used by manufacturers of high pressure liquid chromatography ("HPLC") equipment servicing the pharmaceutical, biotech, life science, food and beverage, and chemical markets. Sapphire Engineering and Upchurch Scientific products consist of fluidic components and systems for the analytical, biotech and diagnostic instrumentation markets, such as fittings, precision-dispensing pumps and valves, tubing and integrated tubing assemblies, filter sensors and other micro-fluidic and nano-fluidic components as well as advanced column hardware and accessories for the high performance liquid chromatography market. The products produced by Sapphire Engineering and Upchurch Scientific primarily serve the pharmaceutical, drug discovery, chemical, biochemical processing, genomics/proteomics research, environmental labs, food/agriculture, medical lab, personal care and plastics/polymer/rubber production markets. ERC manufactures gas liquid separations and detection solutions for the life science, analytical instrumentation and clinical chemistry markets. ERC's products consist of in-line membrane vacuum degassing solutions, refractive index detectors and ozone generation systems. CiDRA Precision Services' products consist of microfluidic components serving the life science, health and industrial markets and thinXXS is a leader in the design, manufacture and sale of microfluidic components serving the point of care, veterinary and life science markets. CVI Melles Griot is a global leader in the design and manufacture of precision photonic solutions used in the life science, research, semiconductor, security and defense markets. CVI Melles Griot's innovative products are focused on the generation, control and productive use of light for a variety of key science and industrial applications. Products consist of specialty lasers and light sources, electro-optical components, specialty shutters, opto-mechanical assemblies and components. In addition, CVI Melles Griot produces critical components for life science research, electronics manufacturing, military and other industrial applications including lenses, mirrors, filters and polarizers. These components are utilized in a number of important applications such as spectroscopy, cytometry (cell counting), guidance systems for target designation, remote sensing, metrology and optical lithography. Semrock is a provider of optical filters for biotech and analytical instrumentation in the life science market. Semrock's optical filters are produced using state-of-the-art manufacturing processes which enable it to offer its customers significant improvements in instrument performance and reliability. AT Films specializes in optical components and coatings for applications in the fields of scientific research, defense, aerospace, telecommunications and electronics manufacturing. AT Films' core competence is the design and manufacture of filters, splitters, reflectors and mirrors with the precise physical properties required to support their

customers' most challenging and cutting-edge optical applications. The Precision Photonics portion of its business specializes in optical components and coatings for applications in the fields of scientific research, aerospace, telecommunications and electronics manufacturing. FLI specializes in the design, development and production of low-noise cooled charge-coupled device ("CCD") and high speed, high-sensitivity Scientific complementary metal-oxide semiconductor ("CMOS") cameras for the astronomy and life sciences markets. Scientific Fluidics & Optics has facilities in Bristol, Connecticut (Eastern Plastics products); Rohnert Park, California (Rheodyne products); Middleboro, Massachusetts (Sapphire Engineering products); Oak Harbor, Washington (Upchurch Scientific products); Kawaguchi, Japan (ERC products); Wallingford, Connecticut (CiDRA Precision Services products); Zweibrücken, Germany (thinXXS products); Albuquerque, New Mexico, Rochester, New York, Leicester, England and Didam, The Netherlands (CVI Melles Griot products); Rochester, New York (Semrock products); Boulder, Colorado (AT Films products); and Lima, New York (FLI products). Approximately 51% of Scientific Fluidics & Optics' 2019 sales were to customers outside the U.S.

Sealing Solutions. Sealing Solutions consists of the Company's Precision Polymer Engineering, FTL Seals Technology, Novotema, SFC Koenig and Velcora businesses. Precision Polymer Engineering is a provider of proprietary high performance seals and advanced sealing solutions for a diverse range of global industries and applications, including hazardous duty, analytical instrumentation, semiconductor, process technologies, oil and gas, pharmaceutical, electronics and food applications. Precision Polymer Engineering is headquartered in Blackburn, England with an additional manufacturing facility in Brenham, Texas. FTL Seals Technology, located in Leeds, England, specializes in the design and application of high integrity rotary seals, specialty bearings and other custom products for the mining, power generation and marine markets. Novotema, located in Villongo, Italy, is a leader in the design, manufacture and sale of specialty sealing solutions for use in the building products, gas control, transportation, industrial and water markets. SFC Koenig is a producer of highly engineered expanders and check valves for critical applications across the transportation, hydraulic, aviation and medical markets. SFC Koenig is based in Dietikon, Switzerland, with additional facilities in North Haven, Connecticut, Illerrieden, Germany, and Suzhou, China. Velcora and its operating subsidiaries, Roplan and Steridose, are headquartered in Sweden with operations in China, the United Kingdom and the United States. Roplan is a global manufacturer of custom mechanical and shaft seals for a variety of end markets including food and beverage, marine, chemical, wastewater and water treatment. Steridose develops engineered hygienic mixers and valves for the global biopharmaceutical industry. Approximately 78% of Sealing Solutions' 2019 sales were to customers outside the U.S.

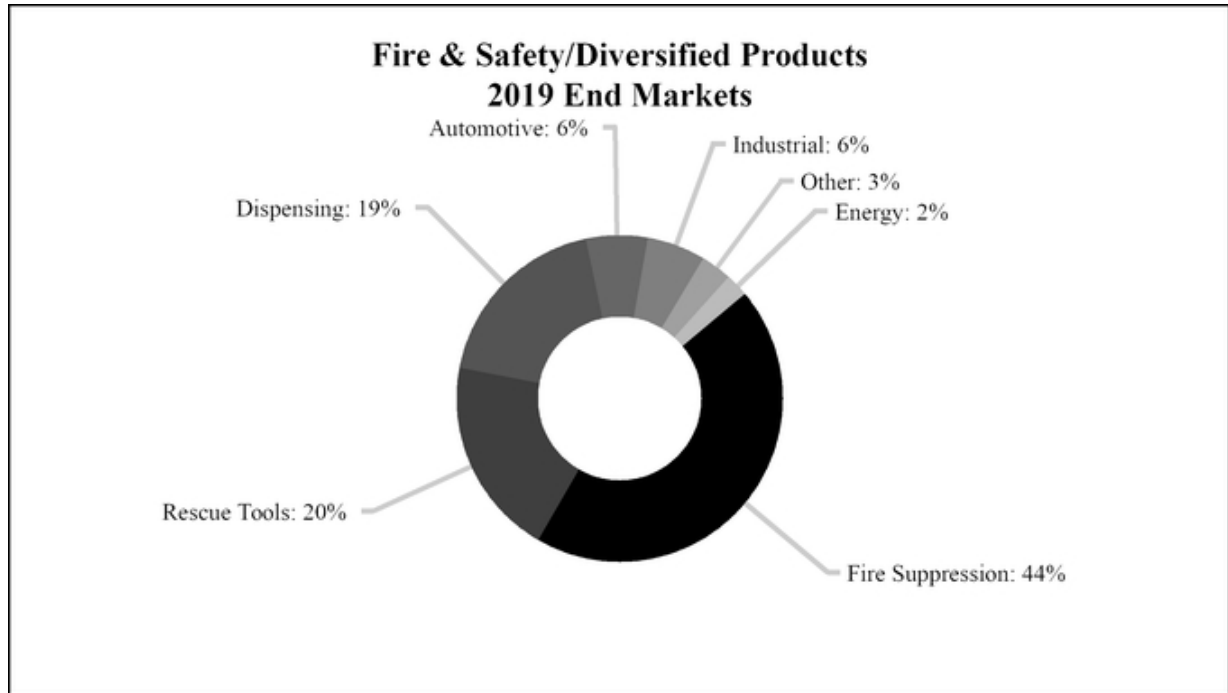
Gast. The Gast business is a leading manufacturer of air-moving products, including air motors, low-range and medium-range vacuum pumps, vacuum generators, regenerative blowers and fractional horsepower compressors. Gast products are used in a variety of long-life applications requiring a quiet, clean source of moderate vacuum or pressure. Gast products primarily serve the medical equipment, environmental equipment, computers and electronics, printing machinery, paint mixing machinery, packaging machinery, graphic arts and industrial manufacturing markets. Based in Benton Harbor, Michigan, Gast also has a logistics and commercial center in Redditch, England. Approximately 25% of Gast's 2019 sales were to customers outside the U.S.

Micropump. Micropump, headquartered in Vancouver, Washington, is a leader in small, precision-engineered, magnetically and electromagnetically driven rotary gear, piston and centrifugal pumps. Micropump products are used in low-flow abrasive and corrosive applications. Micropump products primarily serve the continuous ink-jet printing, medical equipment, chemical processing, pharmaceutical, refining, laboratory, electronics, textiles, peristaltic metering pumps, analytical process controllers and sample preparation systems markets. Approximately 74% of Micropump's 2019 sales were to customers outside the U.S.

Material Processing Technologies. Material Processing Technologies consists of the Company's Quadro, Fitzpatrick, Microfluidics and Matcon businesses. Quadro is a leading provider of particle control solutions for the pharmaceutical and bio-pharmaceutical markets. Based in Waterloo, Canada, Quadro's core capabilities include fine milling, emulsification and special handling of liquid and solid particulates for laboratory, pilot phase and production scale processing. Fitzpatrick is a global leader in the design and manufacture of process technologies for the pharmaceutical, food and personal care markets. Fitzpatrick designs and manufactures customized size reduction, roll compaction and drying systems to support their customers' product development and manufacturing processes. Fitzpatrick is headquartered in Waterloo, Canada. Microfluidics is a global leader in the design and manufacture of laboratory and commercial equipment used in the production of micro and nano scale materials for the pharmaceutical and chemical markets. Microfluidics is the exclusive producer of the Microfluidizer family of high shear fluid processors for uniform particle size reduction, robust cell disruption and nanoparticle creation. Microfluidics is also based in Waterloo, Canada and has offices in Newton, Massachusetts. Matcon is a global leader in material processing solutions for high value powders used in the manufacture of pharmaceuticals, food, plastics and fine chemicals. Matcon's innovative products consist of the original cone valve powder discharge system and filling, mixing and packaging systems, all of which support its customers' automation and process requirements. These products are critical to its customers' need to maintain clean, reliable and repeatable formulations of prepackaged foods and pharmaceuticals while helping them achieve lean and agile manufacturing. Matcon is located in Evesham, England. Approximately 61% of Material Processing Technologies' 2019 sales were to customers outside the U.S.

FIRE & SAFETY/DIVERSIFIED PRODUCTS SEGMENT

The Fire & Safety/Diversified Products segment designs, produces and distributes firefighting pumps, valves and controls, rescue tools, lifting bags and other components and systems for the fire and rescue industry, engineered stainless steel banding and clamping devices used in a variety of industrial and commercial applications and precision equipment for dispensing, metering and mixing colorants and paints used in a variety of retail and commercial businesses around the world.



The Fire & Safety/Diversified Products segment accounted for 25%, 26% and 26% of IDEX's sales in 2019, 2018 and 2017, respectively, with approximately 52% of its 2019 sales to customers outside the U.S. The segment accounted for 25%, 26% and 26% of total segment operating income in 2019, 2018 and 2017, respectively.

Fire & Safety. Fire & Safety consists of the Company's Class 1, Hale, Godiva, Akron Brass, AWG Fittings, Dinglee, Hurst Jaws of Life, Lukas and Vetter businesses, which produce truck-mounted and portable fire pumps, stainless steel valves, monitors, apparatus valves, nozzles, foam and compressed air foam systems, pump modules and pump kits, electronic controls and information systems, conventional and networked electrical systems, mechanical components for the fire, rescue and specialty vehicle markets, hydraulic, battery, gas and electric-operated rescue equipment, hydraulic re-railing equipment, hydraulic tools for industrial applications, recycling cutters, pneumatic lifting and sealing bags for vehicle and aircraft rescue, environmental protection and disaster control and shoring equipment for vehicular or structural collapse. Fire & Safety's customers are OEMs as well as public and private fire and rescue organizations. Fire & Safety maintains facilities in Ocala, Florida (Class 1 and Hale products); Warwick, England (Godiva products); Wooster and Columbus, Ohio (Akron Brass and Weldon products); Ballendorf, Germany (AWG Fittings products); Shelby, North Carolina (Hurst Jaws of Life products); Tianjin, China (Dinglee products); Erlangen, Germany (Lukas products); and Zulpich, Germany (Vetter products). Approximately 50% of Fire & Safety's 2019 sales were to customers outside the U.S.

Band-It. Band-It is a leading producer of high-quality stainless steel banding, buckles and clamping systems. The BAND-IT brand is highly recognized worldwide. Band-It products are used for securing exhaust system heat and sound shields, industrial hose fittings, traffic signs and signals, electrical cable shielding, identification and bundling and in numerous other industrial and commercial applications. Band-It products primarily serve the automotive, transportation equipment, oil and gas, general industrial maintenance, electronics, electrical, communications, aerospace, utility, municipal and subsea marine markets. Band-It is based in Denver, Colorado, with additional operations in Staveley, England. Approximately 41% of Band-It's 2019 sales were to customers outside the U.S.

Dispensing. Dispensing produces precision equipment for dispensing, metering and mixing colorants and paints used in a variety of retail and commercial businesses around the world. Dispensing is a global supplier of precision-designed tinting, mixing, dispensing and measuring equipment for auto refinishing and architectural paints. Dispensing products are used in retail and commercial stores, hardware stores, home centers, department stores, automotive body shops as well as point-of-purchase dispensers. Dispensing maintains facilities in Sassenheim, The Netherlands, Wheeling, Illinois, Unanderra, Australia and Milan, Italy as well as IDEX shared manufacturing facilities in India and China. Approximately 67% of Dispensing's 2019 sales were to customers outside the U.S.

INFORMATION APPLICABLE TO THE COMPANY'S BUSINESS IN GENERAL AND ITS SEGMENTS

Competitors

The Company's businesses participate in highly competitive markets. IDEX believes that the principal points of competition are product quality, design and engineering capabilities, product development, conformity to customer specifications, quality of post-sale support, timeliness of delivery and effectiveness of our distribution channels.

Principal competitors of the Fluid & Metering Technologies segment are the Pumps Group (Maag, Blackmer and Wilden products) of Dover Corporation (with respect to pumps and small horsepower compressors used in liquefied petroleum gas distribution facilities, rotary gear pumps and air-operated double-diaphragm pumps); Milton Roy LLC (with respect to metering pumps and controls); and Tuthill Corporation (with respect to rotary gear pumps).

Principal competitors of the Health & Science Technologies segment are the Thomas division of Gardner Denver, Inc. (with respect to vacuum pumps and compressors); Thermo Scientific Dionex products (with respect to analytical instrumentation); Parker Hannifin (with respect to sealing devices); Valco Instruments Co., Inc. (with respect to fluid injectors and valves); and Gooch & Housego PLC (with respect to electro-optic and precision photonics solutions used in the life sciences market).

The principal competitors of the Fire & Safety/Diversified Products segment are Waterous Company, a unit of American Cast Iron Pipe Company (with respect to truck-mounted firefighting pumps); Holmatro, Inc. (with respect to rescue tools); Corob S.p.A. (with respect to dispensing and mixing equipment for the paint industry); and Panduit Corporation (with respect to stainless steel bands, buckles and clamping systems).

Customers

None of our customers in 2019 accounted for more than two percent of net sales.

Employees

At December 31, 2019, the Company had 7,439 employees. Approximately 7% of employees were represented by labor unions, with various contracts expiring through June 2023. Management believes that the Company has a positive relationship with its employees. The Company historically has been able to renegotiate its collective bargaining agreements satisfactorily, with its last work stoppage occurring in March 1993.

Suppliers

The Company manufactures many of the parts and components used in its products. Substantially all materials, parts and components purchased by the Company are available from multiple sources.

Inventory and Backlog

The Company regularly and systematically adjusts production schedules and quantities based on the flow of incoming orders. Backlogs typically are limited to two months of production. While total inventory levels also may be affected by changes in orders, the Company generally tries to maintain relatively stable inventory levels based on its assessment of the requirements of the various industries served.

Raw Materials

The Company uses a wide variety of raw materials which are generally available from a number of sources. As a result, shortages from any single supplier have not had, and are not likely to have a material impact on operations.

Shared Services

The Company has production facilities in Suzhou, China and Vadodara, India that support multiple business units. IDEX also has personnel in China, India, Dubai, Mexico, Latin America and Singapore that provide sales and marketing, product design and engineering and sourcing support to its business units as well as personnel in various locations in South America, the Middle East, Korea and Japan to support sales and marketing efforts of IDEX businesses in those regions.

Segment Information

For segment financial information for the years 2019, 2018 and 2017, including financial information about foreign and domestic sales and operations, see “Management’s Discussion and Analysis of Financial Condition and Results of Operations” and Note 13 of the Notes to Consolidated Financial Statements in Part II, Item 8, “Financial Statements and Supplementary Data.”

Information about Our Executive Officers

Set forth below are the names of the executive officers of the Company, their ages, years of service, the positions held by them and their business experience during the past five years.

Name	Age	Years of Service	Position
Andrew K. Silvernail	49	11	President, Chairman of the Board and Chief Executive Officer
William K. Grogan	41	8	Senior Vice President and Chief Financial Officer
Eric D. Ashleman	52	11	Senior Vice President and Chief Operating Officer
Jeffrey D. Bucklew	49	8	Senior Vice President-Chief Human Resources Officer
Denise R. Cade	57	4	Senior Vice President, General Counsel and Corporate Secretary
Daniel J. Salliotte	53	15	Senior Vice President-Corporate Development
Michael J. Yates	54	14	Vice President and Chief Accounting Officer

Mr. Silvernail has served as President and Chief Executive Officer since August 2011 and as Chairman of the Board since January 2012. Prior to that, Mr. Silvernail was Vice President-Group Executive Health & Science Technologies, Global Dispensing and Fire & Safety/Diversified Products from January 2011 to August 2011. From February 2010 to December 2010, Mr. Silvernail was Vice President-Group Executive Health & Science Technologies and Global Dispensing. Mr. Silvernail joined IDEX in January 2009 as Vice President-Group Executive Health & Science Technologies.

Mr. Grogan has served as Senior Vice President and Chief Financial Officer since January 2017. Prior to that, Mr. Grogan served as Vice President of Finance, Operations from July 2015 through January 2017. From January 2012 through July 2015, Mr. Grogan was Vice President-Finance for the Company’s Health & Science Technologies and Fire & Safety/Diversified Products segments.

Mr. Ashleman has served as Senior Vice President and Chief Operating Officer since July 2015. Prior to that, Mr. Ashleman served as the Vice President-Group Executive of the Company’s Health & Science Technologies and Fire & Safety/Diversified Products segments from January 2014 through July 2015 and President-Group Executive of the Company’s Fire & Safety/Diversified Products segment from 2011 through January 2014. Mr. Ashleman joined IDEX in 2008 as the President of Gast Manufacturing.

Mr. Bucklew has served as the Senior Vice President-Chief Human Resources Officer since joining IDEX in March 2012. Prior to joining IDEX, Mr. Bucklew served as the Vice President of Human Resources for Accretive Health from March 2009 to March 2012.

Ms. Cade has served as Senior Vice President, General Counsel and Corporate Secretary since joining IDEX in October 2015. Prior to joining IDEX, Ms. Cade was Senior Vice President, General Counsel, Corporate Secretary and Chief Compliance Officer for SunCoke Energy, Inc. from March 2011 to October 2015 and held various roles at PPG Industries before joining SunCoke.

Mr. Salliotte has served as Senior Vice President-Corporate Development since March 2018. Prior to that, Mr. Salliotte served as Senior Vice President-Corporate Strategy, Mergers & Acquisitions and Treasury since February 2011. Mr. Salliotte joined IDEX in October 2004 as Vice President-Strategy and Business Development.

Mr. Yates has served as Vice President and Chief Accounting Officer since February 2010, and served as interim Chief Financial Officer from September 2016 to December 2016. Mr. Yates joined IDEX as Vice President-Controller in October 2005.

The Company's executive officers are elected at a meeting of the Board of Directors immediately following the annual meeting of stockholders, and they serve until the meeting of the Board immediately following the next annual meeting of stockholders, or until their successors are duly elected and qualified or until their death, resignation or removal.

Public Filings

Copies of the Company's annual report on Form 10-K, quarterly reports on Form 10-Q, current reports on Form 8-K and amendments to those reports are made available free of charge at www.idexcorp.com as soon as reasonably practicable after being filed electronically with the United States Securities and Exchange Commission (the "SEC"). Our reports are also available free of charge on the SEC's website, www.sec.gov. Information on the Company's website is not incorporated into this Form 10-K.

Item 1A. Risk Factors.

For an enterprise as diverse and complex as the Company, a wide range of factors present risks to the Company and could materially affect future developments and performance. In addition to the factors affecting specific business operations identified in connection with the description of our operations and the financial results of our operations elsewhere in this report, the most significant of these factors are included below. Current global economic events and conditions may amplify many of these risks. These risks are not the only risks that may affect us. Additional risks that we are not aware of or do not believe are material at the time of this filing may also become important factors that adversely affect our business.

Changes in U.S. or International Economic Conditions Could Materially Adversely Affect the Sales and Profitability of Our Businesses.

In 2019, 50% of the Company's sales were derived from domestic operations while 50% were derived from international operations. The Company's largest end markets include industrial, semiconductor, automotive, life sciences and medical technologies, fire and rescue, oil and gas, paint and coatings, chemical processing, agriculture, water and wastewater treatment and optical filters and components. A slowdown in the U.S. or global economy and, in particular, any of these specific end markets could materially reduce the Company's sales and profitability.

Change to Geopolitical and Economic Conditions in the U.S. and Foreign Countries in Which We Operate Could Adversely Affect Our Business.

In 2019, approximately 50% of our total sales were to customers outside the U.S. We expect our international operations and export sales to continue to be significant for the foreseeable future. Our sales from international operations and our sales from export are both subject in varying degrees to risks inherent in doing business outside the U.S. These risks include the following:

- possibility of unfavorable circumstances arising from host country laws or regulations;
- risks of economic instability;
- currency exchange rate fluctuations and restrictions on currency repatriation;
- potential negative consequences from changes to taxation policies;
- disruption of operations from labor and political disturbances;
- withdrawal from or renegotiation of international trade agreements and other restrictions on the trade between the United States and other countries;
- risks related to other government regulation or required compliance with local laws;
- effects of the United Kingdom's decision to exit the European Union and related potential disruption to trade;
- changes in tariff and trade barriers, including the recent impact of the first phase of the trade agreement between the United States and China; and
- geopolitical events, including natural disasters, public health issues, political instability, terrorism, insurrection or war.

Any of these events could have a materially adverse impact on our business and operations.

Our Inability to Continue to Develop New Products Could Limit Our Sales Growth.

Our ability to continue to grow organically is tied in large part to our ability to continue to develop new products. A failure to continue to develop and deliver new, innovative and competitive products to the market could limit our sales growth and negatively impact our business, financial condition, results of operations and cash flow.

Our Growth Strategy Includes Acquisitions and We May Not be Able to Make Acquisitions of Suitable Candidates or Integrate Acquisitions Successfully.

Our historical growth has included, and our future growth is likely to continue to include, acquisitions. We intend to continue to seek acquisition opportunities both to expand into new markets and to enhance our position in existing markets throughout the world. We may not be able to successfully identify suitable candidates, negotiate appropriate acquisition terms, obtain financing needed to consummate those acquisitions, complete proposed acquisitions or successfully integrate acquired businesses into our existing operations. In addition, any acquisition, once successfully integrated, may not perform as planned, be accretive to earnings, or otherwise prove beneficial to us.

Acquisitions involve numerous risks, including the assumption of undisclosed or unindemnified liabilities, difficulties in the assimilation of the operations, technologies, services and products of the acquired companies and the diversion of management's

attention from other business concerns. In addition, prior acquisitions have resulted in, and future acquisitions could result in, the incurrence of substantial additional indebtedness and other expenses.

The Markets We Serve are Highly Competitive and this Competition Could Reduce our Sales and Operating Margins.

Most of our products are sold in competitive markets. Maintaining and improving our competitive position will require continued investment by us in manufacturing, engineering, quality standards, marketing, customer service and support and our distribution networks. We may not be successful in maintaining our competitive position. Our competitors may develop products that are superior to our products or may develop methods of more efficiently and effectively providing products and services or may adapt more quickly than us to new technologies or evolving customer requirements. Pricing pressures may require us to adjust the prices of our products to stay competitive. We may not be able to compete successfully with our existing competitors or with new competitors. Failure to continue competing successfully could reduce our sales, operating margins and overall financial performance.

We are Dependent on the Availability of Raw Materials, Parts and Components Used in Our Products.

While we manufacture certain parts and components used in our products, we require substantial amounts of raw materials and purchase some parts and components from suppliers. The availability and prices for raw materials, parts and components may be subject to curtailment or change due to, among other things, suppliers' allocations to other purchasers, interruptions in production by suppliers, including due to geopolitical unrest, unfavorable economic or industry conditions, labor disruptions, catastrophic weather events, natural disasters or the occurrence of a contagious disease or illness, changes in exchange rates and prevailing price levels. Any change in the supply of, or price for, these raw materials or parts and components could materially affect our business, financial condition, results of operations and cash flow.

Significant Movements in Foreign Currency Exchange Rates May Harm Our Financial Results.

We are exposed to fluctuations in foreign currency exchange rates, particularly with respect to the Euro, Swiss Franc, Canadian Dollar, British Pound, Indian Rupee, Chinese Renminbi and Swedish Krona. Any significant change in the value of the currencies of the countries in which we do business against the U.S. Dollar could affect our ability to sell products competitively and control our cost structure, which could have a material adverse effect on our results of operations. For additional detail related to this risk, see Part II, Item 7A, "Quantitative and Qualitative Disclosures About Market Risk."

Fluctuations in Interest Rates Could Adversely Affect Our Results of Operations and Financial Position.

Our profitability may be adversely affected during any periods of unexpected or rapid increases in interest rates. We maintain a revolving credit facility, which bears interest at either an alternate base rate or adjusted LIBOR plus, in each case, an applicable margin based on the Company's senior, unsecured, long-term debt rating or the Company's applicable leverage ratio. A significant increase in LIBOR would significantly increase our cost of borrowings. We are also exposed to risks if the U.S. Federal Reserve raises its benchmark interest rate, which may reduce the availability and increase the cost of obtaining new debt and refinancing existing indebtedness. For additional detail related to this risk, see Part II, Item 7A, "Quantitative and Qualitative Disclosures About Market Risk."

An Unfavorable Outcome of Any of Our Pending Contingencies or Litigation Could Adversely Affect Us.

We are currently involved in pending and threatened legal, regulatory and other proceedings arising in the ordinary course of business. These proceedings may pertain to matters such as product liability or contract disputes, and may also involve governmental inquiries, inspections, audits or investigations relating to issues such as tax matters, intellectual property, environmental, health and safety issues, governmental regulations, employment and other matters. Where it is reasonably possible to do so, we accrue estimates of the probable costs for the resolution of these matters. These estimates are developed in consultation with outside counsel and are based upon an analysis of potential results and the availability of insurance coverage, assuming a combination of litigation and settlement strategies. It is possible, however, that future operating results for any particular quarter or annual period could be materially affected by changes in our assumptions, the continued availability of insurance coverage or the effectiveness of our strategies related to these proceedings. For additional detail related to this risk, see Item 3, "Legal Proceedings" and Note 10 in Part II, Item 8, "Financial Statements and Supplementary Data."

Our Intangible Assets, Including Goodwill, are a Significant Portion of Our Total Assets and a Write-off of Our Intangible Assets or Goodwill Would Adversely Impact Our Operating Results and Significantly Reduce Our Net Worth.

Our total assets reflect substantial intangible assets, primarily goodwill and identifiable intangible assets. At December 31, 2019, goodwill and intangible assets totaled \$1,779.7 million and \$388.0 million, respectively. These assets primarily result from our acquisitions, representing the excess of the purchase price over the fair value of the tangible net assets we have acquired. Annually, or when certain events occur that require a more current valuation, we assess whether there has been an impairment in the value of our goodwill and identifiable intangible assets. If future operating performance at one or more of our reporting units were to fall significantly below forecasted levels, we could be required to reflect, under current applicable accounting rules, a non-cash charge to operating income for an impairment. Any determination requiring the write-off of a significant portion of our goodwill or identifiable intangible assets would adversely impact our results of operations and net worth. See Note 5 in Part II, Item 8, “Financial Statements and Supplementary Data” for further discussion on goodwill and intangible assets.

A Significant or Sustained Decline in Commodity Prices, Including Oil, Could Negatively Impact the Levels of Expenditures by Certain of Our Customers.

Demand for our products depends, in part, on the level of new and planned expenditures by certain of our customers. The level of expenditures by our customers is dependent on, among other factors, general economic conditions, availability of credit, economic conditions within their respective industries and expectations of future market behavior. Volatility in commodity prices, including oil, can negatively affect the level of these activities and can result in postponement of capital spending decisions or the delay or cancellation of existing orders. The ability of our customers to finance capital investment and maintenance may also be affected by the conditions in their industries. Reduced demand for our products could result in the delay or cancellation of existing orders or lead to excess manufacturing capacity, which unfavorably impacts our absorption of fixed manufacturing costs. This reduced demand could have a material adverse effect on our business, financial condition and results of operations.

Our Success Depends on Our Executive Management and Other Key Personnel.

Our future success depends to a significant degree on the skills, experience and efforts of our executive management and other key personnel and their ability to provide the Company with uninterrupted leadership and direction. The loss of the services of any of our executive officers or a failure to provide adequate succession plans for key personnel could have an adverse impact. The availability of highly qualified talent is limited and the competition for talent is robust. However, we provide long-term equity incentives and certain other benefits for our executive officers which provide incentives for them to make a long-term commitment to our Company. Our future success will also depend on our ability to have adequate succession plans in place and to attract, retain and develop qualified personnel. A failure to efficiently replace executive management members and other key personnel and to attract, retain and develop new qualified personnel could have an adverse effect on our operations and implementation of our strategic plan.

Challenges with Respect to Labor Availability Could Negatively Impact our Ability to Operate or Grow our Business.

Our success depends in part on the ability of our businesses to proactively attract, motivate and retain a qualified and highly skilled workforce in an intensely competitive labor market. A failure to attract, motivate and retain highly skilled personnel could adversely affect our operating results or our ability to operate or grow our business. Additionally, any labor stoppages or labor disruptions, including due to geopolitical unrest, unfavorable economic or industry conditions, catastrophic weather events, natural disasters or the occurrence of a contagious disease or illness could adversely affect our operating results or our ability to operate or grow our business.

Our Business Operations May Be Adversely Affected by Information Systems Interruptions or Intrusion.

We depend on various information technologies throughout our Company to administer, store and support multiple business activities. If these systems (or the systems of our customers or third-party hosting services) are damaged, cease to function properly or are subject to cyber-security attacks, such as those involving unauthorized access, malicious software and/or other intrusions, we could experience production downtimes, operational delays, other detrimental impacts on our operations or ability to provide products and services to our customers, the compromising of confidential or otherwise protected information, destruction or corruption of data, security breaches, other manipulation or improper use of our systems or networks, financial losses from remedial actions, loss of business or potential liability, penalties, fines and/or damage to our reputation. While we attempt to mitigate these risks by employing a number of measures, including employee training, technical security controls and maintenance of backup and protective systems, our systems, networks, products and services remain potentially vulnerable to known or unknown threats, any of which could have a material adverse effect on our business, financial condition or results of operations. Further, given the

unpredictability, nature and scope of cyber-security attacks, it is possible that potential vulnerabilities could go undetected for an extended period.

Failure To Comply with the U.S. Foreign Corrupt Practices Act, the U.K. Bribery Act or Other Applicable Anti-bribery Laws Could Have an Adverse Effect on Our Business.

The U.S. Foreign Corrupt Practices Act, the U.K. Bribery Act and similar anti-bribery laws in other jurisdictions generally prohibit companies and their intermediaries from making improper payments for the purpose of obtaining or retaining business. Recent years have seen a substantial increase in anti-bribery law enforcement activity with more frequent and aggressive investigations and enforcement proceedings by both the Department of Justice and the SEC, increased enforcement activity by non-U.S. regulators and increases in criminal and civil proceedings brought against companies and individuals. Our policies mandate compliance with all anti-bribery laws. However, we operate in certain countries that are recognized as having governmental and commercial corruption. Our internal control policies and procedures may not always protect us from reckless or criminal acts committed by our employees or third-party intermediaries. Violations of these anti-bribery laws may result in criminal or civil sanctions, which could have a material adverse effect on our business, financial condition and results of operations.

Item 1B. *Unresolved Staff Comments.*

None.

Item 2. *Properties.*

The Company's principal plants and offices have an aggregate floor space area of approximately 4.7 million square feet, of which 3.1 million square feet (66%) is located in the U.S. and approximately 1.6 million square feet (34%) is located outside the U.S., primarily in Germany (10%), U.K. (6%), Italy (5%), India (3%), China (2%), Sweden (2%), Canada (2%) and The Netherlands (2%). Management considers these facilities suitable and adequate for the Company's operations. Management believes the Company can meet demand increases over the near term with its existing facilities, especially given its operational improvement initiatives that usually increase capacity. The Company's executive office occupies 36,588 square feet of leased space in Lake Forest, Illinois and 16,268 square feet of leased space in Chicago, Illinois.

Approximately 2.9 million square feet (61%) of the principal plant and office floor area is owned by the Company and the balance is held under lease. Approximately 1.9 million square feet (39%) of the principal plant and office floor area is held by business units in the Fluid & Metering Technologies segment; 1.4 million square feet (30%) is held by business units in the Health & Science Technologies segment; and 1.2 million square feet (26%) is held by business units in the Fire & Safety/Diversified Products segment. The remaining 0.2 million square feet (5%) include the executive office as well as shared services locations.

Item 3. *Legal Proceedings.*

The Company and its subsidiaries are party to legal proceedings as described in Note 10 in Part II, Item 8, "Commitments and Contingencies," and such disclosure is incorporated by reference into this Item 3, "Legal Proceedings." In addition, the Company and six of its subsidiaries are presently named as defendants in a number of lawsuits claiming various asbestos-related personal injuries, allegedly as a result of exposure to products manufactured with components that contained asbestos. These components were acquired from third party suppliers and were not manufactured by the Company or any of the defendant subsidiaries. To date, the majority of the Company's settlements and legal costs, except for costs of coordination, administration, insurance investigation and a portion of defense costs, have been covered in full by insurance, subject to applicable deductibles. However, the Company cannot predict whether and to what extent insurance will be available to continue to cover these settlements and legal costs, or how insurers may respond to claims that are tendered to them. Claims have been filed in jurisdictions throughout the United States and the United Kingdom. Most of the claims resolved to date have been dismissed without payment. The balance of the claims have been settled for various insignificant amounts. Only one case has been tried, resulting in a verdict for the Company's business unit. No provision has been made in the financial statements of the Company, other than for insurance deductibles in the ordinary course, and the Company does not currently believe the asbestos-related claims will have a material adverse effect on the Company's business, financial position, results of operations or cash flows.

Item 4. *Mine Safety Disclosures.*

Not applicable.

PART II**Item 5. Market for Registrant’s Common Equity, Related Stockholder Matters and Issuer Purchases of Equity Securities.**

The Company’s common stock trades on the New York Stock Exchange under the symbol “IEX”. As of February 18, 2020, there were approximately 5,416 stockholders of record of our common stock and there were 76,205,390 shares outstanding.

Our payment of dividends in the future will be determined by our Board of Directors and will depend on business conditions, our earnings and other factors.

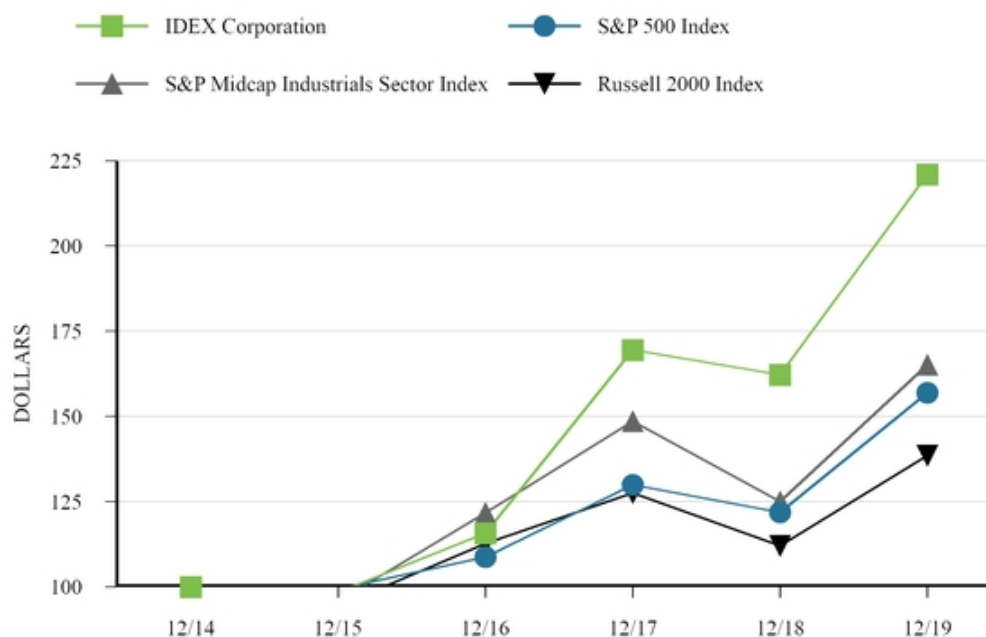
For information pertaining to securities authorized for issuance under equity compensation plans and the related weighted average exercise price, see Part III, Item 12, “Security Ownership of Certain Beneficial Owners and Management and Related Stockholder Matters.”

The Company’s purchases of common stock during the quarter ended December 31, 2019 are as follows:

Period	Total Number of Shares Purchased	Average Price Paid per Share	Total Number of Shares Purchased as Part of Publicly Announced Plans or Programs(1)	Maximum Dollar Value that May Yet be Purchased Under the Plans or Programs(1)
October 1, 2019 to October 31, 2019	—	\$ —	—	\$ 322,342,564
November 1, 2019 to November 30, 2019	—	—	—	322,342,564
December 1, 2019 to December 31, 2019	—	—	—	322,342,564
Total	—	\$ —	—	\$ 322,342,564

- (1) On December 1, 2015, the Company’s Board of Directors approved an increase of \$300.0 million in the authorized level of repurchases of common stock. This followed the prior Board of Directors approved repurchase authorization of \$400.0 million that was announced by the Company on November 6, 2014. These authorizations have no expiration date.

Performance Graph. The following table compares total stockholder returns over the last five years to the Standard & Poor’s (the “S&P”) 500 Index, the S&P Midcap Industrials Sector Index and the Russell 2000 Index assuming the value of the investment in our common stock and each index was \$100 on December 31, 2014. Total return values for our common stock, the S&P 500 Index, S&P Midcap Industrials Sector Index and the Russell 2000 Index were calculated on cumulative total return values assuming reinvestment of dividends. The stockholder return shown on the graph below is not necessarily indicative of future performance.



	12/14	12/15	12/16	12/17	12/18	12/19
IDEX Corporation	\$ 100.00	\$ 98.42	\$ 115.70	\$ 169.54	\$ 162.20	\$ 220.97
S&P 500 Index	\$ 100.00	\$ 99.27	\$ 108.74	\$ 129.86	\$ 121.76	\$ 156.92
S&P Midcap 400 Industrials Sector Index	\$ 100.00	\$ 95.72	\$ 121.64	\$ 148.61	\$ 125.03	\$ 165.04
Russell 2000 Index	\$ 100.00	\$ 94.29	\$ 112.65	\$ 127.46	\$ 111.94	\$ 138.50

The information contained in this Performance Graph section shall not be deemed to be “soliciting material” or “filed” with the SEC, nor shall such information be incorporated by reference into any future filing under the Securities Act of 1933 or the Securities Exchange Act of 1934.

Item 6. Selected Financial Data.⁽¹⁾

(Dollars in thousands, except per share data)	2019	2018	2017	2016	2015
RESULTS OF OPERATIONS					
Net sales	\$ 2,494,573	\$ 2,483,666	\$ 2,287,312	\$ 2,113,043	\$ 2,020,668
Gross profit	1,125,034	1,117,895	1,026,678	930,767	904,315
Selling, general and administrative expenses	524,987	536,724	524,940	492,398	474,156
Loss (gain) on sale of businesses - net	—	—	(9,273)	22,298	(18,070)
Restructuring expenses	21,044	12,083	8,455	3,674	11,239
Operating income	579,003	569,088	502,556	412,397	436,990
Other (income) expense - net	1,759	(3,985)	2,394	(1,731)	3,009
Interest expense	44,341	44,134	44,889	45,616	41,636
Provision for income taxes	107,382	118,366	118,016	97,403	109,538
Net income	425,521	410,573	337,257	271,109	282,807
Earnings per share: ⁽²⁾					
— basic	\$ 5.62	\$ 5.36	\$ 4.41	\$ 3.57	\$ 3.65
— diluted	\$ 5.56	\$ 5.29	\$ 4.36	\$ 3.53	\$ 3.62
Weighted average shares outstanding:					
— basic	75,594	76,412	76,232	75,803	77,126
— diluted	76,454	77,563	77,333	76,758	77,972
Year-end shares outstanding	76,088	75,953	76,694	76,441	76,535
Cash dividends per share	\$ 2.00	\$ 1.72	\$ 1.48	\$ 1.36	\$ 1.28
FINANCIAL POSITION					
Current assets	\$ 1,261,445	\$ 1,092,532	\$ 1,004,043	\$ 822,721	\$ 862,684
Current liabilities	357,877	364,661	360,975	309,158	309,597
Current ratio	3.5	3.0	2.8	2.7	2.8
Operating working capital ⁽³⁾	453,190	448,991	406,823	396,739	370,213
Total assets	\$ 3,813,912	\$ 3,473,857	\$ 3,399,628	\$ 3,154,944	\$ 2,805,443
Total borrowings	849,252	848,818	859,046	1,015,281	840,794
Shareholders' equity	2,263,229	1,994,640	1,886,542	1,543,894	1,443,291
PERFORMANCE MEASURES AND OTHER DATA					
Percent of net sales:					
Gross profit	45.1%	45.0%	44.9%	44.0%	44.8%
Selling, general and administrative expenses	21.0%	21.6%	23.0%	23.3%	23.5%
Operating income	23.2%	22.9%	22.0%	19.5%	21.6%
Income before income taxes	21.4%	21.3%	19.9%	17.4%	19.4%
Net income	17.1%	16.5%	14.7%	12.8%	14.0%
Capital expenditures	\$ 50,912	\$ 56,089	\$ 43,858	\$ 38,242	\$ 43,776
Depreciation and amortization	76,876	77,544	84,216	86,892	78,120
Return on average assets ⁽⁴⁾	11.7%	11.9%	10.3%	9.1%	9.9%
Borrowings as a percent of capitalization ⁽⁴⁾	27.3%	29.9%	31.3%	39.7%	36.8%
Return on average shareholders' equity ⁽⁴⁾	20.0%	21.2%	19.7%	18.2%	19.3%
Employees at year end	7,439	7,352	7,167	7,158	6,801
NON-GAAP MEASURES ⁽⁵⁾					
EBITDA	\$ 654,120	\$ 650,617	\$ 584,378	\$ 501,020	\$ 512,101
EBITDA margin	26.2%	26.2%	25.5%	23.7%	25.3%
Adjusted EBITDA	\$ 678,504	\$ 662,700	\$ 583,560	\$ 530,546	\$ 505,270
Adjusted EBITDA margin	27.2%	26.7%	25.5%	25.1%	25.0%
Adjusted operating income	\$ 603,387	\$ 581,171	\$ 501,738	\$ 438,369	\$ 430,159
Adjusted operating margin	24.2%	23.4%	21.9%	20.7%	21.3%
Adjusted net income	\$ 444,204	\$ 419,624	\$ 333,667	\$ 288,373	\$ 277,229
Adjusted earnings per share	\$ 5.80	\$ 5.41	\$ 4.31	\$ 3.75	\$ 3.55

(1) This selected financial data should be read in conjunction with our Consolidated Financial Statements and related Notes in Part II, Item 8, "Financial Statements and Supplementary Data" and with Item 7, "Management's Discussion and Analysis of Financial Condition and Results of Operations."

(2) Calculated by applying the two-class method of allocating earnings to common stock and participating securities as required by Accounting Standards Codification ("ASC") 260, *Earnings Per Share*.

(3) Operating working capital is defined as inventory plus accounts receivable minus accounts payable.

- (4) Return on average assets is calculated as: $\text{Net income} / (\text{Current year Total assets} + \text{Prior year Total assets}) / 2$; Borrowings as a percent of capitalization is calculated as: $(\text{Long-term borrowings} + \text{Short-term borrowings}) / (\text{Long-term borrowings} + \text{Short-term borrowings} + \text{Total shareholders' equity})$; Return on average shareholders' equity is calculated as $\text{Net Income} / (\text{Current year Total shareholders' equity} + \text{Prior year Total shareholders' equity}) / 2$.
- (5) Set forth below are reconciliations of Adjusted gross profit, Adjusted operating income, Adjusted net income, Adjusted EPS, EBITDA and Adjusted EBITDA to the comparable measures of net income and operating income, as determined in accordance with accounting principles generally accepted in the United States of America ("U.S. GAAP"). We have reconciled Adjusted gross profit to Gross profit, Adjusted operating income to Operating income; Adjusted net income to Net income; Adjusted EPS to EPS; consolidated EBITDA, segment EBITDA, adjusted consolidated EBITDA and adjusted segment EBITDA to net income. The reconciliation of segment EBITDA to net income was performed on a consolidated basis due to the fact that we do not allocate consolidated interest expense or the consolidated provision for income taxes to our segments.

Management uses Adjusted gross profit, Adjusted operating income, Adjusted net income and Adjusted EPS as metrics by which to measure performance of the Company since they exclude items that are not reflective of ongoing operations, such as gains/losses on the sale of businesses, restructuring expenses, a fair value inventory step-up charge and pension settlements. Management also supplements its U.S. GAAP financial statements with adjusted information to provide investors with greater insight, transparency and a more comprehensive understanding of the information used by management in its financial and operational decision making.

EBITDA means earnings before interest, income taxes, depreciation and amortization. Given the acquisitive nature of the Company, which results in a higher level of amortization expense from recently acquired businesses, management uses EBITDA as an internal operating metric to provide another representation of the businesses' performance across our three segments and for enterprise valuation purposes. EBITDA is also used to calculate certain financial covenants, as discussed in Note 6 of the Notes to Consolidated Financial Statements in Part II, Item 8, "Financial Statements and Supplementary Data." In addition, EBITDA has been adjusted for items that are not reflective of ongoing operations, such as gains/losses on the sale of businesses, restructuring expenses, a fair value inventory step-up charge and pension settlements to arrive at Adjusted EBITDA. Management believes that Adjusted EBITDA is useful as a performance indicator of ongoing operations. We believe that Adjusted EBITDA is also useful to some investors as an indicator of the strength and performance of the Company and its segments' ongoing business operations and a way to evaluate and compare operating performance and value companies within our industry. The definition of Adjusted EBITDA used here may differ from that used by other companies.

Also set forth below is a reconciliation of the change in organic net sales to the comparable measure of net sales as determined in accordance with U.S. GAAP, which represents the year-over-year consistency in net sales after excluding the impact from acquisitions/divestitures and foreign currency translation. Refer to Item 7, Management's Discussion and Analysis of Financial Condition and Results of Operations for additional discussion of organic net sales.

The non-GAAP financial measures disclosed by the Company should not be considered a substitute for, or superior to, financial measures prepared in accordance with U.S. GAAP. The financial results prepared in accordance with U.S. GAAP and the reconciliations from these results should be carefully evaluated.

1. Reconciliations of Consolidated EBITDA

	For the Years Ended December 31,				
	2019	2018	2017	2016	2015
	(In thousands)				
Net income	\$ 425,521	\$ 410,573	\$ 337,257	\$ 271,109	\$ 282,807
+ Provision for income taxes	107,382	118,366	118,016	97,403	109,538
+ Interest expense	44,341	44,134	44,889	45,616	41,636
+ Depreciation and amortization	76,876	77,544	84,216	86,892	78,120
EBITDA	654,120	650,617	584,378	501,020	512,101
+ Restructuring expenses	21,044	12,083	8,455	3,674	11,239
+ Loss (gain) on sale of businesses - net	—	—	(9,273)	22,298	(18,070)
+ Pension settlement	—	—	—	3,554	—
+ Fair value inventory step-up charge	3,340	—	—	—	—
Adjusted EBITDA	\$ 678,504	\$ 662,700	\$ 583,560	\$ 530,546	\$ 505,270
Net sales	\$ 2,494,573	\$ 2,483,666	\$ 2,287,312	\$ 2,113,043	\$ 2,020,668
EBITDA margin	26.2%	26.2%	25.5%	23.7%	25.3%
Adjusted EBITDA margin	27.2%	26.7%	25.5%	25.1%	25.0%

2. Reconciliations of Segment EBITDA

	For the Years Ended December 31,								
	2019			2018			2017		
	FMT	HST	FSDP	FMT	HST	FSDP	FMT	HST	FSDP
	(In thousands)								
EBITDA	\$ 306,933	\$ 237,480	\$ 178,820	\$ 296,079	\$ 246,810	\$ 186,538	\$ 263,610	\$ 225,649	\$ 159,610
+ Restructuring expenses	2,879	14,249	1,364	2,458	5,904	2,184	3,374	4,696	255
+ Fair value inventory step-up		3,340							

charge									
Adjusted EBITDA	\$ 309,812	\$ 255,069	\$ 180,184	\$ 298,537	\$ 252,714	\$ 188,722	\$ 266,984	\$ 230,345	\$ 159,865
Net sales	\$ 957,028	\$ 914,446	\$ 626,770	\$ 951,552	\$ 896,419	\$ 637,028	\$ 880,957	\$ 820,131	\$ 587,533
EBITDA margin	32.1%	26.0%	28.5%	31.1%	27.5%	29.3%	29.9%	27.5%	27.2%
Adjusted EBITDA margin	32.4%	27.9%	28.7%	31.4%	28.2%	29.6%	30.3%	28.1%	27.2%

3. Reconciliations of Consolidated Reported-to-Adjusted Operating Income and Margin

	For the Years Ended December 31,				
	2019	2018	2017	2016	2015
	(In thousands)				
Operating income	\$ 579,003	\$ 569,088	\$ 502,556	\$ 412,397	\$ 436,990
+ Restructuring expenses	21,044	12,083	8,455	3,674	11,239
+ Loss (gain) on sale of businesses - net	—	—	(9,273)	22,298	(18,070)
+ Fair value inventory step-up charge	3,340	—	—	—	—
Adjusted operating income	\$ 603,387	\$ 581,171	\$ 501,738	\$ 438,369	\$ 430,159
Net sales	\$ 2,494,573	\$ 2,483,666	\$ 2,287,312	\$ 2,113,043	\$ 2,020,668
Operating margin	23.2%	22.9%	22.0%	19.5%	21.6%
Adjusted operating margin	24.2%	23.4%	21.9%	20.7%	21.3%

4. Reconciliations of Segment Reported-to-Adjusted Operating Income and Margin

	For the Years Ended December 31,								
	2019			2018			2017		
	FMT	HST	FSDP	FMT	HST	FSDP	FMT	HST	FSDP
	(In thousands)								
Operating income	\$ 285,256	\$ 200,200	\$ 165,258	\$ 275,060	\$ 205,679	\$ 168,601	\$ 241,030	\$ 179,567	\$ 147,028
+ Restructuring expenses	2,879	14,249	1,364	2,458	5,904	2,184	3,374	4,696	255
+ Fair value inventory step-up charge	—	3,340	—	—	—	—	—	—	—
Adjusted operating income	\$ 288,135	\$ 217,789	\$ 166,622	\$ 277,518	\$ 211,583	\$ 170,785	\$ 244,404	\$ 184,263	\$ 147,283
Net sales	\$ 957,028	\$ 914,446	\$ 626,770	\$ 951,552	\$ 896,419	\$ 637,028	\$ 880,957	\$ 820,131	\$ 587,533
Operating margin	29.8%	21.9%	26.4%	28.9%	22.9%	26.5%	27.4%	21.9%	25.0%
Adjusted operating margin	30.1%	23.8%	26.6%	29.2%	23.6%	26.8%	27.7%	22.5%	25.1%

5. Reconciliations of Consolidated Reported-to-Adjusted Gross Profit and Margin

	For the Years Ended December 31,				
	2019	2018	2017	2016	2015
	(In thousands)				
Gross profit	\$ 1,125,034	\$ 1,117,895	\$ 1,026,678	\$ 930,767	\$ 904,315
+ Fair value inventory step-up charge	3,340	—	—	—	—
Adjusted gross profit	\$ 1,128,374	\$ 1,117,895	\$ 1,026,678	\$ 930,767	\$ 904,315
Net sales	\$ 2,494,573	\$ 2,483,666	\$ 2,287,312	\$ 2,113,043	\$ 2,020,668
Gross margin	45.1%	45.0%	44.9%	44.0%	44.8%
Adjusted gross margin	45.2%	45.0%	44.9%	44.0%	44.8%

6. Reconciliations of Reported-to-Adjusted Net Income and EPS

For the Years Ended December 31,

	2019	2018	2017	2016	2015
	(In thousands)				
Net income	\$ 425,521	\$ 410,573	\$ 337,257	\$ 271,109	\$ 282,807
+ Restructuring expenses	21,044	12,083	8,455	3,674	11,239
+ Tax impact on restructuring expenses	(4,966)	(3,032)	(2,772)	(1,299)	(3,586)
+ Fair value inventory step-up charge	3,340	—	—	—	—
+ Tax impact on fair value inventory step-up charge	(735)	—	—	—	—
+ Loss (gain) on sale of businesses	—	—	(9,273)	22,298	(18,070)
+ Tax impact on loss (gain) on sale of businesses	—	—	—	(9,706)	4,839
+ Pension settlement	—	—	—	3,554	—
+ Tax impact on pension settlement	—	—	—	(1,257)	—
Adjusted net income	\$ 444,204	\$ 419,624	\$ 333,667	\$ 288,373	\$ 277,229
EPS	\$ 5.56	\$ 5.29	\$ 4.36	\$ 3.53	\$ 3.62
+ Restructuring expenses	0.28	0.16	0.11	0.05	0.14
+ Tax impact on restructuring expenses	(0.07)	(0.04)	(0.04)	(0.02)	(0.04)
+ Fair value inventory step-up charge	0.04	—	—	—	—
+ Tax impact on fair value inventory step-up charge	(0.01)	—	—	—	—
+ Loss (gain) on sale of businesses	—	—	(0.12)	0.29	(0.23)
+ Tax impact on loss (gain) on sale of businesses	—	—	—	(0.13)	0.06
+ Pension settlement	—	—	—	0.05	—
+ Tax impact on pension settlement	—	—	—	(0.02)	—
Adjusted EPS	\$ 5.80	\$ 5.41	\$ 4.31	\$ 3.75	\$ 3.55
Diluted weighted average shares	76,454	77,563	77,333	76,758	77,972

7. Reconciliations of EBITDA to Net Income (dollars in thousands)

	For the Year Ended December 31, 2019				
	FMT	HST	FSDP	Corporate	IDEX
Operating income (loss)	\$ 285,256	\$ 200,200	\$ 165,258	\$ (71,711)	\$ 579,003
- Other (income) expense - net	475	2,441	771	(1,928)	1,759
+ Depreciation and amortization	22,152	39,721	14,333	670	76,876
EBITDA	306,933	237,480	178,820	(69,113)	654,120
- Interest expense					44,341
- Provision for income taxes					107,382
- Depreciation and amortization					76,876
Net income					\$ 425,521
Net sales (eliminations)	\$ 957,028	\$ 914,446	\$ 626,770	\$ (3,671)	\$ 2,494,573
Operating margin	29.8%	21.9%	26.4%	n/m	23.2%
EBITDA margin	32.1%	26.0%	28.5%	n/m	26.2%

	For the Year Ended December 31, 2018				
	FMT	HST	FSDP	Corporate	IDEX
Operating income (loss)	\$ 275,060	\$ 205,679	\$ 168,601	\$ (80,252)	\$ 569,088
- Other (income) expense - net	1,351	(1,192)	(3,444)	(700)	(3,985)
+ Depreciation and amortization	22,370	39,939	14,493	742	77,544
EBITDA	296,079	246,810	186,538	(78,810)	650,617
- Interest expense					44,134
- Provision for income taxes					118,366
- Depreciation and amortization					77,544
Net income					\$ 410,573
Net sales (eliminations)	\$ 951,552	\$ 896,419	\$ 637,028	\$ (1,333)	\$ 2,483,666
Operating margin	28.9%	22.9%	26.5%	n/m	22.9%
EBITDA margin	31.1%	27.5%	29.3%	n/m	26.2%

For the Year Ended December 31, 2017

	FMT	HST	FSDP	Corporate	IDEX
Operating income (loss)	\$ 241,030	\$ 179,567	\$ 147,028	\$ (65,069)	\$ 502,556
- Other (income) expense - net	1,007	(795)	1,959	223	2,394
+ Depreciation and amortization	23,587	45,287	14,541	801	84,216
EBITDA	263,610	225,649	159,610	(64,491)	584,378
- Interest expense					44,889
- Provision for income taxes					118,016
- Depreciation and amortization					84,216
Net income					<u>\$ 337,257</u>
Net sales (eliminations)	\$ 880,957	\$ 820,131	\$ 587,533	\$ (1,309)	\$ 2,287,312
Operating margin	27.4%	21.9%	25.0%	n/m	22.0%
EBITDA margin	29.9%	27.5%	27.2%	n/m	25.5%

8. Reconciliation of the Change in Net Sales to Net Organic Sales

	For the Year Ended December 31,											
	2019				2018				2017			
	FMT	HST	FSDP	IDEX	FMT	HST	FSDP	IDEX	FMT	HST	FSDP	IDEX
Change in net sales	1 %	2 %	(2)%	— %	8 %	9%	8%	9%	4 %	10 %	13%	8%
- Net impact from acquisitions/divestitures	— %	2 %	— %	1 %	(2)%	2%	—%	—%	(2)%	3 %	9%	2%
- Impact from FX	(1)%	(1)%	(2)%	(2)%	1 %	1%	1%	1%	— %	(1)%	—%	—%
Change in organic net sales	<u>2 %</u>	<u>1 %</u>	<u>— %</u>	<u>1 %</u>	<u>9 %</u>	<u>6%</u>	<u>7%</u>	<u>8%</u>	<u>6 %</u>	<u>8 %</u>	<u>4%</u>	<u>6%</u>

Refer to Management's Discussion and Analysis for definition and further discussion on organic sales.

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 our Consolidated Financial Statements and related notes in this annual report. This discussion may contain forward-looking statements based upon current expectations that involve risks and uncertainties. Our actual results and the timing of selected events could differ materially from those anticipated in these forward-looking statements as a result of several factors, including those set forth under Item 1A, "Risk Factors" and elsewhere in this annual report.

2019 Overview

IDEX is an applied solutions company specializing in the manufacture of fluid and metering technologies, health and science technologies and fire, safety and other diversified products built to customers' specifications. IDEX's products are sold in niche markets across a wide range of industries throughout the world. Accordingly, IDEX's businesses are affected by levels of industrial activity and economic conditions in the U.S. and in other countries where it does business and by the relationship of the U.S. dollar to other currencies. Levels of capacity utilization and capital spending in certain industries and overall industrial activity are important factors that influence the demand for IDEX's products.

The Company has three reportable business segments: Fluid & Metering Technologies, Health & Science Technologies and Fire & Safety/Diversified Products. Within our three reportable segments, the Company maintains 13 platforms, where we focus on organic growth and strategic acquisitions. Each of our 13 platforms is also a reporting unit that we annually test goodwill for impairment.

The Fluid & Metering Technologies segment designs, produces and distributes positive displacement pumps, flow meters, injectors and other fluid-handling pump modules and systems and provides flow monitoring and other services for the food, chemical, general industrial, water and wastewater, agriculture and energy industries. The Fluid & Metering Technologies segment contains the Energy platform (comprised of Corken, Liquid Controls, SAMPI and Toptech), the Valves platform (comprised of Alfa Valvole, Richter and Aegis), the Water platform (comprised of Pulsafeeder, OBL, Knight, ADS, Trebor and iPEK), the Pumps platform (comprised of Viking and Warren Rupp) and the Agriculture platform (comprised of Banjo).

The Health & Science Technologies segment designs, produces and distributes a wide range of precision fluidics, rotary lobe pumps, centrifugal and positive displacement pumps, roll compaction and drying systems used in beverage, food processing, pharmaceutical and cosmetics, pneumatic components and sealing solutions, including very high precision, low-flow rate pumping solutions required in analytical instrumentation, clinical diagnostics and drug discovery, high performance molded and extruded sealing components, custom mechanical and shaft seals for a variety of end markets including food and beverage, marine, chemical, wastewater and water treatment, engineered hygienic mixers and valves for the global biopharmaceutical industry, biocompatible medical devices and implantables, air compressors used in medical, dental and industrial applications, optical components and coatings for applications in the fields of scientific research, defense, biotechnology, aerospace, telecommunications and electronics manufacturing, laboratory and commercial equipment used in the production of micro and nano scale materials, precision photonic solutions used in life sciences, research and defense markets and precision gear and peristaltic pump technologies that meet exacting original equipment manufacturer specifications. The Health & Science Technologies segment contains the Scientific Fluidics & Optics platform (comprised of Eastern Plastics, Rheodyne, Sapphire Engineering, Upchurch Scientific, ERC, CiDRA Precision Services, thinXXS, CVI Melles Griot, Semrock, Advanced Thin Films and FLI), the Sealing Solutions platform (comprised of Precision Polymer Engineering, FTL Seals Technology, Novotema, SFC Koenig and Velcora) the Gast platform, the Micropump platform and the Material Processing Technologies platform (comprised of Quadro, Fitzpatrick, Microfluidics and Matcon).

The Fire & Safety/Diversified Products segment designs, produces and develops firefighting pumps, valves and controls, rescue tools, lifting bags and other components and systems for the fire and rescue industry, engineered stainless steel banding and clamping devices used in a variety of industrial and commercial applications and precision equipment for dispensing, metering, and mixing colorants and paints used in a variety of retail and commercial businesses around the world. The Fire & Safety/Diversified Products segment is comprised of the Fire & Safety platform (comprised of Class 1, Hale, Akron Brass, AWG Fittings, Godiva, Dinglee, Hurst Jaws of Life, Lukas and Vetter), the Band-It platform and the Dispensing platform.

Our 2019 financial results were as follows:

- Sales of \$2.5 billion were flat, reflecting a 1% increase in organic sales and a 1% increase due to acquisitions (Velcora - July 2019 and FLI - July 2018), offset by a 2% decrease due to foreign currency translation.
- Operating income of \$579.0 million was up 2% and operating margin of 23.2% was up 30 basis points from the prior year.
- Net income increased 4% to \$425.5 million.

- Diluted EPS of \$5.56 increased \$0.27, or 5%, compared to 2018.

Our 2019 financial results, adjusted for \$21.0 million of restructuring expense and a \$3.3 million fair value inventory step-up charge, compared to our 2018 financial results, adjusted for \$12.1 million of restructuring expense, were as follows (these non-GAAP measures have been reconciled to U.S. GAAP measures in Item 6, “Selected Financial Data”):

- Adjusted operating income of \$603.4 million was up 4% and adjusted operating margin of 24.2% was up 80 basis points from the prior year.
- Adjusted net income increased 6% to \$444.2 million.
- Adjusted EPS of \$5.80 was 7% higher than prior year adjusted EPS of \$5.41.

Results of Operations

The following is a discussion and analysis of our results of operations for the year ended December 31, 2019 compared to the year ended December 31, 2018. For discussion related to the results of operations for the year ended December 31, 2018 compared to the year ended December 31, 2017, refer to Part II, Item 7, “Management’s Discussion and Analysis of Financial Condition and Results of Operations” in the Company’s annual report on Form 10-K for the year ended December 31, 2018, which was filed with the SEC on February 28, 2019. For purposes of this Item, reference is made to the Consolidated Statements of Operations in Part II, Item 8, “Financial Statements and Supplementary Data.” Segment operating income excludes unallocated corporate operating expenses. Management’s primary measurements of segment performance are sales, operating income and operating margin.

In the following discussion, and throughout this report, references to organic sales, a non-GAAP measure, refers to sales from continuing operations calculated according to U.S. GAAP but excludes (1) the impact of foreign currency translation and (2) sales from acquired or divested businesses during the first twelve months of ownership or divestiture. The portion of sales attributable to foreign currency translation is calculated as the difference between (a) the period-to-period change in organic sales and (b) the period-to-period change in organic sales after applying prior period foreign exchange rates to the current year period. Management believes that reporting organic sales provides useful information to investors by helping identify underlying growth trends in our business and facilitating easier comparisons of our revenue performance with prior and future periods and to our peers. The Company excludes the effect of foreign currency translation from organic sales because foreign currency translation is not under management’s control, is subject to volatility and can obscure underlying business trends. The Company excludes the effect of acquisitions and divestitures because they can obscure underlying business trends and make comparisons of long-term performance difficult due to the varying nature, size and number of transactions from period to period and between the Company and its peers.

Performance in 2019 Compared with 2018

(In thousands)	2019	2018	Change
Net sales	\$ 2,494,573	\$ 2,483,666	—
Operating income	579,003	569,088	2%

Sales in 2019 were \$2.5 billion, which was flat compared with last year. This reflects a 1% increase in organic sales and a 1% increase from acquisitions (Velcora - July 2019 and FLI - July 2018), offset by a 2% unfavorable impact from foreign currency translation. Sales to customers outside the U.S. represented approximately 50% of total sales in 2019 compared with 51% in 2018.

In 2019, Fluid & Metering Technologies contributed 38% of sales and 44% of total segment operating income; Health & Science Technologies contributed 37% of sales and 31% of total segment operating income; and Fire & Safety/Diversified Products contributed 25% of sales and 25% of total segment operating income.

Gross profit of \$1.1 billion in 2019 increased \$7.1 million, or 1%, from 2018, while gross margin increased 10 basis points to 45.1% in 2019 from 45.0% in 2018. The increase in gross profit and margin is primarily a due to price capture and productivity initiatives, partially offset by a fair value inventory step-up charge, inflation and higher engineering costs.

Selling, general and administrative (“SG&A”) expenses decreased to \$525.0 million in 2019 from \$536.7 million in 2018. The \$11.7 million decrease is primarily due to lower variable compensation expenses and tighter cost controls in 2019 as well as a stamp duty charge in Switzerland in 2018. As a percentage of sales, SG&A expenses were 21.2% for 2019 and 21.6% for 2018.

In 2019 and 2018, the Company incurred pre-tax restructuring expenses totaling \$21.0 million and \$12.1 million, respectively, to facilitate long-term, sustainable growth through cost reduction actions, primarily consisting of employee reductions, facility

rationalization and impairment charges. The restructuring expenses included severance benefits of \$9.8 million, exit costs of \$1.1 million and impairment charges of \$10.1 million. In the second quarter of 2019, the Company began to evaluate strategic alternatives for one of its businesses in the HST segment. Prior to making a final decision on the options that were presented for this business, the business was informed in the third quarter of 2019 of the loss of its largest customer. As a result, the Company accelerated its restructuring activities for this business and a decision was made to wind down the business over time, requiring a \$9.7 million impairment charge. In addition, in the fourth quarter of 2019, the Company completed the consolidation of one of its facilities into the Optics Center of Excellence in Rochester, New York, which resulted in a \$0.4 million impairment charge.

Operating income of \$579.0 million in 2019 increased from \$569.1 million in 2018, and operating margin of 23.2% in 2019 was up 30 basis points from 22.9% in 2018. Both operating income and operating margin increased compared to 2018 primarily due to price capture, productivity initiatives and tighter cost controls in 2019, partially offset by inflation and sales mix.

Other (income) expense - net changed by \$5.7 million, from income of \$4.0 million in 2018 to expense of \$1.8 million in 2019 mainly due to foreign currency transaction gains in 2018 that did not repeat in 2019.

Interest expense increased to \$44.3 million in 2019 from \$44.1 million in 2018. The increase was primarily due to interest on debt assumed in the Velcora acquisition, which has been subsequently retired.

The provision for income taxes is based upon estimated annual tax rates for the year applied to federal, state and foreign income. The provision for income taxes decreased to \$107.4 million in 2019 compared to \$118.4 million in 2018. The effective tax rate decreased to 20.2% in 2019 compared to 22.4% in 2018 due to an increase in the excess tax benefits related to share-based compensation, a partial change in the assertion of permanent reinvestment of certain foreign tax earnings in 2018, and the mix of global pre-tax income among jurisdictions.

Net income for the year of \$425.5 million increased from \$410.6 million in 2018. Diluted earnings per share in 2019 of \$5.56 increased \$0.27 from \$5.29 in 2018.

Fluid & Metering Technologies Segment

(In thousands)	2019	2018	Change	
Net sales	\$ 957,028	\$ 951,552	1%	
Operating income	285,256	275,060	4%	
Operating margin	29.8%	28.9%	90	bps

Sales of \$957.0 million increased \$5.5 million, or 1%, in 2019 compared with 2018. This increase reflected a 2% increase in organic sales, partially offset by a 1% unfavorable impact from foreign currency translation. In 2019, sales were flat domestically and up 1% internationally. Sales to customers outside the U.S. were approximately 43% of total segment sales in both 2019 and 2018.

Sales within our Valves platform increased compared to 2018 due to strength in the chemical end market. Sales within our Pumps platform increased compared to 2018 due to strength in the North American industrial market in the first half of the year and lease automated custody transfer (“LACT”) product growth. Sales within our Energy platform increased slightly compared to 2018 due to market demand stability, despite lower capital investment as a result of declines in fuel prices. Sales within our Water platform were flat compared to 2018 as municipal markets remained fairly consistent. Sales within our Agriculture platform decreased compared to 2018 due to challenging market conditions from geopolitical uncertainty and depressed commodity prices.

Operating income and operating margin of \$285.3 million and 29.8%, respectively, were higher than the \$275.1 million and 28.9%, respectively, recorded in 2018, primarily due to increased volume, price capture and productivity initiatives.

Health & Science Technologies Segment

(In thousands)	2019	2018	Change	
Net sales	\$ 914,446	\$ 896,419	2 %	
Operating income	200,200	205,679	(3)%	
Operating margin	21.9%	22.9%	(100)	bps

Sales of \$914.4 million increased \$18.0 million, or 2%, in 2019 compared with 2018. This increase reflected a 1% increase in organic sales and a 2% increase from acquisitions (Velcora - July 2019 and FLI - July 2018), partially offset by a 1% unfavorable impact from foreign currency translation. In 2019, sales increased 5% domestically and were flat internationally. Sales to customers outside the U.S. were approximately 55% of total segment sales in 2019 compared with 56% in 2018.

Sales in our Gast platform increased compared to 2018 due to strong demand related to our targeted growth initiatives. Sales within our Scientific Fluidics & Optics platform increased compared to 2018 due to new product introductions and strong demand across our end markets primarily in vitro diagnostics (“IVD”) and biotechnology. Sales within our Sealing Solutions platform were flat compared to 2018 due to the Velcora acquisition, offset by weakness in the semiconductor and industrial markets. Sales within our Material Processing Technologies platform decreased compared to 2018 due to project timing. Sales within our Micropump platform decreased compared to 2018 due to end market demand volatility.

Operating income and operating margin of \$200.2 million and 21.9%, respectively, in 2019 were down from \$205.7 million and 22.9%, respectively, in 2018, primarily due to the impairment charges and the fair value inventory step-up charge, partially offset by price capture and tighter cost controls in 2019.

Fire & Safety/Diversified Products Segment

(In thousands)	2019	2018	Change
Net sales	\$ 626,770	\$ 637,028	(2)%
Operating income	165,258	168,601	(2)%
Operating margin	26.4%	26.5%	(10) bps

Sales of \$626.8 million decreased \$10.3 million, or 2%, in 2019 compared with 2018. This decrease reflected flat organic sales and a 2% unfavorable impact from foreign currency translation. In 2019, sales increased 2% domestically and decreased 5% internationally. Sales to customers outside the U.S. were approximately 52% of total segment sales in 2019 compared with 53% in 2018.

Sales within our Dispensing platform decreased compared to 2018 due to the timing of large projects in 2018 that did not reoccur in 2019. Sales in our Band-It platform increased compared to 2018 due to strength in transportation markets, partially offset by weakness in the industrial end market. Sales within our Fire & Safety platform increased compared to 2018 primarily due to OEM and distribution strength as well as strong demand for new product introductions.

Operating income of \$165.3 million and operating margin of 26.4%, respectively, were lower than the \$168.6 million and 26.5%, respectively, in 2018, primarily due to volume declines and sales mix in the Dispensing platform.

Liquidity and Capital Resources

Operating Activities

Cash flows from operating activities increased \$48.7 million, or 10.2%, to \$528.1 million in 2019, primarily due to higher earnings and favorable operating working capital, partially offset by lower income taxes payable and lower incentive compensation. At December 31, 2019, working capital was \$903.6 million and the Company’s current ratio was 3.5 to 1. At December 31, 2019, the Company’s cash and cash equivalents totaled \$632.6 million, of which \$350.9 million was held outside of the United States.

Investing Activities

Cash flows used in investing activities increased \$55.6 million to \$137.0 million in 2019, primarily due to \$87.2 million spent on the acquisition of Velcora in 2019 compared to \$20.2 million spent on the acquisition of FLI in 2018, partially offset by lower capital expenditures in 2019 and \$4.0 million spent on the purchase of intellectual property assets from Phantom in 2018.

Cash flows from operations were more than adequate to fund capital expenditures of \$50.9 million and \$56.1 million in 2019 and 2018, respectively. Capital expenditures were generally for machinery and equipment that supported growth, improved productivity, tooling, business system technology, replacement of equipment and investments in new facilities. Management believes that the Company has ample capacity in its plants and equipment to meet demand increases for future growth in the intermediate term.

Financing Activities

Cash flows used in financing activities decreased \$62.4 million to \$227.6 million in 2019, primarily as a result of lower share repurchases in 2019, partially offset by higher debt repayments due to the repayment of debt assumed in the Velcora acquisition and higher dividends paid in 2019.

On June 13, 2016, the Company completed a private placement of a \$100 million aggregate principal amount of 3.20% Senior Notes due June 13, 2023 and a \$100 million aggregate principal amount of 3.37% Senior Notes due June 13, 2025 (collectively, the “Notes”) pursuant to a Note Purchase Agreement, dated June 13, 2016 (the “Purchase Agreement”). Each series of Notes bears interest at the stated amount per annum, which is payable semi-annually in arrears on each June 13th and December 13th. The Notes are unsecured obligations of the Company and rank pari passu in right of payment with all of the Company’s other unsecured, unsubordinated debt. The Company may at any time prepay all, or any portion of the Notes; provided that such portion is greater than 5% of the aggregate principal amount of the Notes then outstanding. In the event of a prepayment, the Company will pay an amount equal to par plus accrued interest plus a make-whole amount. In addition, the Company may repurchase the Notes by making an offer to all holders of the Notes, subject to certain conditions.

On May 31, 2019, the Company entered into a credit agreement (the “Credit Agreement”) along with certain of its subsidiaries, as borrowers (the “Borrowers”), Bank of America, N.A., as administrative agent, swing line lender and an issuer of letters of credit, with other agents party thereto. The Credit Agreement consists of a revolving credit facility (the “Revolving Facility”), which is an \$800.0 million unsecured, multi-currency bank credit facility expiring on May 30, 2024. The Credit Agreement replaced the Company’s prior five-year, \$700 million credit agreement, dated as of June 23, 2015, which was due to expire in June 2020. At December 31, 2019, there was no balance outstanding under the Revolving Facility and \$8.5 million of outstanding letters of credit, resulting in a net available borrowing capacity under the Revolving Facility of \$791.5 million.

Borrowings under the Revolving Facility bear interest, at either an alternate base rate or adjusted LIBOR plus, in each case, an applicable margin. Such applicable margin is based on the better of the Company’s senior, unsecured, long-term debt rating or the Company’s applicable leverage ratio. Interest is payable (a) in the case of base rate loans, quarterly, and (b) in the case of LIBOR loans, on the last day of the applicable interest period selected, or every three months from the effective date of such interest period for interest periods exceeding three months. The Company may request increases in the lending commitments under the Credit Agreement, but the aggregate lending commitments pursuant to such increases may not exceed \$400 million.

The Company has the right, subject to certain conditions set forth in the Credit Agreement, to designate certain foreign subsidiaries of the Company as borrowers under the Credit Agreement. In connection with any such designation, the Company is required to guarantee the obligations of any such subsidiaries under the Credit Agreement.

On December 9, 2011, the Company completed a public offering of \$350.0 million 4.2% senior notes due December 15, 2021 (“4.2% Senior Notes”). The net proceeds from the offering of \$346.2 million, after deducting a \$0.9 million issuance discount, a \$2.3 million underwriting commission and \$0.6 million of offering expenses, were used to repay \$306.0 million of outstanding bank indebtedness, with the balance used for general corporate purposes. The 4.2% Senior Notes bear interest at a rate of 4.2% per annum, which is payable semi-annually in arrears on each June 15 and December 15. The Company may redeem all or part of the 4.2% Senior Notes at any time prior to maturity at the redemption prices set forth in the Note Indenture governing the 4.2% Senior Notes. The Company may issue additional debt from time to time pursuant to the Indenture. The Indenture and 4.2% Senior Notes contain covenants that limit the Company’s ability to, among other things, incur certain liens securing indebtedness, engage in certain sale-leaseback transactions, and enter into certain consolidations, mergers, conveyances, transfers or leases of all or substantially all of the Company’s assets. The terms of the 4.2% Senior Notes also require the Company to make an offer to repurchase the 4.2% Senior Notes upon a change of control triggering event (as defined in the Indenture) at a price equal to 101% of their principal amount plus accrued and unpaid interest, if any.

On December 6, 2010, the Company completed a public offering of \$300.0 million 4.5% senior notes due December 15, 2020 (“4.5% Senior Notes”). The net proceeds from the offering of \$295.7 million, after deducting a \$1.6 million issuance discount, a \$1.9 million underwriting commission and \$0.8 million of offering expenses, were used to repay \$250.0 million of outstanding bank indebtedness, with the balance used for general corporate purposes. The 4.5% Senior Notes bear interest at a rate of 4.5% per annum, which is payable semi-annually in arrears on each June 15 and December 15. The Company may redeem all or a portion of the 4.5% Senior Notes at any time prior to maturity at the redemption prices set forth in the Note Indenture governing the 4.5% Senior Notes. The Company may issue additional debt from time to time pursuant to the Indenture. The Indenture and 4.5% Senior Notes contain covenants that limit the Company’s ability to, among other things, incur certain liens securing indebtedness, engage in certain sale-leaseback transactions, and enter into certain consolidations, mergers, conveyances, transfers or leases of all or substantially all of the Company’s assets. The terms of the 4.5% Senior Notes also require the Company to make

an offer to repurchase the 4.5% Senior Notes upon a change of control triggering event (as defined in the Indenture) at a price equal to 101% of their principal amount plus accrued and unpaid interest, if any.

There are two key financial covenants that the Company is required to maintain in connection with the Revolving Facility and the Notes, a minimum interest coverage ratio of 3.0 to 1 and a maximum leverage ratio of 3.50 to 1. In the case of the leverage ratio, there is an option to increase the ratio to 4.00 for 12 months in connection with certain acquisitions. At December 31, 2019, the Company was in compliance with both of these financial covenants, as the Company's interest coverage ratio was 16.04 to 1 and the leverage ratio was 1.23 to 1. There are no financial covenants relating to the 4.5% Senior Notes or 4.2% Senior Notes; however, both are subject to cross-default provisions.

On December 1, 2015 the Company's Board of Directors approved an increase of \$300.0 million in the authorized level for repurchases of common stock. This followed the prior Board of Directors approved repurchase authorization of \$400.0 million that was announced by the Company on November 6, 2014. Repurchases under the program will be funded with future cash flow generation or borrowings available under the Revolving Facility. During 2019, the Company repurchased a total of 389 thousand shares at a cost of \$54.7 million compared to 1.3 million shares repurchased in 2018 at a cost of \$173.9 million. As of December 31, 2019, the amount of share repurchase authorization remaining is \$322.3 million.

The Company believes current cash, cash from operations and cash available under the Revolving Facility will be sufficient to meet its operating cash requirements, planned capital expenditures, interest and principal payments on all borrowings, pension and postretirement funding requirements, authorized share repurchases and annual dividend payments to holders of the Company's common stock for the next twelve months. Additionally, in the event that suitable businesses are available for acquisition upon acceptable terms, the Company may obtain all or a portion of the financing for these acquisitions through the incurrence of additional borrowings. As of December 31, 2019, there was no balance outstanding under the Revolving Facility and \$8.5 million of outstanding letters of credit, resulting in a net available borrowing capacity under the Revolving Facility at December 31, 2019 of approximately \$791.5 million.

Contractual Obligations

Our contractual obligations include pension and postretirement medical benefit plans, rental payments under operating leases, payments under capital leases and other long-term obligations arising in the ordinary course of business. There are no identifiable events or uncertainties, including the lowering of our credit rating, which would accelerate payment or maturity of any of these commitments or obligations.

The following table summarizes our significant contractual obligations and commercial commitments at December 31, 2019 and the future periods in which such obligations are expected to be settled in cash. In addition, the table reflects the timing of principal and interest payments on outstanding borrowings. Additional detail regarding these obligations is provided in the Notes to Consolidated Financial Statements in Part II, Item 8, "Financial Statements and Supplementary Data."

<u>Contractual Obligations</u>	Payments Due by Period				
	Total	Less Than 1 Year	1-3 Years	3-5 Years	More Than 5 Years
	(In thousands)				
Borrowings ⁽¹⁾	\$ 922,880	\$ 334,773	\$ 377,845	\$ 108,577	\$ 101,685
Lease obligations	104,381	18,449	25,717	15,931	44,284
Purchase obligations ⁽²⁾	147,562	137,470	7,206	1,010	1,874
Transition tax payable	11,292	—	2,008	9,284	—
Pension and post-retirement obligations	146,489	49,423	54,920	11,495	30,651
Total contractual obligations ⁽³⁾	\$ 1,332,604	\$ 540,115	\$ 467,696	\$ 146,297	\$ 178,494

(1) Includes interest payments based on contractual terms and current interest rates for variable debt.

(2) Consists primarily of inventory commitments.

(3) Comprises liabilities recorded on the balance sheet of \$1,034.9 million and obligations not recorded on the balance sheet of \$297.7 million.

Critical Accounting Policies and Estimates

We believe that the application of the following accounting policies, which are important to our financial position and results of operations, require significant judgments and estimates on the part of management. For a summary of all of our accounting policies, including the accounting policies discussed below, see Note 1 of the Notes to Consolidated Financial Statements in Part II, Item 8, “Financial Statements and Supplementary Data.”

Revenue recognition — Revenue is recognized when control of products or services is transferred to our customers in an amount that reflects the consideration we expect to be entitled to in exchange for transferring those products or providing those services. A performance obligation is a promise in a contract to transfer a distinct product or service to the customer. A contract’s transaction price is allocated to each performance obligation and recognized as revenue when, or as, the performance obligation is satisfied. Our performance obligations are satisfied at a point in time or over time as work progresses. Revenue from products and services transferred to customers at a point in time is recognized when obligations under the terms of the contract with our customer are satisfied. Generally, this occurs with the transfer of control of the asset, which is in line with shipping terms. Certain units recognize revenue over time because control transfers continuously to our customers. Revenue is recognized over time as work is performed based on the relationship between actual costs incurred to date for each contract and the total estimated costs for such contract at completion of the performance obligation (i.e. the cost-to-cost method) or is recognized ratably over the contract term. As a significant change in one or more of these estimates could affect the profitability of our contracts, we review and update our estimates regularly. Due to uncertainties inherent in the estimation process, it is reasonably possible that completion costs will be revised. Such revisions to costs and income are recognized in the period in which the revisions are determined as a cumulative catch-up adjustment. The impact of the adjustment on profit recorded to date on a contract is recognized in the period the adjustment is identified. If at any time the estimate of contract profitability indicates an anticipated loss on the contract, we recognize provisions for estimated losses on uncompleted contracts in the period in which such losses are determined.

The Company records allowances for discounts and product returns at the time of sale as a reduction of revenue as such allowances can be reliably estimated based on historical experience and known trends. The Company also offers product warranties (primarily assurance-type) and accrues its estimated exposure for warranty claims at the time of sale based upon the length of the warranty period, warranty costs incurred and any other related information known to the Company.

Goodwill, long-lived and intangible assets — The Company evaluates the recoverability of certain noncurrent assets utilizing various estimation processes. An impairment of a long-lived asset exists when the asset’s carrying amount exceeds its fair value and is recorded when the carrying amount is not recoverable through future operations. An impairment of an indefinite-lived intangible asset or goodwill exists when the carrying amount of the intangible asset or goodwill exceeds its fair value. Assessments of possible impairments of long-lived or indefinite-lived intangible assets or goodwill are made if an event occurs or circumstances change that would more likely than not reduce the fair value of a reporting unit below its carrying amount. Additionally, testing for possible impairments of recorded indefinite-lived intangible asset balances and goodwill is performed annually. On October 31, or more frequently if triggering events occur, the Company compares the fair value of each reporting unit to the carrying amount of each reporting unit to determine if a goodwill impairment exists. The amount and timing of impairment charges for these assets require the estimation of future cash flows to determine the fair value of the related assets. In the second quarter of 2019, the Company began to evaluate strategic alternatives for one of its businesses in the HST segment. Prior to making a final decision on the options that were presented for this business, the business was informed in the third quarter of 2019 of the loss of its largest customer. As a result, the Company accelerated its restructuring activities for this business and a decision was made to wind down the business over time. This event required an interim impairment test be performed on the long-lived tangible assets of the business, which resulted in an impairment charge of \$9.7 million, consisting of \$6.1 million related to a customer relationships intangible asset, \$1.0 million related to an unpatented technology intangible asset, \$2.0 million related to property, plant and equipment and \$0.6 million related to a building right-of-use asset. In the fourth quarter of 2019, the Company completed the consolidation of one of its facilities into the Optics Center of Excellence in Rochester, New York, which resulted in an impairment charge of \$0.4 million related to a building right-of-use asset. These charges were recorded as Restructuring expense in the Consolidated Statements of Operations. In 2018, there were no events that occurred or circumstances that changed that would have required a review other than as of our annual test date and the Company concluded that there were no long-lived assets with a fair value that was less than the carrying value.

The Company’s business acquisitions result in recording goodwill and other intangible assets, which affect the amount of amortization expense and possible impairment expense that the Company will incur in future periods. The Company follows the guidance prescribed in ASC 350, *Goodwill and Other Intangible Assets*, to test goodwill and intangible assets for impairment. The Company determines the fair value of each reporting unit utilizing an income approach (discounted cash flows) weighted 50% and a market approach (consisting of a comparable public company multiples methodology) weighted 50%. To determine the reasonableness of the calculated fair values, the Company reviews the assumptions to ensure that neither the income approach nor the market approach yielded significantly different valuations.

The key assumptions are updated every year for each reporting unit for the income and market approaches used to determine fair value. Various assumptions are utilized including forecasted operating results, annual operating plans, strategic plans, economic projections, anticipated future cash flows, the weighted average cost of capital, market data and market multiples. The assumptions that have the most significant effect on the fair value calculations are the weighted average cost of capital, market multiples, forecasted EBITDA and terminal growth rates. The 2019 and 2018 ranges for these three assumptions utilized by the Company are as follows:

Assumptions	2019 Range	2018 Range
Weighted average cost of capital	8.5% to 10.5%	9.5% to 11.0%
Market multiples	11.0x to 18.0x	11.0x to 17.0x
Terminal growth rates	3.0% to 3.5%	3.0% to 3.5%

In assessing the fair value of the reporting units, the Company considers both the market approach and the income approach. Under the market approach, the fair value of the reporting unit is determined by the respective trailing twelve month EBITDA and the forward looking 2020 EBITDA (50% each), based on multiples of comparable public companies. The market approach is dependent on a number of significant management assumptions including forecasted EBITDA and selected market multiples. Under the income approach, the fair value of the reporting unit is determined based on the present value of estimated future cash flows. The income approach is dependent on a number of significant management assumptions including estimates of operating results, capital expenditures, net working capital requirements, long-term growth rates and discount rates. Weighting was equally attributed to both the market and income approaches (50% each) in arriving at the fair value of the reporting units.

The Banjo trade name and the Akron Brass trade name are indefinite-lived intangible assets which are tested for impairment on an annual basis in accordance with ASC 350 or more frequently if events or changes in circumstances indicate that the assets might be impaired. The Company uses the relief-from-royalty method, a form of the income approach, to determine the fair value of these trade names. The relief-from-royalty method is dependent on a number of significant management assumptions, including estimates of revenues, royalty rates and discount rates.

Defined benefit retirement plans — The plan obligations and related assets of the defined benefit retirement plans are presented in Note 17 of the Notes to Consolidated Financial Statements in Part II, Item 8, “Financial Statements and Supplementary Data.” Level 1 assets are valued using unadjusted quoted prices for identical assets in active markets. Level 2 assets are valued using quoted prices or other observable inputs for similar assets. Level 3 assets are valued using unobservable inputs, but reflect the assumptions market participants would use in pricing the assets. Plan obligations and the annual pension expense are determined after consulting with actuaries on a number of key assumptions and on information provided by the Company. Key assumptions in the determination of the annual pension expense include the discount rate, the rate of salary increases and the estimated future return on plan assets. To the extent actual amounts differ from these assumptions and estimated amounts, results could be adversely affected.

The Society of Actuaries releases annual updates to mortality tables, which update life expectancy assumptions. IDEX adopts these annual updates and, in consideration of these tables, we modified the mortality assumptions used in determining our pension and post-retirement benefit obligations as of December 31, 2019, which will have a related impact on our annual benefit expense in future years. New mortality tables may result in additional funding requirements dependent upon the funded status of our plans. These expectations presume all other assumptions remain constant and there are no changes to applicable funding regulations.

Changes in the discount rate assumptions will impact the (gain) loss amortization and interest cost components of the projected benefit obligation (“PBO”), which in turn, may impact the Company’s funding decisions if the PBO exceeds plan assets. Each 100 basis point increase in the discount rate will cause a corresponding decrease in the PBO of approximately \$25 million based upon the December 31, 2019 data. Each 100 basis point decrease in the discount rate will cause a corresponding increase in the PBO of approximately \$31 million based upon the December 31, 2019 data.

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

The Company is subject to market risk associated with changes in foreign currency exchange rates and interest rates. The Company may, from time to time, enter into foreign currency forward contracts and interest rate swaps on its debt when it believes there is a financial advantage in doing so. A treasury risk management policy, adopted by the Board of Directors, describes the procedures and controls over derivative financial and commodity instruments, including foreign currency forward contracts and interest rate swaps. Under the policy, the Company does not use financial or commodity derivative instruments for trading purposes,

and the use of these instruments is subject to strict approvals by senior officers. Typically, the use of derivative instruments is limited to foreign currency forward contracts and interest rate swaps on the Company's outstanding long-term debt. As of December 31, 2019, the Company did not have any derivative instruments outstanding.

Foreign Currency Exchange Rates

The Company's foreign currency exchange rate risk is limited principally to the Euro, Swiss Franc, British Pound, Canadian Dollar, Indian Rupee, Chinese Renminbi and Swedish Krona. The Company manages its foreign exchange risk principally through invoicing customers in the same currency as the source of products. The foreign currency transaction losses (gains) for the periods ending December 31, 2019, 2018 and 2017 were \$3.3 million, \$(2.4) million and \$20.5 million, respectively, and are reported within Other (income) expense - net on the Consolidated Statements of Operations. Of the \$20.5 million reported as foreign currency transaction losses for the period ending December 31, 2017, \$20.2 million was due to intercompany loans established in conjunction with the SFC Koenig acquisition. See Note 7 in Part II, Item 8, "Financial Statements and Supplementary Data," for further discussion.

Interest Rate Fluctuations

The Company does not have significant interest rate exposure due to substantially all of the \$850,622 of debt outstanding as of December 31, 2019 being fixed rate debt.

Item 8. Financial Statements and Supplementary Data.

MANAGEMENT’S REPORT ON INTERNAL CONTROL OVER FINANCIAL REPORTING

Our management is responsible for establishing and maintaining adequate internal control over financial reporting. Internal control over financial reporting is a process to provide reasonable assurance regarding the reliability of financial reporting and the preparation of financial statements for external purposes in accordance with accounting principles generally accepted in the United States of America, and as defined in Exchange Act Rule 13a-15(f).

Internal control over financial reporting cannot provide absolute assurance of achieving financial reporting objectives because of its inherent limitations. Because of such limitations, there is a risk that material misstatements may not be prevented or detected on a timely basis by internal control over financial reporting.

Management has used the framework set forth in the report entitled “Internal Control — Integrated Framework” (2013) issued by the Committee of Sponsoring Organizations of the Treadway Commission to assess the effectiveness of the Company’s internal control over financial reporting. Based on that assessment, management has concluded that the Company’s internal control over financial reporting was effective as of December 31, 2019.

The effectiveness of the Company’s internal control over financial reporting as of December 31, 2019, has been audited by Deloitte & Touche LLP, an independent registered public accounting firm, as stated in their report which appears herein.

REPORT OF INDEPENDENT REGISTERED PUBLIC ACCOUNTING FIRM

To the shareholders and the Board of Directors of IDEX Corporation

Opinion on Internal Control over Financial Reporting

We have audited the internal control over financial reporting of IDEX Corporation and subsidiaries (the “Company”) as of December 31, 2019, based on criteria established in *Internal Control - Integrated Framework (2013)* issued by the Committee of Sponsoring Organizations of the Treadway Commission (COSO). In our opinion, the Company maintained, in all material respects, effective internal control over financial reporting as of December 31, 2019, based on criteria established in *Internal Control - Integrated Framework (2013)* issued by COSO.

We have also audited, in accordance with the standards of the Public Company Accounting Oversight Board (United States) (PCAOB), the consolidated financial statements as of and for the year ended December 31, 2019, of the Company and our report dated February 21, 2020, 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.

/s/ DELOITTE & TOUCHE LLP

Chicago, Illinois

February 21, 2020

REPORT OF INDEPENDENT REGISTERED PUBLIC ACCOUNTING FIRM

To the shareholders and the Board of Directors of IDEX Corporation

Opinion on the Financial Statements

We have audited the accompanying consolidated balance sheets of IDEX Corporation and subsidiaries (the "Company") as of December 31, 2019 and 2018, the related consolidated statements of operations, comprehensive income, shareholders' equity, and cash flows, for each of the three years in the period ended December 31, 2019, and the related notes (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, 2019 and 2018, and the results of its operations and its cash flows for each of the three years in the period ended December 31, 2019, in conformity with accounting principles generally accepted in the United States of America.

We have also 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, 2019, based on criteria established in *Internal Control - Integrated Framework (2013)* issued by the Committee of Sponsoring Organizations of the Treadway Commission and our report dated February 21, 2020, expressed an unqualified opinion on the Company's internal control over financial reporting.

Basis for Opinion

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

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

Critical Audit Matter

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

Revenue - Disaggregation of Revenue - Refer to Note 4 to the Financial Statements

The Company is a highly diversified business with a wide range of products and services that are offered in various markets throughout the world. The Company's business activities are carried out by numerous individual business units, which offer a unique set of products and include niche markets within specific geographic areas.

We identified revenue as a critical audit matter given the disaggregated nature of the Company's operations and business units generating revenue. This required extensive audit effort due to the volume of the underlying transactions and distinctiveness of each individual business unit. High levels of auditor judgment were necessary to determine the nature, timing, and extent of audit procedures and the level of disaggregation within the Company at which to perform such procedures, especially given limited market data for certain products or geographic areas.

How the Critical Audit Matter Was Addressed in the Audit

Our audit procedures related to the Company's revenue transactions included the following, among others:

- We tested internal controls within the relevant revenue business processes, including controls over revenue recognition and controls over the review of significant revenue transactions and operating results.
- For a sample of revenue transactions, we performed detail transaction testing by agreeing the amounts recognized to

source documents and determined that revenue was recorded appropriately.

- For the revenue populations subject to detail testing, we tested the completeness of revenue by making selections from reciprocal populations (e.g., shipping logs) and determined whether the transaction was recorded as a sale in the general ledger.
- For revenue transactions not subject to detail transaction testing, we aggregated the revenue transactions at the reporting unit level and performed substantive analytical procedures. We developed independent expectations of revenue based on data derived from published industry indices, market and customer trends, and the results of our detail revenue testing for similar business units and markets and compared these expectations to the revenue recorded by management.

/s/ DELOITTE & TOUCHE LLP

Chicago, Illinois

February 21, 2020

We have served as the Company's auditor since 1987.

IDEX CORPORATION
CONSOLIDATED BALANCE SHEETS

	As of December 31,	
	2019	2018
(In thousands except share and per share amounts)		
ASSETS		
Current assets		
Cash and cash equivalents	\$ 632,581	\$ 466,407
Receivables - net	298,186	312,192
Inventories	293,467	279,995
Other current assets	37,211	33,938
Total current assets	1,261,445	1,092,532
Property, plant and equipment - net	280,316	281,220
Goodwill	1,779,745	1,697,955
Intangible assets - net	388,031	383,327
Other noncurrent assets	104,375	18,823
Total assets	\$ 3,813,912	\$ 3,473,857
LIABILITIES AND SHAREHOLDERS' EQUITY		
Current liabilities		
Trade accounts payable	\$ 138,463	\$ 143,196
Accrued expenses	180,290	187,536
Short-term borrowings	388	483
Dividends payable	38,736	33,446
Total current liabilities	357,877	364,661
Long-term borrowings	848,864	848,335
Deferred income taxes	146,574	128,007
Other noncurrent liabilities	197,368	138,214
Total liabilities	1,550,683	1,479,217
Commitments and contingencies (Note 10)		
Shareholders' equity		
Preferred stock:		
Authorized: 5,000,000 shares, \$.01 per share par value; Issued: none	—	—
Common stock:		
Authorized: 150,000,000 shares, \$.01 per share par value; Issued: 89,948,374 shares at December 31, 2019 and 90,112,028 shares at December 31, 2018	899	901
Additional paid-in capital	760,453	738,339
Retained earnings	2,615,131	2,342,079
Treasury stock at cost: 13,860,340 shares at December 31, 2019 and 14,159,251 shares at December 31, 2018	(985,909)	(957,454)
Accumulated other comprehensive loss	(127,345)	(129,225)
Total shareholders' equity	2,263,229	1,994,640
Total liabilities and shareholders' equity	\$ 3,813,912	\$ 3,473,857

See Notes to Consolidated Financial Statements.

IDEX CORPORATION
CONSOLIDATED STATEMENTS OF OPERATIONS

	For the Year Ended December 31,		
	2019	2018	2017
	(In thousands except per share amounts)		
Net sales	\$ 2,494,573	\$ 2,483,666	\$ 2,287,312
Cost of sales	1,369,539	1,365,771	1,260,634
Gross profit	1,125,034	1,117,895	1,026,678
Selling, general and administrative expenses	524,987	536,724	524,940
Loss (gain) on sale of businesses - net	—	—	(9,273)
Restructuring expenses	21,044	12,083	8,455
Operating income	579,003	569,088	502,556
Other (income) expense - net	1,759	(3,985)	2,394
Interest expense	44,341	44,134	44,889
Income before income taxes	532,903	528,939	455,273
Provision for income taxes	107,382	118,366	118,016
Net income	\$ 425,521	\$ 410,573	\$ 337,257
Earnings per common share:			
Basic earnings per common share	\$ 5.62	\$ 5.36	\$ 4.41
Diluted earnings per common share	\$ 5.56	\$ 5.29	\$ 4.36
Share data:			
Basic weighted average common shares outstanding	75,594	76,412	76,232
Diluted weighted average common shares outstanding	76,454	77,563	77,333

See Notes to Consolidated Financial Statements.

IDEX CORPORATION
CONSOLIDATED STATEMENTS OF COMPREHENSIVE INCOME

	For the Year Ended December 31,		
	2019	2018	2017
	(In thousands)		
Net income	\$ 425,521	\$ 410,573	\$ 337,257
Other comprehensive income (loss):			
Reclassification adjustments for derivatives, net of tax	4,882	5,006	4,210
Pension and other postretirement adjustments, net of tax	(3,069)	9,825	(1,302)
Foreign currency adjustments:			
Cumulative translation adjustment	67	(48,114)	110,421
Tax effect of reversal of indefinite assertion on certain intercompany loans	—	—	(3,932)
Reclassification of foreign currency translation to earnings upon sale of businesses	—	—	2,749
Other comprehensive income (loss)	1,880	(33,283)	112,146
Comprehensive income	\$ 427,401	\$ 377,290	\$ 449,403

See Notes to Consolidated Financial Statements.

IDEX CORPORATION
CONSOLIDATED STATEMENTS OF SHAREHOLDERS' EQUITY

	Accumulated Other Comprehensive Income (Loss)							Total Shareholders' Equity
	Common Stock and Additional Paid-In Capital	Retained Earnings	Cumulative Translation Adjustment	Retirement Benefits Adjustments	Cumulative Unrealized Gain (Loss) on Derivatives	Treasury Stock		
(In thousands except share and per share amounts)								
Balance, December 31, 2016	\$ 698,115	\$ 1,834,739	\$ (155,544)	\$ (27,852)	\$ (18,257)	\$ (787,307)	\$ 1,543,894	
Net income	—	337,257	—	—	—	—	337,257	
Cumulative translation adjustment	—	—	113,170	—	—	—	113,170	
Net change in retirement obligations (net of tax of \$239)	—	—	—	(1,302)	—	—	(1,302)	
Net change on derivatives designated as cash flow hedges (net of tax of \$2,445)	—	—	—	—	4,210	—	4,210	
Issuance of 557,591 shares of common stock from issuance of unvested shares, performance share units and exercise of stock options (net of tax of \$6,027)	—	—	—	—	—	22,935	22,935	
Repurchase of 266,000 shares of common stock	—	—	—	—	—	(29,074)	(29,074)	
Share-based compensation	19,693	—	—	—	—	—	19,693	
Shares surrendered for tax withholding	—	—	—	—	—	(6,228)	(6,228)	
Tax effect of reversal of indefinite assertion on certain intercompany loans	—	—	(3,932)	—	—	—	(3,932)	
Cash dividends declared - \$1.48 per common share outstanding	—	(114,081)	—	—	—	—	(114,081)	
Balance, December 31, 2017	\$ 717,808	\$ 2,057,915	\$ (46,306)	\$ (29,154)	\$ (14,047)	\$ (799,674)	\$ 1,886,542	
Net income	—	410,573	—	—	—	—	410,573	
Adjustment for adoption of ASU 2016-16	—	(645)	—	—	—	—	(645)	
Adjustment for adoption of ASU 2018-02	—	6,435	—	(3,411)	(3,024)	—	—	
Cumulative translation adjustment	—	—	(48,114)	—	—	—	(48,114)	
Net change in retirement obligations (net of tax of \$3,076)	—	—	—	9,825	—	—	9,825	
Net change on derivatives designated as cash flow hedges (net of tax of \$1,469)	—	—	—	—	5,006	—	5,006	
Issuance of 583,385 shares of common stock from issuance of unvested shares, performance share units and exercise of stock options (net of tax of \$4,267)	—	—	—	—	—	27,701	27,701	
Repurchase of 1,273,961 shares of common stock	—	—	—	—	—	(173,926)	(173,926)	
Share-based compensation	21,432	—	—	—	—	—	21,432	
Shares surrendered for tax withholding	—	—	—	—	—	(11,555)	(11,555)	
Cash dividends declared - \$1.72 per common share outstanding	—	(132,199)	—	—	—	—	(132,199)	
Balance, December 31, 2018	\$ 739,240	\$ 2,342,079	\$ (94,420)	\$ (22,740)	\$ (12,065)	\$ (957,454)	\$ 1,994,640	
Net income	—	425,521	—	—	—	—	425,521	
Adjustment for adoption of ASU 2016-02	—	28	—	—	—	—	28	
Cumulative translation adjustment	—	—	67	—	—	—	67	
Net change in retirement obligations (net of tax of \$1,553)	—	—	—	(3,069)	—	—	(3,069)	
Net change on derivatives designated as cash flow hedges (net of tax of \$1,445)	—	—	—	—	4,882	—	4,882	
Issuance of 696,133 shares of common stock from issuance of unvested shares, performance share units and exercise of stock options (net of tax of \$5,493)	—	—	—	—	—	38,809	38,809	
Repurchase of 388,953 shares of common stock	—	—	—	—	—	(54,668)	(54,668)	
Share-based compensation	22,112	—	—	—	—	—	22,112	
Shares surrendered for tax withholding	—	—	—	—	—	(12,596)	(12,596)	
Cash dividends declared - \$2.00 per common share outstanding	—	(152,497)	—	—	—	—	(152,497)	
Balance, December 31, 2019	\$ 761,352	\$ 2,615,131	\$ (94,353)	\$ (25,809)	\$ (7,183)	\$ (985,909)	\$ 2,263,229	

See Notes to Consolidated Financial Statements.

IDEX CORPORATION
CONSOLIDATED STATEMENTS OF CASH FLOWS

	For the Year Ended December 31,		
	2019	2018	2017
	(In thousands)		
Cash flows from operating activities			
Net income	\$ 425,521	\$ 410,573	\$ 337,257
Adjustments to reconcile net income to net cash provided by operating activities:			
Loss (gain) on sale of fixed assets - net	156	946	315
Loss (gain) on sale of businesses - net	—	—	(9,273)
Asset impairments	10,155	—	—
Depreciation and amortization	39,543	39,049	38,314
Amortization of intangible assets	37,333	38,495	45,902
Amortization of debt issuance expenses	1,355	1,332	1,320
Share-based compensation expense	27,669	24,754	24,405
Deferred income taxes	6,625	(4,345)	(33,742)
Non-cash interest expense associated with forward starting swaps	6,327	6,475	6,655
Changes in (net of the effect from acquisitions and divestitures):			
Receivables	22,338	(23,419)	(15,803)
Inventories	(3,322)	(23,031)	760
Other current assets	(2,361)	25,162	(20,031)
Trade accounts payable	(9,115)	(1,220)	12,556
Accrued expenses	(37,086)	4,148	19,710
Other - net	2,924	(19,574)	24,408
Net cash flows provided by operating activities	528,062	479,345	432,753
Cash flows from investing activities			
Purchases of property, plant and equipment	(50,912)	(56,089)	(43,858)
Purchase of intellectual property	—	(4,000)	—
Acquisition of businesses, net of cash acquired	(87,180)	(20,205)	(38,161)
Proceeds from disposal of fixed assets	962	363	6,011
Proceeds from sale of businesses, net of cash sold	—	—	21,795
Other - net	115	(1,500)	(533)
Net cash flows used in investing activities	(137,015)	(81,431)	(54,746)
Cash flows from financing activities			
Borrowings under revolving credit facilities	—	—	33,000
Payments under revolving credit facilities	—	(11,284)	(200,618)
Payments under other long-term borrowings	(50,057)	—	—
Dividends paid	(147,208)	(127,478)	(111,172)
Proceeds from stock option exercises	38,809	27,639	22,935
Repurchases of common stock	(54,668)	(173,926)	(29,074)
Shares surrendered for tax withholding	(12,596)	(11,555)	(6,228)
Settlement of foreign exchange contracts	—	6,593	13,736
Other - net	(1,865)	—	—
Net cash flows used in financing activities	(227,585)	(290,011)	(277,421)
Effect of exchange rate changes on cash and cash equivalents	2,712	(17,446)	39,400
Net increase in cash	166,174	90,457	139,986
Cash and cash equivalents at beginning of year	466,407	375,950	235,964
Cash and cash equivalents at end of year	\$ 632,581	\$ 466,407	\$ 375,950
Supplemental cash flow information			
Cash paid for:			
Interest	\$ 36,683	\$ 36,327	\$ 36,818
Income taxes - net	109,032	90,733	104,852
Significant non-cash activities:			
Contingent consideration for acquisition	—	3,375	—
Debt acquired with acquisition of business	51,130	—	—
Capital expenditures for construction of new leased facility	—	11,616	—

See Notes to Consolidated Financial Statements.

IDEX CORPORATION
NOTES TO CONSOLIDATED FINANCIAL STATEMENTS

1. Significant Accounting Policies

Business

IDEX is an applied solutions company specializing in the manufacture of fluid and metering technologies, health and science technologies and fire, safety and other diversified products built to customers' specifications. IDEX's products are sold in niche markets across a wide range of industries throughout the world. The Company's products include industrial pumps, compressors, flow meters, injectors, valves and related controls for use in a wide variety of process applications; precision fluidics solutions, including pumps, valves, degassing equipment, corrective tubing, fittings and complex manifolds, optical filters and specialty medical equipment and devices for use in life science applications; precision-engineered equipment for dispensing, metering and mixing paints; and engineered products for industrial and commercial markets, including fire and rescue, transportation equipment, oil and gas, electronics and communications. These activities are grouped into three reportable segments: Fluid & Metering Technologies, Health & Science Technologies and Fire & Safety/Diversified Products.

Principles of Consolidation

The consolidated financial statements include the Company and its subsidiaries. All intercompany transactions and accounts have been eliminated.

Use of Estimates

The preparation of financial statements in conformity with accounting principles generally accepted in the United States of America ("U.S. GAAP") requires management to make estimates and judgments that affect the reported amounts of assets and liabilities, disclosure of contingent assets and liabilities and reported amounts of revenue and expenses during the reporting period. Actual results could differ from those estimates. The principal areas of estimation reflected in the financial statements are revenue recognition, sales returns and allowances, allowance for doubtful accounts, inventory valuation, recoverability of long-lived assets, valuation of goodwill and intangible assets, income taxes, product warranties, contingencies and litigation, insurance-related items, defined benefit retirement plans and purchase accounting related to acquisitions.

Revenue Recognition

Revenue is recognized when control of products or services is transferred to our customers in an amount that reflects the consideration we expect to be entitled to in exchange for transferring those products or providing those services. A performance obligation is a promise in a contract to transfer a distinct product or service to the customer. A contract's transaction price is allocated to each performance obligation and recognized as revenue when, or as, the performance obligation is satisfied. Our performance obligations are satisfied at a point in time or over time as work progresses. Revenue from products and services transferred to customers at a point in time is recognized when obligations under the terms of the contract with our customer are satisfied. Generally, this occurs with the transfer of control of the asset, which is in line with shipping terms. Certain units recognize revenue over time because control transfers continuously to our customers. Revenue is recognized over time as work is performed based on the relationship between actual costs incurred to date for each contract and the total estimated costs for such contract at completion of the performance obligation (i.e. the cost-to-cost method) or ratably over the contract term. As a significant change in one or more of these estimates could affect the profitability of our contracts, we review and update our estimates regularly. Due to uncertainties inherent in the estimation process, it is reasonably possible that completion costs will be revised. Such revisions to costs and income are recognized in the period in which the revisions are determined as a cumulative catch-up adjustment. The impact of the adjustment on profit recorded to date on a contract is recognized in the period the adjustment is identified. If at any time the estimate of contract profitability indicates an anticipated loss on the contract, we recognize provisions for estimated losses on uncompleted contracts in the period in which such losses are determined.

The Company records allowances for discounts and product returns at the time of sale as a reduction of revenue as such allowances can be reliably estimated based on historical experience and known trends. The Company also offers product warranties (primarily assurance-type) and accrues its estimated exposure for warranty claims at the time of sale based upon the length of the warranty period, warranty costs incurred and any other related information known to the Company.

Shipping and Handling Costs

Shipping and handling costs are included in Cost of sales and are recognized as a period expense during the period in which they are incurred.

Advertising Costs

Advertising costs of \$15.7 million, \$17.0 million and \$15.8 million for 2019, 2018 and 2017, respectively, are expensed as incurred within Selling, general and administrative expenses.

Cash and Cash Equivalents

The Company considers all highly liquid instruments purchased with an original maturity of 3 months or less to be cash and cash equivalents.

Accounts Receivable and Allowance for Doubtful Accounts

Accounts receivable are recorded at face amount less an allowance for doubtful accounts. The Company maintains an allowance for doubtful accounts for estimated losses as a result of customers' inability to make required payments. Management evaluates the aging of the accounts receivable balances, the financial condition of its customers, historical trends and the time outstanding of specific balances to estimate the amount of accounts receivable that may not be collected in the future and records the appropriate provision.

Inventories

The Company states inventories at the lower of cost or net realizable value. Cost, which includes material, labor and factory overhead, is determined on a FIFO basis. We make adjustments to reduce the cost of inventory to its net realizable value, if required, for estimated excess, obsolete or impaired balances. Factors influencing these adjustments include changes in market demand, product life cycle and engineering changes.

Impairment of Long-Lived Assets

A long-lived asset is reviewed for impairment if an event occurs or circumstances change that would more likely than not reduce the fair value of a long-lived asset below its carrying amount, as measured by comparing its net book value to the projected undiscounted future cash flows generated by its use. A long-lived asset impairment exists when the carrying amount of the asset exceeds its fair value. The amount and timing of the impairment charge for this asset requires the estimation of future cash flows to determine the fair value of the asset. An impaired asset is recorded at its estimated fair value based on a discounted cash flow analysis. In the second quarter of 2019, the Company began to evaluate strategic alternatives for one of its businesses in the Health & Science Technologies ("HST") segment. Prior to making a final decision on the options that were presented for this business, the business was informed in the third quarter of 2019 of the loss of its largest customer. As a result, the Company accelerated its restructuring activities for this business and a decision was made to wind down the business over time. This event required an interim impairment test be performed on the long-lived tangible assets of the business, which resulted in an impairment charge of \$9.7 million, consisting of \$6.1 million related to a customer relationships intangible asset, \$1.0 million related to an unpatented technology intangible asset, \$2.0 million related to property, plant and equipment and \$0.6 million related to a building right-of-use asset. In the fourth quarter of 2019, the Company completed the consolidation of one of its facilities in the HST segment into the Optics Center of Excellence in Rochester, New York, which also resulted in an impairment charge of \$0.4 million related to a building right-of-use asset. These charges were recorded as Restructuring expenses in the Consolidated Statements of Operations. In 2018 and 2017, the Company concluded that there were no long-lived assets with a fair value that was less than the carrying value. See Note 14 for further discussion on restructuring activities.

Goodwill and Indefinite-Lived Intangible Assets

The Company reviews the carrying value of goodwill and indefinite-lived intangible assets annually as of October 31, or if an event occurs or circumstances change that would more likely than not reduce the fair value of a reporting unit below its carrying value. The Company evaluates the recoverability of these assets based on the estimated fair value of each of the 13 reporting units and the indefinite-lived intangible assets. See Note 5 for further discussion on goodwill and intangible assets.

Borrowing Expenses

Expenses incurred in securing and issuing debt are capitalized and included as a reduction of Long-term borrowings. These amounts are amortized over the life of the related borrowing and the related amortization is included in Interest expense.

Earnings per Common Share

Earnings per common share (“EPS”) is computed by dividing net income by the weighted average number of shares of common stock (basic) plus common stock equivalents outstanding (diluted) during the year. Common stock equivalents consist of stock options, which have been included in the calculation of weighted average shares outstanding using the treasury stock method, restricted stock and performance share units.

ASC 260, *Earnings per Share*, concludes that all outstanding unvested share-based payment awards that contain rights to nonforfeitable dividends participate in undistributed earnings with common shareholders. If awards are considered participating securities, the Company is required to apply the two-class method of computing basic and diluted earnings per share. The Company has determined that its outstanding shares of restricted stock are participating securities. Accordingly, EPS was computed using the two-class method prescribed by ASC 260.

Basic weighted average shares outstanding reconciles to diluted weighted average shares outstanding as follows:

	2019	2018	2017
	(In thousands)		
Basic weighted average common shares outstanding	75,594	76,412	76,232
Dilutive effect of stock options, restricted stock and performance share units	860	1,151	1,101
Diluted weighted average common shares outstanding	<u>76,454</u>	<u>77,563</u>	<u>77,333</u>

Options to purchase approximately 0.3 million, 0.3 million and zero shares of common stock in 2019, 2018 and 2017, respectively, were not included in the computation of diluted EPS because the effect of their inclusion would have been antidilutive.

Share-Based Compensation

The Company accounts for share-based payments in accordance with ASC 718, *Compensation-Stock Compensation*. Accordingly, the Company expenses the fair value of awards made under its share-based compensation plans. That cost is recognized in the consolidated financial statements over the requisite service period of the grants. See Note 15 for further discussion on share-based compensation.

Depreciation and Amortization

Property and equipment are stated at cost, with depreciation and amortization provided using the straight-line method over the following estimated useful lives:

Land improvements	8 to 12 years
Buildings and improvements	8 to 30 years
Machinery, equipment and other	3 to 12 years
Office and transportation equipment	3 to 10 years

Certain identifiable intangible assets are amortized over their estimated useful lives using the straight-line method. The estimated useful lives used in the computation of amortization of identifiable intangible assets are as follows:

Patents	5 to 17 years
Trade names	5 to 20 years
Customer relationships	8 to 20 years
Unpatented technology and other	3 to 20 years

Research and Development Expenditures

Costs associated with engineering activities, including research and development, are expensed in the period incurred and are included in Cost of sales.

Total engineering expenses, which include research and development as well as application and support engineering, were \$92.4 million, \$84.9 million and \$76.4 million in 2019, 2018 and 2017, respectively. Research and development expenses, which include costs associated with developing new products and major improvements to existing products, were \$56.4 million, \$48.0 million and \$42.4 million in 2019, 2018 and 2017, respectively.

Foreign Currency Translation and Transaction

The functional currency of substantially all operations outside the United States is the respective local currency. Accordingly, those foreign currency balance sheet accounts have been translated using the exchange rates in effect as of the balance sheet date. Income statement amounts have been translated using the average monthly exchange rates for the year. Translation adjustments from year to year have been reported in Accumulated other comprehensive loss in the Consolidated Balance Sheets. The foreign currency transaction losses (gains) for the periods ending December 31, 2019, 2018 and 2017 were \$3.3 million, \$(2.4) million and \$20.5 million, respectively, and are reported within Other (income) expense - net on the Consolidated Statements of Operations. Of the \$20.5 million reported as foreign currency transaction losses for the period ending December 31, 2017, \$20.2 million was due to intercompany loans established in conjunction with the SFC Koenig acquisition. See Note 7 for further discussion.

Income Taxes

Income tax expense includes U.S., state, local and international income taxes. Deferred tax assets and liabilities are recognized for the tax consequences of temporary differences between the financial reporting and the tax basis of existing assets and liabilities and for loss carryforwards. The tax rate used to determine the deferred tax assets and liabilities is the enacted tax rate for the year and manner in which the differences are expected to reverse. Valuation allowances are recorded to reduce deferred tax assets to the amount that will more likely than not be realized.

Refer to Note 12 for further discussion on income taxes.

Concentration of Credit Risk

The Company is not dependent on a single customer as its largest customer accounted for less than 2% of net sales for all years presented.

Recently Adopted Accounting Standards

In February 2018, the Financial Accounting Standards Board ("FASB") issued Accounting Standards Update ("ASU") 2018-02, *Reclassification of Certain Tax Effects from Accumulated Other Comprehensive Income*, which allows an entity to reclassify the stranded tax effects in accumulated other comprehensive income (loss) to retained earnings in the statement of shareholders' equity. The Company early adopted this standard on a retrospective basis on January 1, 2018. The adoption resulted in an increase of \$6.4 million to Retained earnings and a corresponding change of \$6.4 million to Accumulated other comprehensive income (loss) at January 1, 2018.

In January 2017, the FASB issued ASU 2017-01, *Clarifying the Definition of a Business*, which clarifies the definition of a business and assists entities with evaluating whether transactions should be accounted for as acquisitions or disposals of assets or businesses. Under this guidance, when substantially all of the fair value of gross assets acquired is concentrated in a single asset or a group of similar assets, the assets acquired would not represent a business. In addition, in order to be considered a business, an acquisition would have to include at a minimum an input and a substantive process that together significantly contribute to the ability to create an output. The amended guidance also narrows the definition of outputs by more closely aligning it with how outputs are described in the FASB guidance for revenue recognition. The Company adopted this standard on January 1, 2018 and accounted for the purchase of the intellectual property assets from Phantom Controls utilizing this guidance. See Note 5 for further information.

In October 2016, the FASB issued ASU 2016-16, *Intra-Entity Transfers of Assets Other Than Inventory*, which amends Accounting Standards Codification ("ASC") 740, *Income Taxes*. This ASU requires that the income tax consequences of an intra-

entity asset transfer other than inventory are recognized at the time of the transfer. An entity will continue to recognize the income tax consequences of an intercompany transfer of inventory when the inventory is sold to a third party. The Company adopted this standard on a modified retrospective basis on January 1, 2018. The adoption resulted in a decrease of \$7.3 million to Other current assets, a decrease of \$6.7 million to Deferred income taxes and a decrease of \$0.6 million to Retained earnings at January 1, 2018.

In August 2016, the FASB issued ASU 2016-15, *Classification of Certain Cash Receipts and Cash Payments* (a consensus of the FASB Emerging Issues Task Force). This ASU addresses the following eight specific cash flow issues: debt prepayment or debt extinguishment costs; settlement of zero-coupon debt instruments or other debt instruments with coupon interest rates that are insignificant in relation to the effective interest rate of the borrowing; contingent consideration payments made after a business combination; proceeds from the settlement of insurance claims; proceeds from the settlement of corporate-owned life insurance policies (including bank-owned life insurance policies); distributions received from equity method investees; beneficial interests in securitization transactions; and separately identifiable cash flows and application of the predominance principle. The Company adopted this standard on January 1, 2018. The adoption of this standard did not have a material impact on our consolidated financial statements.

In February 2016, the FASB issued ASU 2016-02, *Leases*, which sets out the principles for the recognition, measurement, presentation and disclosure of leases for both parties to a contract (i.e. lessees and lessors). This standard introduced a new lessee model that requires most leases to be recorded on the balance sheet and eliminates the required use of bright line tests for determining lease classification from U.S. GAAP. In July 2018, the FASB issued ASU 2018-10, *Codification Improvements to Topic 842, Leases* and ASU 2018-11, *Leases (Topic 842): Targeted Improvements*, which clarified ASU 2016-02 and had the same effective date as the original standard. ASU 2018-11 included an option to use the effective date of ASU 2016-02 as the date of initial application of transition as well as an option not to restate comparative periods in transition. In March 2019, the FASB issued ASU 2019-01, *Leases (Topic 842): Codification Improvements*, which also clarified ASU 2016-02 and is effective for fiscal years beginning after December 15, 2019 and interim periods within those fiscal years.

The Company adopted this standard on January 1, 2019 using the optional transition method provided by the FASB in ASU 2018-11. As we did not restate comparative periods, the adoption had no impact on our previously reported results. We elected to use the practical expedient that allowed us not to reassess: (1) whether any expired or existing contracts are or contain leases, (2) the lease classification for any expired or existing leases and (3) initial direct costs for any expired or existing leases and the practical expedient that allows us to treat the lease and non-lease components as a single lease component for all asset classes. We also elected to account for short-term leases (i.e. leases with a term of one year or less) in accordance with ASC 842-20-25-2 (i.e. expensed over the term and not recorded on the balance sheet). The adoption of this standard impacted our consolidated balance sheet due to the recognition of right of use assets and lease liabilities. Upon adoption, we recognized right of use assets and lease liabilities of approximately \$68 million that reflected the present value of future lease payments. The adoption of this standard did not have a material impact on our consolidated results of operations or cash flows. See Note 9 for further information.

In May 2014, the FASB issued ASU 2014-09, *Revenue from Contracts with Customers*, which replaces numerous requirements in U.S. GAAP, including industry-specific requirements, and provides companies with a new five-step model for recognizing revenue from contracts with customers. Under ASU 2014-09, 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 goods or services. This ASU also requires disclosures sufficient to enable users to understand the nature, amount, timing, and uncertainty of revenue and cash flows arising from contracts with customers, including qualitative and quantitative disclosures about contracts with customers, significant judgments and changes in judgments, and assets recognized from the costs to obtain or fulfill a contract. The FASB has also issued the following standards which clarify ASU 2014-09 and have the same effective date as the original standard: ASU 2016-08, *Revenue from Contracts with Customers: Principal versus Agent Considerations (Reporting Revenue Gross versus Net)*; ASU 2016-10, *Revenue from Contracts with Customers: Identifying Performance Obligations and Licensing*; ASU 2016-12, *Revenue from Contracts with Customers: Narrow-Scope Improvements and Practical Expedients*; and ASU 2016-20, *Technical Corrections and Improvements to Topic 606, Revenue from Contracts with Customers*.

In 2016, we established an implementation team and analyzed the impact of the standard by surveying business units and performing extensive contract reviews to identify potential differences that may result from applying the requirements of the new standard. The contract reviews generally supported the recognition of revenue at a point in time, which was consistent with the revenue recognition model used by most of our business units. As a result, revenue recognition was unchanged under the new standard. For our business units that previously recognized revenue under a percentage of completion model, revenue recognition was also unchanged as the contract reviews supported the recognition of revenue over time. The Company implemented the appropriate changes to its processes, systems and controls to comply with the new guidance. The Company adopted this standard on January 1, 2018 using the modified retrospective approach applied to contracts that were not completed as of January 1, 2018.

The adoption of this standard did not have an impact on our consolidated financial statements, except to provide additional disclosures. The Company elected the following practical expedients: significant financing component, sales tax presentation, contract costs, shipping and handling activities and disclosures. See Note 4 for further details on revenue.

Recently Issued Accounting Standards

In June 2016, the FASB issued ASU 2016-13, *Financial Instruments - Credit losses (Topic 326): Measurement of Credit Losses on Financial Instruments* and in November 2018 issued a subsequent amendment, ASU 2018-19, *Codification Improvements to Topic 326, Financial Instruments - Credit Losses*. ASU 2016-13 significantly changes how entities will measure credit losses for most financial assets and certain other instruments that are not measured at fair value through net income. ASU 2016-13 will replace today's "incurred loss" approach with an "expected loss" model for instruments measured at amortized cost. ASU 2018-19 will affect loans, debt securities, trade receivables, net investments in leases, off-balance sheet credit exposures, reinsurance receivables, and any other financial assets not excluded from the scope of this amendment that represent the contractual right to receive cash. ASU 2016-13 and ASU 2018-19 should be applied on either a prospective transition or modified-retrospective approach depending on the subtopic. ASU 2016-13 is effective for annual periods beginning after December 15, 2019, and interim periods therein. The adoption of this standard will not have a material impact on our consolidated financial statements.

2. Acquisitions and Divestitures

All of the Company's acquisitions of businesses have been accounted for under ASC 805, *Business Combinations*. Accordingly, the accounts of the acquired companies, after adjustments to reflect the fair values assigned to assets and liabilities, have been included in the Company's consolidated financial statements from their respective dates of acquisition. The results of operations of the acquired companies have been included in the Company's consolidated results since the date of each acquisition. Supplemental pro forma information has not been provided as the acquisitions did not have a material impact on the Company's consolidated results of operations individually or in the aggregate.

2019 Acquisition

On July 18, 2019, the Company acquired the stock of Velcora Holding AB ("Velcora") and its operating subsidiaries, Roplan and Steridose. Roplan is a global manufacturer of custom mechanical and shaft seals for a variety of end markets including food and beverage, marine, chemical, wastewater and water treatment. Steridose develops engineered hygienic mixers and valves for the global biopharmaceutical industry. Both companies are headquartered in Sweden, with operations in China, the United Kingdom and the United States and operate in our Health & Science Technologies segment. Velcora was acquired for cash consideration of \$87.2 million and the assumption of \$51.1 million of debt. The entire purchase price was funded with cash on hand. Goodwill and intangible assets recognized as part of this transaction were \$85.9 million and \$48.2 million, respectively. The goodwill is not deductible for tax purposes.

The Company made an initial allocation of the purchase price for the Velcora acquisition as of the acquisition date based on its understanding of the fair value of the acquired assets and assumed liabilities. These nonrecurring fair value measurements are classified as Level 3 in the fair value hierarchy. As the Company continues to obtain additional information about these assets and liabilities, including intangible asset appraisals, and continues to learn more about the newly acquired businesses, we will refine the estimates of fair value and more accurately allocate the purchase price. Only items identified as of the acquisition date are considered for subsequent adjustment. The Company will make appropriate adjustments to the purchase price allocation prior to the completion of the measurement period, as required.

The preliminary allocation of the acquisition costs to the assets acquired and liabilities assumed, based on their estimated fair values at the acquisition date, is as follows:

(In thousands)	Total
Current assets, net of cash acquired	\$ 20,457
Property, plant and equipment	3,235
Goodwill	85,939
Intangible assets	48,183
Other noncurrent assets	788
Total assets acquired	158,602
Current liabilities	(7,607)
Long-term borrowings	(51,130)
Deferred income taxes	(12,231)
Other noncurrent liabilities	(454)
Net assets acquired	\$ 87,180

Acquired intangible assets consist of trade names, customer relationships and unpatented technology. The goodwill recorded for the acquisitions reflects the strategic fit, revenue and earnings growth potential of these businesses.

The acquired intangible assets and weighted average amortization periods are as follows:

(In thousands, except weighted average life)	Total	Weighted Average Life
Trade names	\$ 7,089	15
Customer relationships	34,677	12
Unpatented technology	6,417	9
Total acquired intangible assets	\$ 48,183	

On September 3, 2019, the Company settled the debt assumed in the Velcora acquisition and incurred a loss on early retirement of \$0.7 million which was recorded in Other (income) expense - net in the Consolidated Statements of Operations for the year ended December 31, 2019.

The Company incurred \$1.7 million of acquisition-related transaction costs in 2019. These costs were recorded in Selling, general and administrative expenses and were related to completed transactions, pending transactions and potential transactions, including transactions that ultimately were not completed. The Company also incurred a \$3.3 million fair value inventory step-up charge associated with the completed 2019 acquisition in the year ended December 31, 2019. This charge was recorded in Cost of sales.

2018 Acquisition

On July 23, 2018, the Company acquired Finger Lakes Instrumentation ("FLI"), a technology leader in the design, development and production of low-noise cooled CCD and high speed, high-sensitivity Scientific CMOS cameras for the astronomy and life science markets. Headquartered in Lima, NY, FLI operates in our Health & Science Technologies segment. FLI was acquired for an aggregate purchase price of \$23.6 million, consisting of \$20.2 million in cash and contingent consideration valued at \$3.4 million as of the opening balance sheet date. The contingent consideration is based on the achievement of financial objectives during the 24-month period following the close of the transaction. The entire purchase price was funded with cash on hand. Goodwill and intangible assets recognized as part of this transaction were \$12.4 million and \$7.9 million, respectively. Acquired intangible assets consist of trade names, customer relationships and unpatented technology. The goodwill recorded for the acquisition reflects the strategic fit, revenue and earnings growth potential of this business. The goodwill is deductible for tax purposes.

In the third quarter of 2019, the Company finalized its allocation of the purchase price for the FLI acquisition based on its understanding of the fair value of the acquired assets and assumed liabilities. These nonrecurring fair value measurements are classified as Level 3 in the fair value hierarchy.

The Company incurred \$3.0 million of acquisition-related transaction costs in 2018. These costs were recorded in Selling, general and administrative expenses and were related to completed transactions, pending transactions and potential transactions, including transactions that ultimately were not completed.

2017 Acquisition

On December 8, 2017, the Company acquired the stock of thinXXS, a leader in the design, manufacture, and sale of microfluidic components serving the point of care, veterinary, and life science markets. The business was acquired to complement our existing CiDRA Precision Services business and expand on our microfluidic and nanofluidic capabilities. Headquartered in Zweibrücken, Germany, thinXXS operates in our Health & Science Technologies segment. thinXXS was acquired for cash consideration of \$38.2 million and the assumption of \$1.2 million of debt. The purchase price was funded with cash on hand. Goodwill and intangible assets recognized as part of the transaction were \$25.2 million and \$10.6 million, respectively. Acquired intangible assets consist of trade names, customer relationships and unpatented technology. The goodwill recorded for the acquisition reflects the strategic fit, revenue and earnings growth potential of this business. The goodwill is not deductible for tax purposes.

In the fourth quarter of 2018, the Company finalized its allocation of the purchase price for the thinXXS acquisition based on its understanding of the fair value of the acquired assets and assumed liabilities. These nonrecurring fair value measurements were classified as Level 3 in the fair value hierarchy.

The Company incurred \$1.3 million of acquisition-related transaction costs in 2017. These costs were recorded in Selling, general and administrative expenses and were related to completed transactions, pending transactions and potential transactions, including transactions that ultimately were not completed.

Divestitures

The Company periodically reviews its operations for businesses which may no longer be aligned with its strategic objectives and focuses on core business and customers. Any resulting gain or loss recognized due to divestitures is recorded within Loss (gain) on sale of businesses - net. There were no divestitures that took place during the years ended December 31, 2019 and 2018. The Company concluded that the divestiture that took place during the year ended December 31, 2017 did not meet the criteria for reporting discontinued operations.

On October 31, 2017, the Company completed the sale of its Faure Herman subsidiary for \$21.8 million in cash, resulting in a pre-tax gain on the sale of \$9.3 million. There was no income tax expense associated with this transaction. The results of Faure Herman were reported within the Fluid & Metering Technologies segment and generated \$14.1 million of revenues in 2017 through the date of sale.

3. Balance Sheet Components

	December 31,	
	2019	2018
(In thousands)		
RECEIVABLES		
Customers	\$ 298,118	\$ 313,719
Other	6,415	5,182
Total	304,533	318,901
Less allowance for doubtful accounts	6,347	6,709
Total receivables - net	\$ 298,186	\$ 312,192
INVENTORIES		
Raw materials and components parts	\$ 182,382	\$ 178,805
Work in process	28,761	37,495
Finished goods	82,324	63,695
Total	\$ 293,467	\$ 279,995
PROPERTY, PLANT AND EQUIPMENT		

Land and improvements	\$	32,240	\$	32,100
Buildings and improvements		187,301		189,744
Machinery, equipment and other		397,498		372,804
Office and transportation equipment		95,759		96,350
Construction in progress		24,546		24,328
Total		737,344		715,326
Less accumulated depreciation and amortization		457,028		434,106
Total property, plant and equipment - net	\$	280,316	\$	281,220
ACCRUED EXPENSES				
Payroll and related items	\$	77,556	\$	78,944
Management incentive compensation		14,408		25,321
Income taxes payable		9,905		23,844
Insurance		8,240		10,422
Warranty		5,581		5,303
Deferred revenue		17,633		8,055
Lease liability		15,235		—
Restructuring		6,110		6,170
Liability for uncertain tax positions		890		980
Accrued interest		1,735		1,759
Contingent consideration for acquisition		3,375		—
Other		19,622		26,738
Total accrued expenses	\$	180,290	\$	187,536
OTHER NONCURRENT LIABILITIES				
Pension and retiree medical obligations	\$	87,478	\$	80,667
Transition tax payable		11,292		17,127
Liability for uncertain tax positions		3,008		3,183
Deferred revenue		2,129		3,027
Liability for construction of new leased facility		—		11,616
Lease liability		69,928		—
Contingent consideration for acquisition		—		3,375
Other		23,533		19,219
Total other noncurrent liabilities	\$	197,368	\$	138,214

The valuation and qualifying account activity for the years ended December 31, 2019, 2018 and 2017 is as follows:

	2019	2018	2017			
	(In thousands)					
ALLOWANCE FOR DOUBTFUL ACCOUNTS ⁽¹⁾						
Beginning balance January 1	\$	6,709	\$	7,764	\$	8,078
Charged to costs and expenses, net of recoveries		1,181		290		720
Utilization		(1,443)		(1,396)		(1,418)
Currency translation and other		(100)		51		384
Ending balance December 31	\$	6,347	\$	6,709	\$	7,764

⁽¹⁾ Includes provision for doubtful accounts.

4. Revenue

IDEX is an applied solutions company specializing in the manufacture of fluid and metering technologies, health and science technologies and fire, safety and other diversified products built to customers' specifications. The Company's products include industrial pumps, compressors, flow meters, injectors, valves and related controls for use in a wide variety of process applications; precision fluidics solutions, including pumps, valves, degassing equipment, corrective tubing, fittings and complex manifolds, optical filters and specialty medical equipment and devices for use in life science applications; precision-engineered equipment for dispensing, metering and mixing paints; and engineered products for industrial and commercial markets, including fire and rescue, transportation equipment, oil and gas, electronics and communications.

Revenue is recognized when control of products or services is transferred to our customers in an amount that reflects the consideration we expect to be entitled to in exchange for transferring those products or providing those services. We account for a contract when it has approval and commitment from both parties, the rights of the parties are identified, payment terms are identified, the contract has commercial substance and collectability of the consideration is probable. We determine the appropriate revenue recognition for our contracts with customers by analyzing the type, terms and conditions of each contract or arrangement with a customer.

Disaggregation of Revenue

We have a comprehensive offering of products, including technologies, built to customers' specifications that are sold in niche markets throughout the world. We disaggregate our revenue from contracts with customers by reporting unit and geographical region for each of our segments as we believe it best depicts how the nature, amount, timing and uncertainty of our revenue and cash flows are affected by economic factors. Revenue was attributed to geographical region based on location of the customer. The following tables present our revenue disaggregated by reporting unit and geographical region.

Revenue by reporting unit for the years ended December 31, 2019 and 2018 was as follows:

	For the Year Ended December 31,	
	2019	2018
Energy	\$ 164,825	\$ 163,996
Valves	118,333	113,136
Water	250,589	251,020
Pumps	331,098	324,222
Agriculture	92,183	99,178
Intersegment elimination	(505)	(277)
Fluid & Metering Technologies	956,523	951,275
Scientific Fluidics & Optics	434,623	417,859
Sealing Solutions	200,495	200,316
Gast	133,471	126,787
Micropump	32,216	36,827
Material Processing Technologies	113,641	114,630
Intersegment elimination	(1,823)	(449)
Health & Science Technologies	912,623	895,970
Fire & Safety	403,949	396,926
Band-It	106,624	105,785
Dispensing	116,197	134,317
Intersegment elimination	(1,343)	(607)
Fire & Safety/Diversified Products	625,427	636,421
Total net sales	\$ 2,494,573	\$ 2,483,666

Revenue by geographical region for the years ended December 31, 2019 and 2018 was as follows:

	For the Year Ended December 31, 2019			
	FMT	HST	FSDP	IDEX
U.S.	\$ 541,994	\$ 411,680	\$ 303,579	\$ 1,257,253
North America, excluding U.S.	58,256	21,735	26,328	106,319
Europe	170,698	263,523	159,184	593,405
Asia	125,031	201,765	103,379	430,175
Other ⁽¹⁾	61,049	15,743	34,300	111,092
Intersegment elimination	(505)	(1,823)	(1,343)	(3,671)
Total net sales	\$ 956,523	\$ 912,623	\$ 625,427	\$ 2,494,573

	For the Year Ended December 31, 2018			
	FMT	HST	FSDP	IDEX
U.S.	\$ 540,697	\$ 392,140	\$ 297,717	\$ 1,230,554
North America, excluding U.S.	57,917	18,770	28,779	105,466
Europe	172,630	278,634	164,307	615,571
Asia	119,822	189,342	111,169	420,333
Other ⁽¹⁾	60,486	17,533	35,056	113,075
Intersegment elimination	(277)	(449)	(607)	(1,333)
Total net sales	\$ 951,275	\$ 895,970	\$ 636,421	\$ 2,483,666

⁽¹⁾ Other includes: South America, Middle East, Australia and Africa.

Contract Balances

The timing of revenue recognition, billings and cash collections can result in customer receivables, advance payments or billings in excess of revenue recognized. Customer receivables include both amounts billed and currently due from customers as well as unbilled amounts (contract assets) and are included in Receivables - net on our Consolidated Balance Sheets. Amounts are billed in accordance with contractual terms or as work progresses. Unbilled amounts arise when the timing of billing differs from the timing of revenue recognized, such as when contract provisions require specific milestones to be met before a customer can be billed. Unbilled amounts primarily relate to performance obligations satisfied over time when the cost-to-cost method is utilized and the revenue recognized exceeds the amount billed to the customer as there is not yet a right to invoice in accordance with contractual terms. Unbilled amounts are recorded as a contract asset when the revenue associated with the contract is recognized prior to billing and derecognized when billed in accordance with the terms of the contract. Customer receivables are recorded at face amount less an allowance for doubtful accounts. The Company maintains an allowance for doubtful accounts for estimated losses as a result of customers' inability to make required payments. Management evaluates the aging of the customer receivable balances, the financial condition of its customers, historical trends and the time outstanding of specific balances to estimate the amount of customer receivables that may not be collected in the future and records the appropriate provision.

The composition of Customer receivables was as follows:

	December 31, 2019	December 31, 2018
Billed receivables	\$ 286,196	\$ 299,227
Unbilled receivables	11,922	14,492
Total customer receivables	\$ 298,118	\$ 313,719

Advance payments and billings in excess of revenue recognized are included in Deferred revenue which is classified as current or noncurrent based on the timing of when we expect to recognize the revenue. The current portion is included in Accrued expenses and the noncurrent portion is included in Other noncurrent liabilities on our Consolidated Balance Sheets. Advance payments represent contract liabilities and are recorded when customers remit contractual cash payments in advance of us satisfying

performance obligations under contractual arrangements, including those with performance obligations satisfied over time. We generally receive advance payments from customers related to maintenance services which we recognize ratably over the service term. Billings in excess of revenue recognized represent contract liabilities and primarily relate to performance obligations satisfied over time when the cost-to-cost method is utilized and revenue cannot yet be recognized as the Company has not completed the corresponding performance obligation. Contract liabilities are derecognized when revenue is recognized and the performance obligation is satisfied.

The composition of Deferred revenue was as follows:

	December 31, 2019	December 31, 2018
Deferred revenue - current	\$ 17,633	\$ 8,055
Deferred revenue - noncurrent	2,129	3,027
Total deferred revenue	<u>\$ 19,762</u>	<u>\$ 11,082</u>

Performance Obligations

A performance obligation is a promise in a contract to transfer a distinct product or service to the customer. A contract's transaction price is allocated to each performance obligation and recognized as revenue when, or as, the performance obligation is satisfied. For our contracts that require complex design, manufacturing and installation activities, certain promises may not be separately identifiable from other promises in the contract and, therefore, not distinct. As a result, the entire contract is accounted for as a single performance obligation. For our contracts that include distinct products or services that are substantially the same and have the same pattern of transfer to the customer over time, they are recognized as a series of distinct products or services. Certain of our contracts have multiple performance obligations for which we allocate the transaction price to each performance obligation using an estimate of the standalone selling price of each distinct product or service in the contract. For product sales, each product sold to a customer generally represents a distinct performance obligation. In such cases, the observable standalone sales are used to determine the standalone selling price. In certain cases, we may be required to estimate standalone selling price using the expected cost plus margin approach, under which we forecast our expected costs of satisfying a performance obligation and then add an appropriate margin for that distinct product or service.

Our performance obligations are satisfied at a point in time or over time as work progresses. Performance obligations are supported by contracts with customers that provide a framework for the nature of the distinct products or services or bundle of products and services. We define service revenue as revenue from activities that are not associated with the design, development or manufacture of a product or the delivery of a software license.

Revenue from products and services transferred to customers at a point in time approximated 95% of total revenues in both the years ended December 31, 2019 and 2018. Revenue recognized at a point in time relates to the majority of our product sales. Revenue on these contracts is recognized when obligations under the terms of the contract with our customer are satisfied. Generally, this occurs with the transfer of control of the asset, which is in line with shipping terms.

Revenue from products and services transferred to customers over time approximated 5% of total revenues in both the years ended December 31, 2019 and 2018. Revenue earned by certain business units within the Water, Energy, Material Processing Technologies ("MPT") and Dispensing reporting units is recognized over time because control transfers continuously to our customers. When accounting for over-time contracts, we use an input measure to determine the extent of progress towards completion of the performance obligation. For certain business units within the Water, Energy and MPT reporting units, revenue is recognized over time as work is performed based on the relationship between actual costs incurred to date for each contract and the total estimated costs for such contract at completion of the performance obligation (i.e. the cost-to-cost method). We believe this measure of progress best depicts the transfer of control to the customer which occurs as we incur costs on our contracts. Incurred cost represents work performed, which corresponds with the transfer of control to the customer. Contract costs include labor, material and overhead. Contract estimates are based on various assumptions to project the outcome of future events. These assumptions include labor productivity and availability; the complexity of the work to be performed; the cost and availability of materials; the performance of subcontractors; and the availability and timing of funding from the customer. Revenues, including estimated fees or profits, are recorded proportionally as costs are incurred. For certain business units within the Energy and Dispensing reporting units, revenue is recognized ratably over the contract term.

As a significant change in one or more of these estimates could affect the profitability of our contracts, we review and update our estimates regularly. Due to uncertainties inherent in the estimation process, it is reasonably possible that completion costs,

including those arising from contract penalty provisions and final contract settlements, will be revised. Such revisions to costs and income are recognized in the period in which the revisions are determined as a cumulative catch-up adjustment. The impact of the adjustment on profit recorded to date on a contract is recognized in the period the adjustment is identified. Revenue and profit in future periods of contract performance are recognized using the adjusted estimate. If at any time the estimate of contract profitability indicates an anticipated loss on the contract, we recognize provisions for estimated losses on uncompleted contracts in the period in which such losses are determined.

The Company records allowances for discounts and product returns at the time of sale as a reduction of revenue as such allowances can be reliably estimated based on historical experience and known trends. The Company also offers product warranties (primarily assurance-type) and accrues its estimated exposure for warranty claims at the time of sale based upon the length of the warranty period, warranty costs incurred and any other related information known to the Company.

5. Goodwill and Intangible Assets

The changes in the carrying amount of goodwill for 2019 and 2018, by reportable business segment, were as follows:

	Fluid & Metering Technologies	Health & Science Technologies	Fire & Safety/ Diversified Products	Total
	(In thousands)			
Goodwill	\$ 606,785	\$ 889,852	\$ 408,152	\$ 1,904,789
Accumulated goodwill impairment losses	(20,721)	(149,820)	(30,090)	(200,631)
Balance at January 1, 2018	586,064	740,032	378,062	1,704,158
Foreign currency translation	(5,023)	(8,391)	(6,505)	(19,919)
Acquisitions	—	12,399	—	12,399
Acquisition adjustments	—	1,317	—	1,317
Balance at December 31, 2018	581,041	745,357	371,557	1,697,955
Foreign currency translation	(2,116)	476	(2,509)	(4,149)
Acquisitions	—	85,939	—	85,939
Balance at December 31, 2019	\$ 578,925	\$ 831,772	\$ 369,048	\$ 1,779,745

ASC 350 requires that goodwill be tested for impairment at the reporting unit level on an annual basis and between annual tests if an event occurs or circumstances change that would more likely than not reduce the fair value of the reporting unit below its carrying value. In 2019 and 2018, there were no events or circumstances that would have required an interim impairment test. Goodwill represents the purchase price in excess of the net amount assigned to assets acquired and liabilities assumed.

Goodwill and other acquired intangible assets with indefinite lives were tested for impairment as of October 31, 2019, the Company's annual impairment test date. In assessing the fair value of the reporting units, the Company considers both the market approach and the income approach. Under the market approach, the fair value of the reporting unit is determined by the respective trailing twelve month EBITDA and the forward looking 2020 EBITDA (50% each), based on multiples of comparable public companies. The market approach is dependent on a number of significant management assumptions including forecasted EBITDA and selected market multiples. Under the income approach, the fair value of the reporting unit is determined based on the present value of estimated future cash flows. The income approach is dependent on a number of significant management assumptions including estimates of operating results, capital expenditures, net working capital requirements, long-term growth rates and discount rates. Weighting was equally attributed to both the market and the income approaches (50% each) in arriving at the fair value of the reporting units.

The following table provides the gross carrying value and accumulated amortization for each major class of intangible asset at December 31, 2019 and 2018:

	At December 31, 2019				At December 31, 2018		
	Gross Carrying Amount	Accumulated Amortization	Net	Weighted Average Life	Gross Carrying Amount	Accumulated Amortization	Net
	(In thousands)				(In thousands)		
Amortized intangible assets:							
Patents	\$ 6,678	\$ (5,276)	\$ 1,402	12	\$ 6,468	\$ (4,693)	\$ 1,775
Trade names	123,062	(64,938)	58,124	16	115,899	(57,227)	58,672
Customer relationships	275,575	(96,252)	179,323	14	256,202	(85,652)	170,550
Unpatented technology	101,721	(43,561)	58,160	12	96,922	(35,685)	61,237
Other	700	(578)	122	10	700	(507)	193
Total amortized intangible assets	507,736	(210,605)	297,131		476,191	(183,764)	292,427
Indefinite-lived intangible assets:							
Banjo trade name	62,100	—	62,100		62,100	—	62,100
Akron Brass trade name	28,800	—	28,800		28,800	—	28,800
Total intangible assets	\$ 598,636	\$ (210,605)	\$ 388,031		\$ 567,091	\$ (183,764)	\$ 383,327

On June 22, 2018, the Company acquired the intellectual property assets of Phantom Controls (“Phantom”) for cash consideration of \$4.0 million. The operational capabilities and innovative pump operation of Phantom’s technology complements our existing water-flow expertise of Hale, Akron Brass and Class 1 to improve fire ground safety and reduce operational complexity during mission critical response. This acquisition of intellectual property assets did not meet the definition of a business under ASU 2017-01 and thus the Company recorded the entire purchase price to the Unpatented technology class of intangible assets on the Consolidated Balance Sheets.

The Banjo trade name and the Akron Brass trade name are indefinite-lived intangible assets which are tested for impairment on an annual basis in accordance with ASC 350 or more frequently if events or changes in circumstances indicate that the assets might be impaired. The Company uses the relief-from-royalty method, a form of the income approach, to determine the fair value of these trade names. The relief-from-royalty method is dependent on a number of significant management assumptions, including estimates of revenues, royalty rates and discount rates.

In the second quarter of 2019, the Company began to evaluate strategic alternatives for one of its businesses in the HST segment. Prior to making a final decision on the options that were presented for this business, the business was informed in the third quarter of 2019 of the loss of its largest customer. As a result, the Company accelerated its restructuring activities for this business and a decision was made to wind down the business over time. This event required an interim impairment test be performed on certain of its definite-lived intangible assets, which resulted in an impairment charge of \$7.1 million, consisting of \$6.1 million related to customer relationships and \$1.0 million related to unpatented technology. This charge was recorded as Restructuring expense in the Consolidated Statements of Operations. See Note 14 for further discussion.

Amortization of intangible assets was \$37.3 million, \$38.5 million and \$45.9 million in 2019, 2018 and 2017, respectively. Based on the intangible asset balances as of December 31, 2019, amortization expense is expected to approximate \$38.4 million in 2020, \$37.1 million in 2021, \$35.2 million in 2022, \$32.4 million in 2023 and \$30.5 million in 2024.

6. Borrowings

Borrowings at December 31, 2019 and 2018 consisted of the following:

	2019	2018
	(In thousands)	
Revolving Facility	\$ —	\$ —
4.50% Senior Notes, due December 2020	300,000	300,000
4.20% Senior Notes, due December 2021	350,000	350,000
3.20% Senior Notes, due June 2023	100,000	100,000
3.37% Senior Notes, due June 2025	100,000	100,000
Other borrowings	622	1,078
Total borrowings	850,622	851,078
Less current portion	388	483
Less deferred debt issuance costs	983	1,593
Less unaccreted debt discount	387	667
Long-term borrowings	\$ 848,864	\$ 848,335

On June 13, 2016, the Company completed a private placement of a \$100 million aggregate principal amount of 3.20% Senior Notes due June 13, 2023 and a \$100 million aggregate principal amount of 3.37% Senior Notes due June 13, 2025 (collectively, the “Notes”) pursuant to a Note Purchase Agreement dated June 13, 2016 (the “Purchase Agreement”). Each series of Notes bears interest at the stated amount per annum, which is payable semi-annually in arrears on each June 13th and December 13th. The Notes are unsecured obligations of the Company and rank pari passu in right of payment with all of the Company’s other unsecured, unsubordinated debt. The Company may at any time prepay all, or any portion of the Notes, provided that such portion is greater than 5% of the aggregate principal amount of the Notes then outstanding. In the event of a prepayment, the Company will pay an amount equal to par plus accrued interest plus a make-whole amount. In addition, the Company may repurchase the Notes by making an offer to all holders of the Notes, subject to certain conditions.

The Purchase Agreement contains certain covenants that restrict the Company’s ability to, among other things, transfer or sell assets, incur indebtedness, create liens, transact with affiliates and engage in certain mergers or consolidations or other change of control transactions. In addition, the Company must comply with a leverage ratio and interest coverage ratio, as further described below, and the Purchase Agreement also limits the outstanding principal amount of priority debt that may be incurred by the Company to 15% of consolidated assets. The Purchase Agreement provides for customary events of default. In the case of an event of default arising from specified events of bankruptcy or insolvency, all of the outstanding Notes will become due and payable immediately without further action or notice. In the case of payment event of default, any holder of the Notes affected thereby may declare all of the Notes held by it due and payable immediately. In the case of any other event of default, a majority of the holders of the Notes may declare all of the Notes to be due and payable immediately.

On May 31, 2019, the Company entered into a credit agreement (the “Credit Agreement”) along with certain of its subsidiaries, as borrowers (the “Borrowers”), Bank of America, N.A., as administrative agent, swing line lender and an issuer of letters of credit, with other agents party thereto. The Credit Agreement replaced the Company’s prior five-year \$700 million credit agreement, dated as of June 23, 2015, which was due to expire in June 2020.

Terms and fees of the 2019 Credit Agreement are essentially the same as the 2015 credit agreement except for certain fees and interest rate pricing that are more favorable to the Company.

The Credit Agreement consists of a revolving credit facility (the “Revolving Facility”) in an aggregate principal amount of \$800 million, with a final maturity date of May 30, 2024. The maturity date may be extended under certain conditions for an additional one-year term. Up to \$75 million of the Revolving Facility under the Credit Agreement is available for the issuance of letters of credit. Additionally, up to \$50 million of the Revolving Facility is available to the Company for swing line loans, available on a same-day basis.

Proceeds of the Revolving Facility are available for use by the Borrowers for working capital and other general corporate purposes, including refinancing existing debt of the Company and its subsidiaries. The Company may request increases in the

lending commitments under the Credit Agreement, but the aggregate lending commitments pursuant to such increases may not exceed \$400 million. The Company has the right, subject to certain conditions set forth in the Credit Agreement, to designate certain foreign subsidiaries of the Company as borrowers under the Credit Agreement. In connection with any such designation, the Company is required to guarantee the obligations of any such subsidiaries under the Credit Agreement.

Borrowings under the Credit Agreement bear interest at either an alternate base rate or an adjusted LIBOR rate plus, in each case, an applicable margin. Such applicable margin is based on the better of the Company's senior, unsecured, long-term debt rating or the Company's applicable leverage ratio. Interest is payable (a) in the case of base rate loans, quarterly, and (b) in the case of LIBOR rate loans, on the last day of the applicable interest period selected, or every three months from the effective date of such interest period for interest periods exceeding three months.

The Credit Agreement requires payment to the lenders of a facility fee based upon (a) the amount of the lenders' commitments under the credit facility from time to time, (b) the applicable corporate credit ratings of the Company or (c) the applicable leverage ratio of the Company. Voluntary prepayments of any loans and voluntary reductions of the unutilized portion of the commitments under the Credit Agreement are permissible without penalty, subject to break funding payments and minimum notice and minimum reduction amount requirements.

The Credit Agreement contains affirmative and negative covenants usual and customary for such senior unsecured credit agreements, including an interest coverage ratio test and a leverage ratio test, in each case tested quarterly and, in the case of the leverage ratio, with an option to increase the ratio for 12 months in connection with certain acquisitions. The negative covenants include restrictions on the Company on granting liens, entering into transactions resulting in fundamental changes (such as mergers or sales of all or substantially all of the assets of the Company), making certain subsidiary dividends or distributions, engaging in materially different lines of businesses and allowing subsidiaries to incur certain additional debt.

The Credit Agreement also contains customary events of default (subject to grace periods, as appropriate).

At December 31, 2019, there was no balance outstanding under the Revolving Facility and \$8.5 million of outstanding letters of credit, resulting in a net available borrowing capacity under the Revolving Facility at December 31, 2019 of approximately \$791.5 million.

On December 9, 2011, the Company completed a public offering of \$350.0 million 4.2% senior notes due December 15, 2021 ("4.2% Senior Notes"). The net proceeds from the offering of \$346.2 million, after deducting a \$0.9 million issuance discount, a \$2.3 million underwriting commission and \$0.6 million of offering expenses, were used to repay \$306.0 million of outstanding bank indebtedness, with the balance used for general corporate purposes. The 4.2% Senior Notes bear interest at a rate of 4.2% per annum, which is payable semi-annually in arrears on each June 15th and December 15th. The Company may redeem all or a portion of the 4.2% Senior Notes at any time prior to maturity at the redemption prices set forth in the Note Indenture governing the 4.2% Senior Notes. The Company may issue additional debt from time to time pursuant to the Indenture. The Indenture and 4.2% Senior Notes contain covenants that limit the Company's ability to, among other things, incur certain liens securing indebtedness, engage in certain sale-leaseback transactions, and enter into certain consolidations, mergers, conveyances, transfers or leases of all or substantially all of the Company's assets. The terms of the 4.2% Senior Notes also require the Company to make an offer to repurchase the 4.2% Senior Notes upon a change of control triggering event (as defined in the Indenture) at a price equal to 101% of their principal amount plus accrued and unpaid interest, if any.

On December 6, 2010, the Company completed a public offering of \$300.0 million 4.5% senior notes due December 15, 2020 ("4.5% Senior Notes"). The net proceeds from the offering of \$295.7 million, after deducting a \$1.6 million issuance discount, a \$1.9 million underwriting commission and \$0.8 million of offering expenses, were used to repay \$250.0 million of outstanding bank indebtedness, with the balance used for general corporate purposes. The 4.5% Senior Notes bear interest at a rate of 4.5% per annum, which is payable semi-annually in arrears on each June 15th and December 15th. The Company may redeem all or a portion of the 4.5% Senior Notes at any time prior to maturity at the redemption prices set forth in the Note Indenture governing the 4.5% Senior Notes. The Company may issue additional debt from time to time pursuant to the Indenture. The Indenture and 4.5% Senior Notes contain covenants that limit the Company's ability to, among other things, incur certain liens securing indebtedness, engage in certain sale-leaseback transactions, and enter into certain consolidations, mergers, conveyances, transfers or leases of all or substantially all of the Company's assets. The terms of the 4.5% Senior Notes also require the Company to make an offer to repurchase the 4.5% Senior Notes upon a change of control triggering event (as defined in the Indenture) at a price equal to 101% of their principal amount plus accrued and unpaid interest, if any.

As of December 31, 2019, the \$300.0 million 4.5% Senior Notes are due in December 2020 but have not been classified as short-term borrowings on the Consolidated Balance Sheets as the Company has the ability and intent to either refinance or repay the Notes using the available borrowing capacity of the Revolving Facility. As a result, the 4.5% Senior Notes remain classified as long-term borrowings in the Consolidated Balance Sheets as of December 31, 2019.

There are two key financial covenants that the Company is required to maintain in connection with the Revolving Facility and the Notes, a minimum interest coverage ratio of 3.0 to 1 and a maximum leverage ratio of 3.50 to 1, which is the ratio of the Company's consolidated total debt to its consolidated EBITDA. In the case of the leverage ratio, there is an option to increase the ratio to 4.00 for 12 months in connection with certain acquisitions. At December 31, 2019, the Company was in compliance with both of these financial covenants. There are no financial covenants relating to the 4.5% Senior Notes or 4.2% Senior Notes; however, both are subject to cross-default provisions.

Total borrowings at December 31, 2019 have scheduled maturities as follows:

(In thousands)	
2020	\$ 300,388
2021	350,234
2022	—
2023	100,000
2024	—
Thereafter	100,000
Total borrowings	\$ 850,622

7. Derivative Instruments

The Company enters into cash flow hedges from time to time to reduce the exposure to variability in certain expected future cash flows. The types of cash flow hedges the Company enters into include foreign currency exchange contracts designed to minimize the earnings impact on certain intercompany loans as well as interest rate exchange agreements designed to reduce the impact of interest rate changes on future interest expense that effectively convert a portion of floating-rate debt to fixed-rate debt.

The effective portion of gains or losses on interest rate exchange agreements is reported in accumulated other comprehensive income (loss) in shareholders' equity and reclassified into net income in the same period or periods in which the hedged transaction affects net income. The remaining gain or loss in excess of the cumulative change in the present value of future cash flows or the hedged item, if any, is recognized in net income during the period of change. See Note 16 for the amount of loss reclassified into income for interest rate contracts for the years ended December 31, 2019, 2018 and 2017. As of December 31, 2019, the Company did not have any interest rate contracts outstanding.

On April 15, 2010, the Company entered into a forward starting interest rate contract with a notional amount of \$300.0 million and a settlement date in December 2010. This contract was entered into in anticipation of the issuance of the 4.5% Senior Notes and was designed to lock in the market interest rate as of April 15, 2010. In December 2010, the Company settled and paid this interest rate contract for \$31.0 million. The \$31.0 million is being amortized into interest expense over the 10 year term of the 4.5% Senior Notes, which results in an effective interest rate of 5.8%.

On July 12, 2011, the Company entered into a forward starting interest rate contract with a notional amount of \$350.0 million and a settlement date of September 30, 2011. This contract was entered into in anticipation of the issuance of the 4.2% Senior Notes and was designed to lock in the market interest rate as of July 12, 2011. On September 29, 2011, the Company settled this interest rate contract for \$34.7 million with a payment made on October 3, 2011. Simultaneously, the Company entered into a separate interest rate contract with a notional amount of \$350.0 million and a settlement date of February 28, 2012. The contract was entered into in anticipation of the expected issuance of the 4.2% Senior Notes and was designed to maintain the market rate as of July 12, 2011. In December 2011, the Company settled and paid the September interest rate contract for \$4.0 million, resulting in a total settlement of \$38.7 million. Of the \$38.7 million, \$0.8 million was recognized as other expense in 2011 and the balance of \$37.9 million is being amortized into interest expense over the 10 year term of the 4.2% Senior Notes, which results in an effective interest rate of 5.3%.

The amount of expense reclassified into interest expense for interest rate contracts for the years ended December 31, 2019, 2018 and 2017 is \$6.3 million, \$6.5 million and \$6.7 million, respectively.

Approximately \$6.0 million of the pre-tax amount included in accumulated other comprehensive loss in shareholders' equity at December 31, 2019 will be recognized in net income over the next 12 months as the underlying hedged transactions are realized.

At March 31, 2018, the Company had outstanding foreign currency exchange contracts with a combined notional value of €180 million that were not designated as hedges for accounting purposes and, as a result, the change in the fair value of these foreign currency exchange contracts and the corresponding foreign currency gain or loss on the revaluation of the intercompany loans were both recorded through earnings within Other (income) expense - net in the Consolidated Statements of Operations each period as incurred.

In April 2018, the Company settled its outstanding foreign currency exchange contracts in conjunction with its repayment of the underlying intercompany loans and did not extend these foreign currency exchange contracts. Along with the repayment of the intercompany loans, the Company was required to make a capital contribution to one of its subsidiaries, which resulted in a \$2.2 million stamp duty in Switzerland which was recorded within Selling, general and administrative expenses in the Consolidated Statements of Operations.

As a result of the foreign currency exchange contracts being settled in April 2018, the Company received \$6.6 million of proceeds. During the years ended December 31, 2018 and 2017, the Company recorded gains of \$0.9 million and \$19.8 million, respectively, within Other (income) expense - net in the Consolidated Statements of Operations related to these foreign currency exchange contracts. During the years ended December 31, 2018 and 2017, the Company recorded foreign currency transaction losses of \$0.9 million and \$20.2 million, respectively, within Other (income) expense - net in the Consolidated Statements of Operations related to these intercompany loans.

Fair values relating to derivative financial instruments reflect the estimated amounts that the Company would receive or pay to sell or buy the contracts based on quoted market prices of comparable contracts at each balance sheet date.

8. Fair Value Measurements

ASC 820, *Fair Value Measurements and Disclosures*, defines fair value, provides guidance for measuring fair value and requires certain disclosures. This standard discusses valuation techniques, such as the market approach (comparable market prices), the income approach (present value of future income or cash flow), and the cost approach (cost to replace the service capacity of an asset or replacement cost). The standard utilizes a fair value hierarchy that prioritizes the inputs to valuation techniques used to measure fair value into three broad levels. The following is a brief description of those three levels:

- Level 1: Observable inputs such as quoted prices (unadjusted) in active markets for identical assets or liabilities.
- Level 2: Inputs, other than quoted prices, that are observable for the asset or liability, either directly or indirectly. These include quoted prices for similar assets or liabilities in active markets and quoted prices for identical or similar assets or liabilities in markets that are not active.
- Level 3: Unobservable inputs that reflect the reporting entity's own assumptions.

The following table summarizes the basis used to measure the Company's financial assets (liabilities) at fair value on a recurring basis in the balance sheets at December 31, 2019 and 2018:

	Basis of Fair Value Measurements			
	Balance at December 31, 2019	Level 1	Level 2	Level 3
	(In thousands)			
Available for sale securities	\$ 10,462	\$ 10,462	\$ —	\$ —
Contingent consideration	3,375	—	—	3,375

	Basis of Fair Value Measurements			
	Balance at December 31, 2018	Level 1	Level 2	Level 3
	(In thousands)			
Available for sale securities	\$ 7,598	\$ 7,598	\$ —	\$ —
Contingent consideration	3,375	—	—	3,375

There were no transfers of assets or liabilities between Level 1 and Level 2 in 2019 or 2018.

The Company utilized a Monte Carlo Simulation to determine the fair value of the contingent consideration associated with the acquisition of FLI as of the acquisition date. The \$3.4 million represents management's best estimate of the liability, based on a range of outcomes of FLI's two-year operating results, from August 1, 2018 to July 31, 2020, and is expected to be paid during the third quarter of 2020. As of December 31, 2019, the \$3.4 million of contingent consideration is included in Accrued Expenses on the Consolidated Balance Sheets.

The carrying values of our cash and cash equivalents, accounts receivable, accounts payable and accrued expenses approximates their fair values because of the short term nature of these instruments. At December 31, 2019, the fair value of the outstanding indebtedness under our 3.2% Senior Notes, 3.37% Senior Notes, 4.5% Senior Notes, 4.2% Senior Notes and other borrowings based on quoted market prices and current market rates for debt with similar credit risk and maturity was approximately \$876.0 million compared to the carrying value of \$850.2 million. At December 31, 2018, the fair value of the outstanding indebtedness under our Revolving Facility, 3.2% Senior Notes, 3.37% Senior Notes, 4.5% Senior Notes and 4.2% Senior Notes based on quoted market prices and current market rates for debt with similar credit risk and maturity was approximately \$851.5 million compared to the carrying value of \$850.4 million. These fair value measurements are classified as Level 2 within the fair value hierarchy since they are determined based upon significant inputs observable in the market, including interest rates on recent financing transactions to entities with a credit rating similar to ours.

9. Leases

The Company leases certain office facilities, warehouses, manufacturing plants, equipment (which includes both office and plant equipment) and vehicles under operating leases. Leases with an initial term of 12 months or less are not recorded on the balance sheet; the Company recognizes lease expense for these leases on a straight-line basis over the lease term.

Certain leases include one or more options to renew. The exercise of lease renewal options is at the Company's sole discretion. There are currently no renewal periods included in any of the leases' respective lease terms as they are not reasonably certain of being exercised. The Company does not have any material purchase options.

Certain of our lease agreements have rental payments that are adjusted periodically for inflation or that are based on usage. Our lease agreements do not contain any material residual value guarantees or material restrictive covenants.

Supplemental balance sheet information related to leases as of December 31, 2019 was as follows:

	Balance Sheet Caption	December 31, 2019
Operating leases:		
Building right-of-use assets - net	Other noncurrent assets	\$ 75,381
Equipment right-of-use assets - net	Other noncurrent assets	6,993
Total right-of-use assets - net		<u>\$ 82,374</u>
Operating leases:		
Current lease liabilities	Accrued expenses	\$ 15,235
Noncurrent lease liabilities	Other noncurrent liabilities	69,928
Total lease liabilities		<u>\$ 85,163</u>

In the second quarter of 2019, the Company began to evaluate strategic alternatives for one of its businesses in the HST segment. Prior to making a final decision on the options that were presented for this business, the business was informed in the

third quarter of 2019 of the loss of its largest customer. As a result, the Company accelerated its restructuring activities for this business and a decision was made to wind down the business over time. This event required an interim impairment test be performed on its long-lived assets, which resulted in an impairment charge of \$0.6 million related to its building right-of-use asset. In the fourth quarter of 2019, the Company completed the consolidation of one of its facilities in the HST segment into the Optics Center of Excellence in Rochester, New York, which also resulted in an impairment charge of \$0.4 million related to its building right-of-use asset. These charges were recorded as Restructuring expenses in the Consolidated Statements of Operations. See Note 14 for further discussion.

As part of the adoption of the new lease standard, the Company derecognized its liability for the construction of a new leased facility that was recorded in Other noncurrent liabilities on the Consolidated Balance Sheets and recorded it as a right of use asset in Other noncurrent assets on the Consolidated Balance Sheets with a corresponding lease liability in Accrued expenses and Other noncurrent liabilities on the Consolidated Balance Sheets.

The components of lease cost for the year ended December 31, 2019 were as follows:

	December 31, 2019
Operating lease cost ⁽¹⁾	\$ 23,080
Variable lease cost	2,265
Total lease expense	\$ 25,345

⁽¹⁾ Includes short-term leases, which are immaterial.

Rental expense totaled \$21.8 million and \$19.0 million in 2018 and 2017, respectively.

Supplemental cash flow information related to leases for the year ended December 31, 2019 was as follows:

	December 31, 2019
Cash paid for amounts included in the measurement of operating lease liabilities	\$ 22,888
Right-of-use assets obtained in exchange for new operating lease liabilities	25,878

Other supplemental information related to leases as of December 31, 2019 was as follows:

Lease Term and Discount Rate	December 31, 2019
Weighted-average remaining lease term (years):	
Operating leases - building and equipment	9.61
Operating leases - vehicles	1.92
Weighted-average discount rate:	
Operating leases - building and equipment	4.08%
Operating leases - vehicles	2.99%

The Company uses its incremental borrowing rate to determine the present value of the lease payments. The Company used the incremental borrowing rate based on the information available at the transition date to determine the present value of the lease payments as of January 1, 2019.

Total lease liabilities at December 31, 2019 have scheduled maturities as follows:

Maturity of Lease Liabilities	Operating Leases ⁽¹⁾
2020	\$ 18,449
2021	15,070
2022	10,647
2023	8,894
2024	7,037
Thereafter	44,284
Total lease payments	104,381
Less: Imputed interest	(19,218)
Present value of lease liabilities	\$ 85,163

⁽¹⁾ Excludes \$6.4 million of legally binding minimum lease payments for leases signed but not yet commenced.

Total lease liabilities at December 31, 2018 had scheduled maturities as follows:

Maturity of Lease Liabilities	Operating Leases
2019	\$ 17,509
2020	13,162
2021	10,516
2022	7,979
2023	6,535
Thereafter	29,658
Total lease payments	\$ 85,359

10. Commitments and Contingencies

Warranty costs are provided for at the time of sale. The warranty provision is based on historical costs and adjusted for specific known claims. A rollforward of the warranty reserve is as follows:

	2019	2018	2017
	(In thousands)		
Beginning balance at January 1	\$ 5,303	\$ 6,281	\$ 5,628
Provision for warranties	3,438	2,334	2,895
Claim settlements	(3,115)	(2,981)	(2,317)
Other adjustments, including acquisitions, divestitures and currency translation	(45)	(331)	75
Ending balance at December 31	\$ 5,581	\$ 5,303	\$ 6,281

The Company and certain of its subsidiaries are involved in pending and threatened legal, regulatory and other proceedings arising in the ordinary course of business. These proceedings may pertain to matters such as product liability or contract disputes, and may also involve governmental inquiries, inspections, audits or investigations relating to issues such as tax matters, intellectual property, environmental, health and safety issues, governmental regulations, employment and other matters. Although the results of such legal proceedings cannot be predicted with certainty, the Company believes that the ultimate disposition of these matters will not have a material adverse effect, individually or in the aggregate, on the Company's business, financial condition, results of operations or cash flows.

11. Common and Preferred Stock

On December 1, 2015, the Company's Board of Directors approved an increase of \$300.0 million in the authorized level of repurchases of common stock. This followed the prior Board of Directors approved repurchase authorization of \$400.0 million

that was announced by the Company on November 6, 2014. These authorizations have no expiration date. Repurchases under the program will be funded with future cash flow generation or borrowings available under the Revolving Facility. During 2019, the Company repurchased a total of 389 thousand shares at a cost of \$54.7 million, compared to 1.3 million shares repurchased at a cost of \$173.9 million in 2018. As of December 31, 2019, the amount of share repurchase authorization remaining was \$322.3 million.

At December 31, 2019 and 2018, the Company had 150 million shares of authorized common stock, with a par value of \$.01 per share, and five million shares of authorized preferred stock, with a par value of \$.01 per share. No preferred stock was outstanding at December 31, 2019 and 2018.

12. Income Taxes

Pretax income for 2019, 2018 and 2017 was taxed in the following jurisdictions:

	2019	2018	2017
	(In thousands)		
U.S.	\$ 377,166	\$ 357,585	\$ 302,515
Foreign	155,737	171,354	152,758
Total	\$ 532,903	\$ 528,939	\$ 455,273

The provision (benefit) for income taxes for 2019, 2018 and 2017 was as follows:

	2019	2018	2017
	(In thousands)		
Current			
U.S.	\$ 49,819	\$ 67,793	\$ 91,641
State and local	9,074	8,056	9,342
Foreign	41,864	46,862	50,775
Total current	100,757	122,711	151,758
Deferred			
U.S.	10,158	(5,471)	(36,390)
State and local	(115)	(17)	3,305
Foreign	(3,418)	1,143	(657)
Total deferred	6,625	(4,345)	(33,742)
Total provision for income taxes	\$ 107,382	\$ 118,366	\$ 118,016

Deferred tax assets (liabilities) at December 31, 2019 and 2018 were:

	2019	2018
	(In thousands)	
Employee and retiree benefit plans	\$ 28,097	\$ 27,615
Capital loss and other carryforwards	16,035	12,754
Operating lease assets	20,036	—
Operating lease liabilities	(19,530)	—
Depreciation and amortization	(175,904)	(168,485)
Inventories	7,699	5,969
Allowances and accruals	7,765	11,540
Interest rate exchange agreement	2,113	3,543
Other	(14,998)	(6,388)
Total gross deferred tax (liabilities)	(128,687)	(113,452)
Valuation allowance	(16,035)	(12,754)
Total deferred tax (liabilities), net of valuation allowances	\$ (144,722)	\$ (126,206)

The deferred tax assets and liabilities recognized in the Company's Consolidated Balance Sheets as of December 31, 2019 and 2018 were:

	2019	2018
	(In thousands)	
Noncurrent deferred tax asset - Other noncurrent assets	\$ 1,852	\$ 1,801
Noncurrent deferred tax liabilities - Deferred income taxes	(146,574)	(128,007)
Net deferred tax liabilities	\$ (144,722)	\$ (126,206)

The Company had prepaid income taxes, recorded within Other current assets on the Consolidated Balance Sheets, of \$13.4 million and \$8.3 million as of December 31, 2019 and 2018, respectively.

The provision for income taxes differs from the amount computed by applying the statutory federal income tax rate to pretax income. The computed amount and the differences for 2019, 2018 and 2017 are as follows:

	2019	2018	2017
	(In thousands)		
Pretax income	\$ 532,903	\$ 528,939	\$ 455,273
Provision for income taxes:			
Computed amount at statutory rate	\$ 111,910	\$ 111,077	\$ 159,346
State and local income tax (net of federal tax benefit)	8,163	8,280	5,841
Taxes on non-U.S. earnings-net of foreign tax credits	5,003	5,725	(24,914)
Global Intangible Lowed-Taxed Income	2,324	2,725	—
Foreign-Derived Intangible Income Deduction	(5,811)	(5,410)	—
Effect of flow-through entities	1,316	1,215	192
U.S. business tax credits	(3,193)	(3,056)	(1,928)
Domestic activities production deduction	—	—	(8,516)
Capital loss on divestitures	—	—	(2,275)
Share-based payments	(11,011)	(9,348)	(6,844)
Valuation allowance	(117)	—	(361)
Impact of Tax Act	(334)	10,298	(100)
Other	(868)	(3,140)	(2,425)
Total provision for income taxes	\$ 107,382	\$ 118,366	\$ 118,016

On December 22, 2017, the Tax Cuts and Jobs Act (the “Tax Act”) was enacted into law, which significantly changed existing U.S. tax law and includes many provisions applicable to the Company, including, but not limited to, reducing the U.S. federal statutory tax rate, imposing a one-time transition tax on deemed repatriation of deferred foreign income and adopting a territorial tax system. The Tax Act reduced the U.S. federal statutory tax rate from 35% to 21% effective January 1, 2018. The Tax Act also included a provision to tax global intangible low-taxed income of foreign subsidiaries, a special tax deduction for foreign-derived intangible income and a base erosion anti-abuse tax measure that may tax certain payments between a U.S. corporation and its subsidiaries. These additional provisions of the Tax Act were effective beginning January 1, 2018.

The Company has \$26.5 million and \$18.2 million of permanently reinvested earnings of non-U.S. subsidiaries as of December 31, 2019 and 2018, respectively. No deferred U.S. income taxes have been provided on the \$26.5 million of permanently reinvested earnings, as these earnings are considered to be reinvested for an indefinite period of time. It should also be noted that the aforementioned earnings will not incur U.S. taxes when ultimately repatriated other than potentially U.S. state and local taxes and/or U.S. federal income taxes on foreign exchange gains or losses crystalized on the distribution of such earnings. Such distributions could also be subject to additional foreign withholding and foreign income taxes. The amount of unrecognized deferred income tax liabilities on currently permanently reinvested earnings is estimated to be \$5.4 million and \$3.7 million as of December 31, 2019 and 2018, respectively.

During the years ended December 31, 2019, 2018 and 2017, the Company repatriated \$99.0 million, \$135.0 million and \$3.3 million of foreign earnings, respectively. These actual distributions resulted in no incremental income tax expense for the years ended December 31, 2019 and 2018, and \$6.4 million of incremental income tax benefit for the year ended December 31, 2017. These repatriations represent distributions of previously taxed income as well as distributions from liquidating subsidiaries.

Because the changes included in the Tax Act were broad and complex, on December 22, 2017, the SEC issued Staff Accounting Bulletin (“SAB 118”), which provided guidance on accounting for the tax effects of the Tax Act. SAB 118 provided a measurement period that should not extend beyond one year from the Tax Act enactment date for companies to complete the accounting under ASC 740. In accordance with SAB 118, a company was required to reflect the income tax effects of those aspects of the Tax Act for which the accounting under ASC 740 was complete. To the extent that a company’s accounting for certain income tax effects of the Tax Act was incomplete but it was able to determine a reasonable estimate, it was required to record a provisional estimate to be included in the financial statements. As of December 31, 2018, the Company, as required under SAB 118, completed the

accounting for all of the enactment-date income tax effects of the Tax Act. The Company's completed accounting of the enactment-date income tax effects of the Tax Act is as follows:

Deemed Repatriation Transition Tax: The Deemed Repatriation Transition Tax ("Transition Tax") is a tax on previously untaxed accumulated and current earnings and profits of certain foreign subsidiaries. To determine the amount of the Transition Tax, the Company had to determine, in addition to other factors, the amount of post-1986 earnings and profits of the relevant subsidiaries, as well as the amount of non-U.S. income taxes paid on such earnings. The Company was able to make a reasonable estimate of the Transition Tax and recorded a provisional Transition Tax obligation of \$30.3 million for the year ended December 31, 2017. During the first quarter of 2018, the IRS released Revenue Procedure 2018-17 and Notice 2018-26, the effects of which increased the provisional Transition Tax by \$0.1 million. The Company updated its Transition Tax obligation in the fourth quarter of 2018 recording a \$3.9 million tax benefit which, together with the first quarter adjustment, resulted in an updated Transition Tax obligation of \$26.5 million. The Company finalized its Transition Tax obligation in the fourth quarter of 2019 for an adjustment and foreign tax credit carrybacks which resulted in a final Transition Tax obligation of \$20.6 million.

Reduction of U.S. federal corporate tax rate: The Tax Act reduces the corporate tax rate to 21%, effective January 1, 2018. The Company recorded a decrease in its deferred tax liability of \$40.6 million, with a corresponding adjustment to deferred income tax benefit of \$40.6 million for the year ended December 31, 2017. The Company finalized the impact of the rate change on its deferred tax liability in the fourth quarter of 2018 recording an additional \$1.1 million tax benefit. The total reduction to the deferred tax liability related to the rate change was \$41.7 million.

Removal of Permanent Reinvestment Representation on certain undistributed foreign earnings: As a result of the enactment of the Tax Act, the Company had decided to remove the Permanent Reinvestment Representation with respect to certain of its subsidiaries in Canada, Italy and Germany as of December 31, 2017. Under the mandatory repatriation provisions of the Tax Act, post-1986 undistributed earnings were taxed in the U.S. as if they were distributed before December 31, 2017. However, with the removal of the Permanent Reinvestment Representation with respect to select subsidiaries in Canada, Italy and Germany, the non-creditable withholding taxes and any local country taxes associated with future dividends from these subsidiaries were required to be recorded as deferred tax liabilities as of the end of 2017. The Company recorded a provisional increase in its deferred tax liability of \$9.2 million, with a corresponding adjustment to deferred income tax expense of \$9.2 million for the year ended December 31, 2017. During the second quarter of 2018, the deferred tax liability was reduced by \$1.4 million to \$7.8 million. No adjustments were made to the deferred tax liability during the third quarter of 2018. The Company removed the Permanent Reinvestment Representation during the fourth quarter of 2018 for all remaining non-U.S. subsidiaries except for its entity in India. This change resulted in an additional \$9.1 million increase to its deferred tax liability with a corresponding adjustment to deferred tax expense.

Global intangible low taxed income ("GILTI"): The Tax Act creates a new requirement that certain income (i.e. GILTI) earned by controlled foreign corporations ("CFCs") must be included currently in the gross income of the CFC's U.S. shareholder. GILTI is the excess of the U.S. shareholder's "net CFC tested income" over the net deemed intangible income return, which is currently defined as the excess of (1) 10% of the aggregate of the U.S. shareholder's pro rata share of the qualified business asset investment of each CFC with respect to which it is a U.S. shareholder over (2) the amount of certain interest expense taken into account in the determination of net CFC-tested income. In January 2018, FASB released guidance on the accounting for the GILTI tax. The guidance indicates that either accounting for deferred taxes related to GILTI tax inclusions or treating the GILTI tax as a period cost are both acceptable methods subject to an accounting policy election. The Company treats the GILTI tax as a period cost.

Although the SAB 118 measurement period has closed, further technical guidance related to the Tax Act, including final regulations on a broad range of topics, is expected to be issued. In accordance with ASC 740, the Company will recognize any effects of the guidance in the period that such guidance is issued.

A reconciliation of the beginning and ending amount of unrecognized tax benefits for 2019, 2018 and 2017 is as follows:

	2019	2018	2017
	(In thousands)		
Beginning balance January 1	\$ 4,070	\$ 2,722	\$ 3,775
Gross increases for tax positions of prior years	—	2,308	537
Gross decreases for tax positions of prior years	—	(229)	(587)
Settlements	(140)	(160)	(604)
Lapse of statute of limitations	(250)	(571)	(399)
Ending balance December 31	<u>\$ 3,680</u>	<u>\$ 4,070</u>	<u>\$ 2,722</u>

The Company recognizes interest and penalties related to uncertain tax positions in income tax expense. As of December 31, 2019, 2018 and 2017, we had approximately \$0.2 million, \$0.1 million and \$0.1 million, respectively, of accrued interest related to uncertain tax positions. The Company had no accrued penalties related to uncertain tax positions during these years.

The total amount of unrecognized tax benefits that would affect the Company's effective tax rate if recognized is \$3.0 million, \$3.0 million and \$0.9 million as of December 31, 2019, 2018 and 2017, respectively. The tax years 2013-2018 remain open to examination by major taxing jurisdictions. Due to the potential for resolution of federal, state and foreign examinations, and the expiration of various statutes of limitation, it is reasonably possible that the Company's gross unrecognized tax benefits balance may change within the next 12 months by a range of zero to \$0.9 million.

The Company had net operating loss and general business credit carryforwards related to prior acquisitions for U.S. federal purposes at December 31, 2019 and 2018 of \$0.4 million and \$1.3 million, respectively. The U.S. federal net operating loss carryforwards are available for use against the Company's consolidated U.S. federal taxable income and expire between 2021 and 2028. For non-U.S. purposes, the Company had net operating loss carryforwards at December 31, 2019 and 2018 of \$16.5 million and \$29.5 million, respectively, the majority of which relates to acquisitions. The entire balance of the non-U.S. net operating losses is available to be carried forward indefinitely. At December 31, 2019 and 2018, the Company had U.S. state net operating loss carryforwards of approximately \$17.4 million and \$15.8 million, respectively. If unutilized, the U.S. state net operating loss will expire between 2020 and 2039. At December 31, 2019 and 2018, the Company recorded a valuation allowance against the deferred tax asset attributable to the U.S. state net operating loss of \$0.6 million and \$0.6 million, respectively.

The Company had a capital loss carryover for U.S. federal purposes at December 31, 2019 and 2018 of approximately \$45.6 million and \$46.1 million, respectively. U.S. federal capital loss carryovers can be carried back three years and forward five years, thus, if unutilized, the U.S. federal capital loss carryover will expire in 2021. At December 31, 2019 and 2018, the Company recorded a valuation allowance against the deferred tax asset attributable to the U.S. federal capital loss carryover of \$9.6 million and \$9.7 million, respectively. At December 31, 2019 and 2018, the Company had U.S. state capital loss carryovers of \$62.1 million and \$62.7 million, respectively. If unutilized, the U.S. state capital loss carryovers will expire between 2021 and 2031. At December 31, 2019 and 2018, the Company recorded a valuation allowance against the deferred tax assets attributable to the U.S. state capital loss carryovers of \$0.8 million and \$0.8 million, respectively. At December 31, 2019 and 2018, the Company had a foreign capital loss carryforward of approximately \$13.8 million and \$13.4 million, respectively. The foreign capital loss can be carried forward indefinitely. At both December 31, 2019 and 2018, the Company has a full valuation allowance against the deferred tax asset attributable to the foreign capital loss.

The Company had a foreign tax credit carryover for U.S. federal purposes at December 31, 2019 and 2018 of approximately \$3.3 million and \$6.6 million, respectively. U.S. federal foreign tax credit carryovers can be carried back one year and forward ten years, thus, if unutilized, the U.S. federal foreign tax credit carryover will expire in 2029. At December 31, 2019, the Company recorded a full valuation allowance against the deferred tax asset attributable to the U.S. federal foreign tax credit carryover.

13. Business Segments and Geographic Information

IDEX has three reportable business segments: Fluid & Metering Technologies, Health & Science Technologies and Fire & Safety/Diversified Products.

The Fluid & Metering Technologies segment designs, produces and distributes positive displacement pumps, flow meters, injectors and other fluid-handling pump modules and systems and provides flow monitoring and other services for the food, chemical, general industrial, water and wastewater, agriculture and energy industries.

The Health & Science Technologies segment designs, produces and distributes a wide range of precision fluidics, rotary lobe pumps, centrifugal and positive displacement pumps, roll compaction and drying systems used in beverage, food processing, pharmaceutical and cosmetics, pneumatic components and sealing solutions, including very high precision, low-flow rate pumping solutions required in analytical instrumentation, clinical diagnostics and drug discovery, high performance molded and extruded sealing components, custom mechanical and shaft seals for a variety of end markets including food and beverage, marine, chemical, wastewater and water treatment, engineered hygienic mixers and valves for the global biopharmaceutical industry, biocompatible medical devices and implantables, air compressors used in medical, dental and industrial applications, optical components and coatings for applications in the fields of scientific research, defense, biotechnology, aerospace, telecommunications and electronics manufacturing, laboratory and commercial equipment used in the production of micro and nano scale materials, precision photonic solutions used in life sciences, research and defense markets and precision gear and peristaltic pump technologies that meet exacting original equipment manufacturer specifications.

The Fire & Safety/Diversified Products segment designs, produces and distributes firefighting pumps, valves and controls, rescue tools, lifting bags and other components and systems for the fire and rescue industry, engineered stainless steel banding and clamping devices used in a variety of industrial and commercial applications and precision equipment for dispensing, metering and mixing colorants and paints used in a variety of retail and commercial businesses around the world.

Information on the Company's business segments is presented below based on the nature of products and services offered. The Company evaluates performance based on several factors, of which sales, operating income and operating margin are the primary financial measures. Intersegment sales are accounted for at fair value as if the sales were to third parties.

	2019	2018	2017
	(In thousands)		
NET SALES			
Fluid & Metering Technologies			
External customers	\$ 956,523	\$ 951,275	\$ 880,648
Intersegment sales	505	277	309
Total segment sales	957,028	951,552	880,957
Health & Science Technologies			
External customers	912,623	895,970	819,719
Intersegment sales	1,823	449	412
Total segment sales	914,446	896,419	820,131
Fire & Safety/Diversified Products			
External customers	625,427	636,421	586,945
Intersegment sales	1,343	607	588
Total segment sales	626,770	637,028	587,533
Intersegment eliminations	(3,671)	(1,333)	(1,309)
Total net sales	\$ 2,494,573	\$ 2,483,666	\$ 2,287,312
OPERATING INCOME (LOSS) ⁽¹⁾			
Fluid & Metering Technologies	\$ 285,256	\$ 275,060	\$ 241,030
Health & Science Technologies	200,200	205,679	179,567
Fire & Safety/Diversified Products	165,258	168,601	147,028
Corporate office ⁽²⁾	(71,711)	(80,252)	(65,069)
Total operating income	579,003	569,088	502,556
Interest expense	44,341	44,134	44,889
Other (income) expense - net	1,759	(3,985)	2,394
Income before taxes	\$ 532,903	\$ 528,939	\$ 455,273

	2019	2018	2017
	(In thousands)		
ASSETS			
Fluid & Metering Technologies	\$ 1,150,712	\$ 1,107,777	\$ 1,101,580
Health & Science Technologies	1,507,108	1,329,368	1,323,373
Fire & Safety/Diversified Products	825,398	806,075	744,515
Corporate office	330,694	230,637	230,160
Total assets	<u>\$ 3,813,912</u>	<u>\$ 3,473,857</u>	<u>\$ 3,399,628</u>
DEPRECIATION AND AMORTIZATION ⁽³⁾			
Fluid & Metering Technologies	\$ 22,152	\$ 22,370	\$ 23,587
Health & Science Technologies	39,721	39,939	45,287
Fire & Safety/Diversified Products	14,333	14,493	14,541
Corporate office and other	670	742	801
Total depreciation and amortization	<u>\$ 76,876</u>	<u>\$ 77,544</u>	<u>\$ 84,216</u>
CAPITAL EXPENDITURES			
Fluid & Metering Technologies	\$ 17,285	\$ 19,541	\$ 18,218
Health & Science Technologies	22,001	26,039	16,340
Fire & Safety/Diversified Products	9,811	10,318	6,363
Corporate office and other	1,815	191	2,937
Total capital expenditures	<u>\$ 50,912</u>	<u>\$ 56,089</u>	<u>\$ 43,858</u>

(1) Segment operating income (loss) excludes net unallocated corporate operating expenses.

(2) 2017 includes a \$9.3 million gain on the sale of a business.

(3) Excludes amortization of debt issuance expenses.

Information about the Company's long-lived assets in different geographical regions for the years ended December 31, 2019, 2018 and 2017 is shown below.

	2019	2018	2017
	(In thousands)		
LONG-LIVED ASSETS — PROPERTY, PLANT AND EQUIPMENT			
U.S.	\$ 165,721	\$ 171,111	\$ 145,808
North America, excluding U.S.	3,829	3,398	3,627
Europe	88,104	85,100	85,932
Asia	22,505	21,355	22,613
Other	157	256	370
Total long-lived assets - net	<u>\$ 280,316</u>	<u>\$ 281,220</u>	<u>\$ 258,350</u>

14. Restructuring

During 2019, 2018 and 2017, the Company recorded accruals for restructuring costs incurred to facilitate long-term, sustainable growth through cost reduction actions, consisting of employee reductions, facility rationalization and asset impairment charges. The restructuring costs included severance benefits, exit costs and asset impairment charges which were included in Restructuring expenses in the Consolidated Statements of Operations while the related accruals were included in Accrued expenses in the Consolidated Balance Sheets. Severance costs primarily consisted of severance benefits through payroll continuation, COBRA subsidies, outplacement services, conditional separation costs and employer tax liabilities, while exit costs primarily consisted of lease exit and contract termination costs.

2019 Initiative

During 2019, the Company recorded pre-tax restructuring expenses totaling \$21.0 million related to the 2019 restructuring initiative. These expenses consisted of employee severance related to employee reductions across various functional areas, facility rationalization, contract termination costs and asset impairment charges. Severance payments will be substantially paid by the end of 2020 using cash from operations.

In the second quarter of 2019, the Company began to evaluate strategic alternatives for one of its businesses in the HST segment. Prior to making a final decision on the options that were presented for this business, the business was informed in the third quarter of 2019 of the loss of its largest customer. As a result, the Company accelerated its restructuring activities for this business and a decision was made to wind down the business over time. This event required an interim impairment test be performed on the long-lived tangible and intangible assets of the business, which resulted in an impairment charge of \$9.7 million, consisting of \$6.1 million related to a customer relationships intangible asset, \$1.0 million related to an unpatented technology intangible asset, \$2.0 million related to property, plant and equipment and \$0.6 million related to a building right-of-use asset. In the fourth quarter of 2019, the Company also consolidated one of its facilities into the Optics Center of Excellence in Rochester, New York, which resulted in an impairment charge of \$0.4 million related to a building right-of-use asset. These charges were recorded as Restructuring expenses in the Consolidated Statements of Operations.

Pre-tax restructuring expenses by segment for the 2019 initiative were as follows:

	Severance Costs	Exit Costs	Asset Impairment	Total Restructuring Costs
	(In thousands)			
Fluid & Metering Technologies	\$ 2,879	\$ —	\$ —	\$ 2,879
Health & Science Technologies	3,000	1,094	10,155	14,249
Fire & Safety/Diversified Products	1,364	—	—	1,364
Corporate/Other	2,552	—	—	2,552
Total restructuring costs	\$ 9,795	\$ 1,094	\$ 10,155	\$ 21,044

2018 Initiative

During 2018, the Company recorded pre-tax restructuring expenses totaling \$12.1 million related to the 2018 restructuring initiative. These expenses consisted of employee severance related to employee reductions across various functional areas as well as facility rationalization and contract termination costs. Severance payments were substantially paid by the end of 2019 using cash from operations.

Pre-tax restructuring expenses by segment for the 2018 initiative were as follows:

	Severance Costs	Exit Costs	Total Restructuring Costs
	(In thousands)		
Fluid & Metering Technologies	\$ 2,305	\$ 153	\$ 2,458
Health & Science Technologies	5,454	450	5,904
Fire & Safety/Diversified Products	2,184	—	2,184
Corporate/Other	1,537	—	1,537
Total restructuring costs	\$ 11,480	\$ 603	\$ 12,083

2017 Initiative

During the fourth quarter of 2017, the Company recorded pre-tax restructuring expenses totaling \$3.7 million related to the 2017 restructuring initiative. These expenses consisted of employee severance related to employee reductions across various functional areas as well as facility rationalization and contract termination costs. Severance payments were fully paid by the end of 2018 using cash from operations.

Pre-tax restructuring expenses by segment for the 2017 initiative were as follows:

	Severance Costs	Exit Costs	Total Restructuring Costs
	(In thousands)		
Fluid & Metering Technologies	\$ 1,375	\$ 433	\$ 1,808
Health & Science Technologies	1,510	158	1,668
Fire & Safety/Diversified Products	182	—	182
Corporate/Other	—	—	—
Total restructuring costs	\$ 3,067	\$ 591	\$ 3,658

In addition, during the first quarter of 2017, the Company recorded pre-tax restructuring expenses totaling \$4.8 million related to the 2016 restructuring initiative.

Restructuring accruals of \$6.1 million and \$6.2 million at December 31, 2019 and 2018, respectively, are reflected in Accrued expenses in our Consolidated Balance Sheets as follows:

	Restructuring Initiatives
	(In thousands)
Balance at January 1, 2018	\$ 4,180
Restructuring expenses	12,083
Payments, utilization and other	(10,093)
Balance at December 31, 2018	6,170
Restructuring expenses	21,044
Payments, utilization and other	(21,104)
Balance at December 31, 2019	\$ 6,110

15. Share-Based Compensation

The Company maintains two share-based compensation plans for executives, non-employee directors and certain key employees that authorize the granting of stock options, restricted stock, performance share units and other types of awards consistent with the purpose of the plans. The number of shares authorized for issuance under the Company's plans as of December 31, 2019

totaled 15.6 million, of which 3.4 million shares were available for future issuance. The Company's policy is to recognize compensation cost on a straight-line basis, assuming forfeitures, over the requisite service period for the entire award.

The Company typically grants equity awards annually at its regularly scheduled first quarter meeting of the Board of Directors based on their recommendation from the Compensation Committee.

Stock Options

Stock options granted under the Company's plans are generally non-qualified and are granted with an exercise price equal to the market price of the Company's stock on the date of grant. The fair value of each option grant is estimated on the date of the grant using the Binomial lattice option pricing model. The majority of the options issued to employees vest ratably over four years, with vesting beginning one year from the date of grant, and generally expire 10 years from the date of grant.

Weighted average option fair values and assumptions for the periods specified are as follows:

	Years Ended December 31,		
	2019	2018	2017
Weighted average fair value of grants	\$35.15	\$38.13	\$24.19
Dividend yield	1.18%	1.07%	1.45%
Volatility	24.77%	28.46%	29.41%
Risk-free interest rate	2.53% - 3.04%	2.03% - 3.17%	0.83% - 3.04%
Expected life (in years)	5.87	5.83	5.83

The assumptions are as follows:

- The Company estimated volatility using its historical share price performance over the contractual term of the option.
- The Company uses historical data to estimate the expected life of the option. The expected life assumption for the years ended December 31, 2019, 2018 and 2017 is an output of the Binomial lattice option pricing model, which incorporates vesting provisions, rate of voluntary exercise and rate of post-vesting termination over the contractual life of the option to define expected employee behavior.
- The risk-free interest rate is based on the U.S. Treasury yield curve in effect at the time of grant for periods within the contractual life of the option. For the years ended December 31, 2019, 2018 and 2017, we present the range of risk-free one-year forward rates, derived from the U.S. treasury yield curve, utilized in the Binomial lattice option pricing model.
- The expected dividend yield is based on the Company's current dividend yield as the best estimate of projected dividend yield for periods within the contractual life of the option.

A summary of the Company's stock option activity as of December 31, 2019, and changes during the year ended December 31, 2019 is presented as follows:

Stock Options	Shares	Weighted Average Price	Weighted-Average Remaining Contractual Term	Aggregate Intrinsic Value
Outstanding at January 1, 2019	1,714,003	\$ 85.08	6.70	\$ 74,191,783
Granted	336,385	144.97		
Exercised	(559,725)	69.34		
Forfeited/Expired	(104,124)	116.94		
Outstanding at December 31, 2019	1,386,539	\$ 103.58	6.95	\$ 94,764,140
Vested and expected to vest at December 31, 2019	1,275,591	\$ 66.82	6.93	\$ 88,158,634
Exercisable at December 31, 2019	578,542	\$ 79.52	5.57	\$ 53,502,516

The intrinsic value for stock options outstanding and exercisable is defined as the difference between the market value of the Company's common stock as of the end of the period and the grant price. The total intrinsic value of options exercised in 2019, 2018 and 2017 was \$49.5 million, \$38.0 million and \$26.1 million, respectively. In 2019, 2018 and 2017, cash received from

options exercised was \$38.8 million, \$27.6 million and \$22.9 million, respectively, while the actual tax benefit realized for the tax deductions from stock options exercised totaled \$10.4 million, \$8.0 million and \$9.5 million, respectively.

Total compensation cost for stock options is recorded in the Consolidated Statements of Operations as follows:

	Years Ended December 31,		
	2019	2018	2017
	(In thousands)		
Cost of goods sold	\$ 445	\$ 470	\$ 428
Selling, general and administrative expenses	8,705	8,313	7,347
Total expense before income taxes	9,150	8,783	7,775
Income tax benefit	(1,209)	(1,616)	(2,485)
Total expense after income taxes	\$ 7,941	\$ 7,167	\$ 5,290

As of December 31, 2019, there was \$13.2 million of total unrecognized compensation cost related to stock options that is expected to be recognized over a weighted-average period of 1.3 years.

Restricted Stock

Restricted stock awards generally cliff vest after three years for employees and non-employee directors. Unvested restricted stock carries dividend and voting rights and the sale of the shares is restricted prior to the date of vesting. Dividends are paid on restricted stock awards and their fair value is equal to the market price of the Company's stock at the date of the grant. A summary of the Company's restricted stock activity as of December 31, 2019, and changes during the year ending December 31, 2019 is as follows:

Restricted Stock	Shares	Weighted-Average Grant Date Fair Value
Unvested at January 1, 2019	148,041	\$ 101.50
Granted	49,260	148.12
Vested	(51,253)	80.64
Forfeited	(15,800)	124.54
Unvested at December 31, 2019	130,248	\$ 124.61

Total compensation cost for restricted stock is recorded in the Consolidated Statements of Operations as follows:

	Years Ended December 31,		
	2019	2018	2017
	(In thousands)		
Cost of goods sold	\$ 261	\$ 367	\$ 335
Selling, general and administrative expenses	4,527	4,201	4,772
Total expense before income taxes	4,788	4,568	5,107
Income tax benefit	(920)	(825)	(1,654)
Total expense after income taxes	\$ 3,868	\$ 3,743	\$ 3,453

As of December 31, 2019, there was \$5.9 million of total unrecognized compensation cost related to restricted stock that is expected to be recognized over a weighted-average period of 1.1 years.

Cash-Settled Restricted Stock

The Company also maintains a cash-settled share based compensation plan for certain employees. Cash-settled restricted stock awards generally cliff vest after three years. Cash-settled restricted stock awards are recorded at fair value on a quarterly basis using the market price of the Company's stock on the last day of the quarter. Dividend equivalents are paid on certain cash-

settled restricted stock awards. A summary of the Company's unvested cash-settled restricted stock activity as of December 31, 2019, and changes during the year ending December 31, 2019 is as follows:

Cash-Settled Restricted Stock	Shares	Weighted-Average Fair Value
Unvested at January 1, 2019	88,225	\$ 126.26
Granted	25,950	145.38
Vested	(29,445)	141.89
Forfeited	(10,170)	159.78
Unvested at December 31, 2019	<u>74,560</u>	<u>\$ 172.08</u>

Total compensation cost for cash-settled restricted stock is recorded in the Consolidated Statements of Operations as follows:

	Years Ended December 31,		
	2019	2018	2017
	(In thousands)		
Cost of goods sold	\$ 1,230	\$ 809	\$ 1,357
Selling, general and administrative expenses	4,118	2,391	3,241
Total expense before income taxes	5,348	3,200	4,598
Income tax benefit	(509)	(337)	(808)
Total expense after income taxes	<u>\$ 4,839</u>	<u>\$ 2,863</u>	<u>\$ 3,790</u>

At December 31, 2019 and 2018, the Company has accrued \$5.5 million and \$4.5 million, respectively, for cash-settled restricted stock in Accrued expenses in the Consolidated Balance Sheets and has accrued \$2.8 million and \$2.4 million, respectively, for cash-settled restricted stock in Other non-current liabilities in the Consolidated Balance Sheets.

Performance Share Units

Beginning in 2013, the Company granted performance share units to selected key employees that may be earned based on IDEX total shareholder return over the three-year period following the date of grant. Performance share units are expected to be made annually and are paid out at the end of a three-year period based on the Company's performance. Performance is measured by determining the percentile rank of the total shareholder return of IDEX common stock in relation to the total shareholder return of the S&P Midcap 400 Industrial Group (for awards granted prior to 2016) or the Russell Midcap Index (for awards granted in 2016 - 2019) for the three-year period following the date of grant. The payment of awards following the three-year award period will be based on performance achieved in accordance with the scale set forth in the plan agreement and may range from 0 percent to 250 percent of the initial grant. A target payout of 100 percent is earned if total shareholder return is equal to the 50th percentile of the peer group. Performance share units earn dividend equivalents for the award period, which will be paid to participants with the award payout at the end of the period based on the actual number of performance share units that are earned. Payments made at the end of the award period will be in the form of stock for performance share units and will be in cash for dividend equivalents. The Company's performance share units are considered market condition awards, have been assessed at fair value on the date of grant using a Monte Carlo simulation model and are expensed ratably over the three-year term of the awards. The Company granted approximately 0.1 million of performance share units in each of 2019, 2018 and 2017.

Weighted average performance share unit fair values and assumptions for the period specified are as follows:

	Years Ended December 31,		
	2019	2018	2017
Weighted average fair value of grants	\$207.26	\$216.59	\$115.74
Dividend yield	—%	—%	—%
Volatility	19.11%	17.42%	17.36%
Risk-free interest rate	2.49%	2.40%	1.45%
Expected life (in years)	2.83	2.85	2.85

The assumptions are as follows:

- The Company estimated volatility using its historical share price performance over the remaining performance period as of the grant date.
- The Company uses a Monte Carlo simulation model that uses an expected life commensurate with the performance period. As a result, the expected life of the performance share units was assumed to be the period from the grant date to the end of the performance period.
- The risk-free interest rate is based on the U.S. Treasury yield curve in effect at the time of grant with a term commensurate with the remaining performance period.
- Total Shareholder Return is determined assuming that dividends are reinvested in the issuing entity over the performance period, which is mathematically equivalent to utilizing a 0% dividend yield.

A summary of the Company's performance share unit activity as of December 31, 2019, and changes during the year ending December 31, 2019, is as follows:

Performance Share Units	Shares	Weighted-Average Grant Date Fair Value
Unvested at January 1, 2019	111,155	\$ 142.42
Granted	56,860	207.26
Vested	(54,545)	249.44
Forfeited	(12,895)	125.03
Unvested at December 31, 2019	<u>100,575</u>	<u>\$ 178.97</u>

Awards that vested in 2019 will result in 136,370 shares being issued in 2020.

Total compensation cost for performance share units is as follows:

	Years Ended December 31,		
	2019	2018	2017
	(In thousands)		
Cost of goods sold	\$ —	\$ —	\$ —
Selling, general and administrative expenses	8,383	8,203	6,925
Total expense before income taxes	8,383	8,203	6,925
Income tax benefit	(641)	(1,586)	(2,342)
Total expense after income taxes	<u>\$ 7,742</u>	<u>\$ 6,617</u>	<u>\$ 4,583</u>

As of December 31, 2019, there was \$9.0 million of total unrecognized compensation cost related to performance shares that is expected to be recognized over a weighted-average period of 0.9 years.

16. Other Comprehensive Income (Loss)

The components of Other comprehensive income (loss) are as follows:

	For the Year Ended December 31, 2019			For the Year Ended December 31, 2018		
	Pre-tax	Tax	Net of tax	Pre-tax	Tax	Net of tax
	(In thousands)					
Cumulative translation adjustment	\$ 67	\$ —	\$ 67	\$ (48,114)	\$ —	\$ (48,114)
Pension and other postretirement adjustments						
Net gain (loss) arising during the year	(7,432)	2,497	(4,935)	9,963	(2,375)	7,588
Amortization/recognition of settlement loss	2,810	(944)	1,866	2,938	(701)	2,237
Pension and other postretirement adjustments	(4,622)	1,553	(3,069)	12,901	(3,076)	9,825
Reclassification adjustments for derivatives	6,327	(1,445)	4,882	6,475	(1,469)	5,006
Total other comprehensive income (loss)	\$ 1,772	\$ 108	\$ 1,880	\$ (28,738)	\$ (4,545)	\$ (33,283)

	For the Year Ended December 31, 2017		
	Pre-tax	Tax	Net of tax
	(In thousands)		
Foreign currency translation adjustments			
Cumulative translation adjustment	\$ 110,421	\$ —	\$ 110,421
Reclassification of foreign currency translation to earnings upon sale of business	2,749	—	2,749
Tax effect of reversal of indefinite assertion on certain intercompany loans	(3,932)	—	(3,932)
Foreign currency translation adjustments	109,238	—	109,238
Pension and other postretirement adjustments			
Net gain (loss) arising during the year	(5,355)	828	(4,527)
Amortization/recognition of settlement loss	3,814	(589)	3,225
Pension and other postretirement adjustments	(1,541)	239	(1,302)
Reclassification adjustments for derivatives	6,655	(2,445)	4,210
Total other comprehensive income (loss)	\$ 114,352	\$ (2,206)	\$ 112,146

Amounts reclassified from accumulated other comprehensive income (loss) to net income are summarized as follows:

	For the Year Ended December 31,			Income Statement Caption
	2019	2018	2017	
Foreign currency translation:				
Reclassification upon sale of business	\$ —	\$ —	\$ 2,749	Loss (gain) on sale of businesses - net
Total before tax	—	—	2,749	
Provision for income taxes	—	—	—	
Total net of tax	<u>\$ —</u>	<u>\$ —</u>	<u>\$ 2,749</u>	
Pension and other postretirement plans:				
Amortization of service cost	\$ 2,858	\$ 3,246	\$ 3,580	Other (income) expense - net
Recognition of settlement loss	(48)	(308)	234	Other (income) expense - net
Total before tax	2,810	2,938	3,814	
Provision for income taxes	(944)	(701)	(589)	
Total net of tax	<u>\$ 1,866</u>	<u>\$ 2,237</u>	<u>\$ 3,225</u>	
Derivatives:				
Reclassification adjustments	\$ 6,327	\$ 6,475	\$ 6,655	Interest expense
Total before tax	6,327	6,475	6,655	
Provision for income taxes	(1,445)	(1,469)	(2,445)	
Total net of tax	<u>\$ 4,882</u>	<u>\$ 5,006</u>	<u>\$ 4,210</u>	

The Company recognizes the service cost component in both Selling, general and administrative expenses and Cost of sales in the Consolidated Statements of Operations depending on the functional area of the underlying employees included in the plans.

17. Retirement Benefits

The Company sponsors several qualified and nonqualified defined benefit and defined contribution pension plans and other post-retirement plans for its employees. The Company uses a measurement date of December 31 for its defined benefit pension plans and post-retirement medical plans. The Company employs the measurement date provisions of ASC 715, *Compensation-Retirement Benefits*, which require the measurement date of plan assets and liabilities to coincide with the sponsor's year end.

Effective September 30, 2019, the IDEX Corporation Retirement Plan ("Plan"), a U.S. defined benefit plan, was amended to freeze the accrual of retirement benefits for all participants. This action impacted fewer than 60 participants, as the Plan had been closed to new entrants as of December 31, 2004 and frozen as of December 31, 2005 for all but certain older, longer service participants. The overall financial impact of the freeze was to reduce the Plan liabilities by approximately \$1.2 million. In addition, the Company recorded a settlement charge of \$0.7 million which was recorded in Other (income) expense - net in the Consolidated Statements of Operations for the year ended December 31, 2019. Subsequent to the freeze, termination of the Plan was approved in November 2019. Participants were notified in February 2020 and the Plan will be terminated in May 2020. As a result, the disclosures for the year ended December 31, 2019 were prepared on a liquidation basis of accounting.

The following table provides a reconciliation of the changes in the benefit obligations and fair value of plan assets over the two-year period ended December 31, 2019 and a statement of the funded status at December 31 for both years.

	Pension Benefits				Other Benefits			
	2019		2018		2019		2018	
	U.S.	Non-U.S.	U.S.	Non-U.S.				
(In thousands)								
CHANGE IN BENEFIT OBLIGATION								
Obligation at January 1	\$ 85,175	\$ 89,789	\$ 91,335	\$ 97,451	\$ 22,593	\$	\$ 26,068	
Service cost	653	1,844	886	2,105	561		668	
Interest cost	2,796	1,440	2,634	1,389	849		810	
Plan amendments	—	(156)	—	52	—		—	
Benefits paid	(3,520)	(1,507)	(5,171)	(2,791)	(676)		(847)	
Actuarial loss (gain)	16,931	9,903	(4,497)	(3,378)	(161)		(3,930)	
Currency translation	—	66	—	(3,335)	91		(176)	
Settlements	(4,826)	—	(12)	(2,313)	—		—	
Curtailments	(1,538)	—	—	—	—		—	
Acquisition/Divestiture	—	—	—	—	—		—	
Other	276	637	—	609	—		—	
Obligation at December 31	\$ 95,947	\$ 102,016	\$ 85,175	\$ 89,789	\$ 23,257	\$	\$ 22,593	
CHANGE IN PLAN ASSETS								
Fair value of plan assets at January 1	\$ 83,580	\$ 33,532	\$ 76,041	\$ 36,316	\$ —	\$	\$ —	
Actual return on plan assets	17,446	3,406	2,070	496	—		—	
Employer contributions	733	2,320	10,652	2,345	676		847	
Benefits paid	(3,520)	(1,507)	(5,171)	(2,791)	(676)		(847)	
Currency translation	—	916	—	(1,130)	—		—	
Settlements	(4,826)	—	—	(2,313)	—		—	
Acquisition/Divestiture	—	—	—	—	—		—	
Other	—	637	(12)	609	—		—	
Fair value of plan assets at December 31	\$ 93,413	\$ 39,304	\$ 83,580	\$ 33,532	\$ —	\$	\$ —	
Funded status at December 31	\$ (2,534)	\$ (62,712)	\$ (1,595)	\$ (56,257)	\$ (23,257)	\$	\$ (22,593)	
COMPONENTS ON THE CONSOLIDATED BALANCE SHEETS								
Other noncurrent assets	\$ 1,921	\$ 14	\$ 3,058	\$ —	\$ —	\$	\$ —	
Current liabilities	\$ (564)	\$ (1,270)	\$ (556)	\$ (1,174)	\$ (1,127)	\$	\$ (1,116)	
Other noncurrent liabilities	(3,891)	(61,456)	(4,097)	(55,083)	(22,130)		(21,477)	
Net liability at December 31	\$ (2,534)	\$ (62,712)	\$ (1,595)	\$ (56,257)	\$ (23,257)	\$	\$ (22,593)	

The accumulated benefit obligation (“ABO”) for all defined benefit pension plans was \$193.3 million and \$169.5 million at December 31, 2019 and 2018, respectively.

The weighted average assumptions used in the measurement of the Company’s benefit obligation at December 31, 2019 and 2018 were as follows:

	U.S. Plans		Non-U.S. Plans		Other Benefits	
	2019	2018	2019	2018	2019	2018
Discount rate	3.06%	4.10%	1.33%	2.07%	3.09%	4.11%
Rate of compensation increase	—%	4.00%	2.29%	2.13%	4.00%	4.00%

The pretax amounts recognized in Accumulated other comprehensive income (loss) on the Consolidated Balance Sheets as of December 31, 2019 and 2018 were as follows:

	Pension Benefits				Other Benefits	
	2019		2018		2019	2018
	U.S.	Non-U.S.	U.S.	Non-U.S.		
	(In thousands)					
Prior service cost (credit)	\$ 46	\$ (100)	\$ 62	\$ 64	\$ (46)	\$ (117)
Net loss (gain)	21,432	19,304	22,478	12,955	(6,009)	(6,386)
Total	\$ 21,478	\$ 19,204	\$ 22,540	\$ 13,019	\$ (6,055)	\$ (6,503)

The amounts in Accumulated other comprehensive income (loss) on the Consolidated Balance Sheet as of December 31, 2019 that are expected to be recognized as components of net periodic benefit cost during 2020 are as follows:

	U.S. Pension Benefit Plans	Non-U.S. Pension Benefit Plans	Other Benefit Plans	Total
	(In thousands)			
Prior service cost (credit)	\$ 13	\$ (21)	\$ (37)	\$ (45)
Net loss (gain)	1,755	1,726	(506)	2,975
Total	\$ 1,768	\$ 1,705	\$ (543)	\$ 2,930

The components of, and the weighted average assumptions used to determine, the net periodic benefit cost for the plans in 2019, 2018 and 2017 are as follows:

	Pension Benefits					
	2019		2018		2017	
	U.S.	Non-U.S.	U.S.	Non-U.S.	U.S.	Non-U.S.
	(In thousands)					
Service cost	\$ 653	\$ 1,844	\$ 886	\$ 2,105	\$ 976	\$ 1,975
Interest cost	2,796	1,440	2,634	1,389	2,677	1,283
Expected return on plan assets	(3,319)	(1,047)	(3,943)	(1,120)	(3,832)	(1,088)
Settlement loss recognized	713	—	(1)	(307)	—	234
Special termination benefit recognized	276	—	—	—	—	—
Net amortization	1,614	1,117	2,712	1,271	2,566	1,809
Net periodic benefit cost	\$ 2,733	\$ 3,354	\$ 2,288	\$ 3,338	\$ 2,387	\$ 4,213

	Other Benefits		
	2019	2018	2017
	(In thousands)		
Service cost	\$ 561	\$ 668	\$ 610
Interest cost	849	810	818
Net amortization	(635)	(737)	(795)
Net periodic benefit cost	\$ 775	\$ 741	\$ 633

	U.S. Plans			Non-U.S. Plans		
	2019	2018	2017	2019	2018	2017
Discount rate	4.11%/2.99%*	3.46%	3.91%	2.07%	1.82%	1.76%
Expected return on plan assets	4.00%	5.50%	5.50%	3.12%	3.09%	3.20%
Rate of compensation increase	4.00%	4.00%	4.00%	2.13%	2.37%	2.29%

* A discount rate of 4.11% was used to determine the net periodic benefit cost for the period January 1, 2019 through August 31, 2019 and a discount rate of 2.99% was used to determine the net periodic benefit cost for the period September 1, 2019 through December 31, 2019 as a result of the remeasurement that occurred in conjunction with the decision to freeze the Plan.

	Other Benefits		
	2019	2018	2017
Discount rate	4.11%	3.50%	3.94%
Expected return on plan assets	—%	—%	—%
Rate of compensation increase	4.00%	4.00%	4.00%

The pretax change recognized in Accumulated other comprehensive income (loss) on the Consolidated Balance Sheet in 2019 is as follows:

	Pension Benefits		Other Benefits
	U.S.	Non-U.S.	
	(In thousands)		
Net gain (loss) in current year	\$ (1,265)	\$ (7,544)	\$ 161
Prior service cost	—	156	—
Amortization of prior service cost (credit)	15	6	(70)
Amortization of net loss (gain)	2,312	1,111	(565)
Exchange rate effect on amounts in OCI	—	86	26
Total	\$ 1,062	\$ (6,185)	\$ (448)

The discount rates for our plans are derived by matching the plan's cash flows to a yield curve that provides the equivalent yields on zero-coupon bonds for each maturity. The discount rate selected is the rate that produces the same present value of cash flows.

In selecting the expected rate of return on plan assets, the Company considers the historical returns and expected returns on plan assets. The expected returns are evaluated using asset return class, variance and correlation assumptions based on the plan's target asset allocation and current market conditions.

Prior service costs are amortized on a straight-line basis over the average remaining service period of active participants. Gains and losses in excess of 10% of the greater of the benefit obligation or the market value of assets are amortized over the average remaining service period of active participants.

Costs of defined contribution plans were \$12.4 million, \$12.2 million and \$10.2 million for 2019, 2018 and 2017, respectively.

The Company, through its subsidiaries, participates in certain multi-employer pension plans covering approximately 259 participants under U.S. collective bargaining agreements. None of these plans are considered individually significant to the Company as contributions to these plans totaled \$1.1 million, \$1.1 million, and \$1.0 million for 2019, 2018 and 2017, respectively.

For measurement purposes, a 5.84% weighted average annual rate of increase in the per capita cost of covered health care benefits was assumed for 2019. The rate was assumed to decrease gradually each year to a rate of 4.45% for 2038, and remain at that level thereafter. Assumed health care cost trend rates have an effect on the amounts reported for the health care plans. A 1% increase in the assumed health care cost trend rates would increase the service and interest cost components of the net periodic benefit cost by \$0.1 million and the health care component of the accumulated postretirement benefit obligation by \$1.9 million.

A 1% decrease in the assumed health care cost trend rate would decrease the service and interest cost components of the net periodic benefit cost by \$0.1 million and the health care component of the accumulated postretirement benefit obligation by \$1.6 million.

Plan Assets

The Company's pension plan weighted average asset allocations at December 31, 2019 and 2018, by asset category, were as follows:

	U.S. Plans		Non-U.S. Plans	
	2019	2018	2019	2018
Equity securities	10%	9%	17%	13%
Fixed income securities	90%	90%	24%	31%
Cash/Commingled Funds/Other (1)	—%	1%	59%	56%
Total	100%	100%	100%	100%

The basis used to measure the defined benefit plans' assets at fair value at December 31, 2019 and 2018 is summarized as follows:

As of December 31, 2019	Basis of Fair Value Measurement			
	Outstanding Balances	Level 1	Level 2	Level 3
	(In thousands)			
Equity				
U.S. Large Cap	\$ 4,734	\$ 4,734	\$ —	\$ —
U.S. Small / Mid Cap	455	—	455	—
International	10,845	5,258	5,587	—
Fixed Income				
U.S. Intermediate	640	—	640	—
U.S. Long Term	83,628	—	83,628	—
U.S. High Yield	1,346	—	1,346	—
International	7,516	296	7,220	—
Other Commingled Funds (1)	19,438	—	—	19,438
Cash and Equivalents	1,094	517	577	—
Other	3,021	—	3,021	—
	<u>\$ 132,717</u>	<u>\$ 10,805</u>	<u>\$ 102,474</u>	<u>\$ 19,438</u>

(1) Other commingled funds represent pooled institutional investments in non-U.S. plans.

	Basis of Fair Value Measurement			
	Outstanding Balances	Level 1	Level 2	Level 3
(In thousands)				
As of December 31, 2018				
Equity				
U.S. Large Cap	\$ 3,759	\$ 3,759	\$ —	\$ —
U.S. Small / Mid Cap	770	—	770	—
International	7,532	4,445	3,087	—
Fixed Income				
U.S. Intermediate	581	—	581	—
U.S. Long Term	75,096	—	75,096	—
U.S. High Yield	1,098	—	1,098	—
International	8,604	244	8,360	—
Other Commingled Funds (1)	15,555	—	—	15,555
Cash and Equivalents	1,944	1,074	870	—
Other	2,173	—	2,173	—
	<u>\$ 117,112</u>	<u>\$ 9,522</u>	<u>\$ 92,035</u>	<u>\$ 15,555</u>

(1) Other commingled funds represent pooled institutional investments in non-U.S. plans.

Equities that are valued using quoted prices are valued at the published market prices. Equities in a common collective trust or a registered investment company that are valued using significant other observable inputs are valued at the net asset value (“NAV”) provided by the fund administrator. The NAV is based on the value of the underlying assets owned by the fund minus its liabilities. Fixed income securities that are valued using significant other observable inputs are valued at prices obtained from independent financial service industry-recognized vendors.

Investment Policies and Strategies

The investment objective of the U.S. plan, consistent with prudent standards for preservation of capital and maintenance of liquidity, is to earn the highest possible total rate of return consistent with the plan’s tolerance for risk. The general asset allocation guidelines for plan assets are that “equities” will constitute 10% and “fixed income” obligations, including cash, will constitute from 90% of the market value of total fund assets. The investment objective of the UK plan, consistent with prudent standards for preservation of capital and maintenance of liquidity, is to earn a target return of UK Gilts plus 2.5% per year. The general asset allocation guidelines for plan assets are that “equities” will constitute from 40% to 50% of the market value of total fund assets with a target of 40%, and “fixed income” obligations, including cash, will constitute from 50% to 60% with a target of 60%. The term “equities” includes common stock, while the term “fixed income” includes obligations with contractual payments and a specific maturity date. The Company, through the use of a professional independent advisor, will monitor the asset allocation daily and maintain an asset allocation that closely replicates the designated targets. Diversification of assets is employed to ensure that adverse performance of one security or security class does not have an undue detrimental impact on the portfolio as a whole. Diversification is interpreted to include diversification by type, characteristic and number of investments as well as by investment style of designated investment fund managers. No restrictions are placed on the selection of individual investments by the investment fund managers. The total fund performance and the performance of the investment fund managers is reviewed on a regular basis using an appointed professional independent advisor. As of December 31, 2019, there were no shares of the Company’s stock held in plan assets.

Cash Flows

The Company expects to contribute approximately \$3.0 million to its defined benefit plans and \$1.1 million to its other postretirement benefit plans in 2020. The Company also expects to contribute approximately \$12.8 million to its defined contribution plan and \$10.2 million to its 401(k) savings plan in 2020.

Estimated Future Benefit Payments

The future estimated benefit payments for the next five years and the five years thereafter are as follows: 2020 — \$49.4 million; 2021 — \$49.2 million; 2022 — \$5.7 million; 2023 — \$5.6 million; 2024 — \$5.9 million; 2025 to 2029 — \$30.7 million.

18. Quarterly Results of Operations (Unaudited)

The unaudited quarterly results of operations for the years ended December 31, 2019 and 2018 are as follows:

	2019 Quarters (1)				2018 Quarters (1)			
	First	Second	Third	Fourth	First	Second	Third	Fourth
	(In thousands, except per share amounts)							
Net sales	\$ 622,231	\$ 642,099	\$ 624,246	\$ 605,997	\$ 612,324	\$ 634,360	\$ 622,888	\$ 614,094
Gross profit	283,834	292,337	281,978	266,885	276,652	287,367	280,233	273,643
Operating income	147,782	155,283	141,765	134,173	136,683	147,831	145,133	139,441
Net income	110,268	113,209	105,194	96,850	98,958	107,126	106,352	98,137
Basic EPS	\$ 1.46	\$ 1.50	\$ 1.39	\$ 1.28	\$ 1.29	\$ 1.40	\$ 1.39	\$ 1.29
Diluted EPS	\$ 1.44	\$ 1.48	\$ 1.37	\$ 1.26	\$ 1.27	\$ 1.38	\$ 1.37	\$ 1.27
Basic weighted average shares outstanding	75,442	75,460	75,698	75,779	76,419	76,539	76,562	76,128
Diluted weighted average shares outstanding	76,284	76,387	76,577	76,570	77,739	77,704	77,709	77,100

(1) Quarterly data includes acquisition of Finger Lakes Instrumentation (July 2018) and Velcora Holding AB (July 2019) from the date of acquisition. See Note 2 for further discussion.

19. Subsequent Events

On January 29, 2020, the Company entered into a definitive agreement to acquire Flow Management Devices, LLC (“Flow MD”) for cash consideration of \$125 million. Flow MD is a leading provider of small volume provers used in the oil and gas industry. Flow MD is headquartered in Phoenix, Arizona, Flow MD and will operate in our Fluid and Metering Technologies Segment. We expect to close the transaction by the end of the first quarter 2020 subject to regulatory approvals and customary closing conditions.

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

None.

Item 9A. *Controls and Procedures.*

The Company maintains disclosure controls and procedures that are designed to ensure that information required to be disclosed in the Company's Exchange Act reports is recorded, processed, summarized and reported within the time periods specified in the SEC's rules and forms, and that such information is accumulated and communicated to the Company's management, including its Chief Executive Officer and Chief Financial Officer, as appropriate, to allow timely decisions regarding required disclosure.

As required by SEC Rule 13a-15(b), the Company carried out an evaluation, under the supervision and with the participation of the Company's management, including the Company's Chief Executive Officer and Chief Financial Officer, of the effectiveness of the design and operation of the Company's disclosure controls and procedures as of the end of the period covered by this report. Based on the foregoing, the Company's Chief Executive Officer and Chief Financial Officer concluded that the Company's disclosure controls and procedures were effective as of December 31, 2019.

Management's Report on Internal Control Over Financial Reporting appearing on page 34 of this report is incorporated into this Item 9A by reference.

There has been no change in the Company's internal control over financial reporting during the Company's most recent fiscal quarter that has materially affected, or is reasonably likely to materially affect, the Company's internal control over financial reporting.

Item 9B. *Other Information.*

None.

PART III

Item 10. Directors, Executive Officers and Corporate Governance.

Information under the headings “Election of Directors”; “Board Committees”; “Delinquent Section 16(a) Reports”; and “Corporate Governance” in the 2020 Proxy Statement is incorporated into this Item 10 by reference. Information regarding executive officers of the Company is located in Part I, Item 1, of this report under the caption “Information about Our Executive Officers.”

The Company has adopted a Code of Business Conduct and Ethics applicable to the Company’s directors, officers (including the Company’s principal executive officer, principal financial officer and principal accounting officer) and employees. The Code of Business Conduct and Ethics, along with the Audit Committee Charter, Nominating and Corporate Governance Committee Charter, Compensation Committee Charter and Corporate Governance Guidelines are available on the Company’s website at www.idexcorp.com under “Investor Relations.” In the event we amend or waive any of the provisions of the Code of Business Conduct and Ethics applicable to our principal executive officer, principal financial officer or principal accounting officer, we intend to disclose the same on the Company’s website.

Item 11. Executive Compensation.

Information under the heading “Executive Compensation” in the 2020 Proxy Statement is incorporated into this Item 11 by reference.

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

Information under the heading “Security Ownership” in the 2020 Proxy Statement is incorporated into this Item 12 by reference.

Equity Compensation Plan Information

Information with respect to the Company’s equity compensation plans as of December 31, 2019 is as follows:

Plan Category	Number of Securities To be Issued Upon Exercise of Outstanding Options, Warrants and Rights	Weighted-Average Exercise Price of Outstanding Options, Warrants and Rights	Number of Securities Remaining Available for Future Issuance Under Equity Compensation Plans⁽¹⁾
Equity compensation plans approved by the Company’s stockholders	1,663,823	\$ 103.58	3,372,235
Equity compensations plans not approved by the Company’s stockholders	—	—	—

(1) Includes an indeterminate number of shares underlying deferred compensation units (“DCUs”) granted under the Directors Deferred Compensation Plan and Deferred Compensation Plan for Non-officer Presidents which are issuable under the Company’s Incentive Award Plan. Also includes an indeterminate number of shares underlying DCUs granted under the Deferred Compensation Plan for Officers, which shares are issuable under the Incentive Award Plan. The number of DCUs granted under these plans is determined by dividing the amount deferred by the closing price of the common stock the day before the date of deferral. The DCUs are entitled to receive dividend equivalents which are reinvested in DCUs based on the same formula for investment of a participant’s deferral.

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

Information under the headings, “Corporate Governance” and “Board Committees” in the 2020 Proxy Statement is incorporated into this Item 13 by reference.

Item 14. Principal Accountant Fees and Services.

Information under the heading “Principal Accountant Fees and Services” in the 2020 Proxy Statement is incorporated into this Item 14 by reference.

PART IV

Item 15. Exhibits and Financial Statement Schedules.

(A) 1. Financial Statements

Consolidated financial statements filed as part of this report are listed under Part II, Item 8, “Financial Statements and Supplementary Data.”

2. Financial Statement Schedules

Financial statement schedules are omitted because they are not applicable, not required, or because the required information is included in the Consolidated Financial Statements of the Company or the Notes thereto.

3. Exhibits

The exhibits filed with this report are listed on the “Exhibit Index.”

(B) Exhibit Index

The information required by this item is set forth on the “Exhibit Index” which precedes the signature page of this report.

Item 16. *Form 10-K Summary.*

None.

Exhibit Number	Description
3.1	Restated Certificate of Incorporation of IDEX Corporation as amended to date (incorporated by reference to Exhibit 3.1 to the Annual Report of IDEX Corporation on Form 10-K for the fiscal year ended December 31, 2017, Commission File No. 1-10235)
3.2	Amended and Restated By-Laws of IDEX Corporation (incorporated by reference to Exhibit No. 3.1 to the Current Report of IDEX on Form 8-K filed November 14, 2011, Commission File No. 1-10235)
4.1	Indenture between IDEX Corporation and Wells Fargo Bank, National Association, as Trustee, dated as of December 6, 2010 (Debt Securities) (incorporated by reference to Exhibit No. 4.1 to the Current Report of IDEX on Form 8-K filed December 7, 2010, Commission File No. 1-10235)
4.2	First Supplemental Indenture between IDEX Corporation and Wells Fargo Bank, National Association, as Trustee, dated as of December 6, 2010 (as to 4.5% Senior Notes due 2020) (incorporated by reference to Exhibit No. 4.2 to the Current Report of IDEX on Form 8-K filed December 7, 2010, Commission File No. 1-10235)
4.3	Second Supplemental Indenture between IDEX Corporation and Wells Fargo Bank, National Association, as Trustee, dated as of December 13, 2011 (as to 4.2% Senior Notes due 2021) (incorporated by reference to Exhibit No. 4.1 to the Current Report of IDEX on Form 8-K filed December 14, 2011, Commission File No. 1-10235)
4.4	Note Purchase Agreement, dated June 13, 2016, between IDEX Corporation and the Purchasers listed in Schedule A thereto (incorporated by reference in Exhibit No. 4.1 to the Current Report of IDEX on Form 8-K filed June 15, 2016, Commission File No. 1-10235)
4.5*	Description of Securities
10.1**	Revised and Restated IDEX Management Incentive Compensation Plan for Key Employees Effective January 1, 2013 (incorporated by reference to Exhibit 10.2 to the Current Report of IDEX on Form 8-K filed February 20, 2013, Commission File No. 1-10235)
10.2**	IDEX Corporation Form of Director Indemnification Agreement (incorporated by reference to Exhibit 10.2 to the Annual Report of IDEX Corporation on Form 10-K for the fiscal year ended December 31, 2017, Commission File No. 1-10235)
10.3**	IDEX Corporation Amended and Restated Stock Option Plan for Outside Directors, adopted by resolution of the Board of Directors dated as of November 20, 2003 (incorporated by reference to Exhibit 10.6 (a) to the Annual Report of IDEX on Form 10-K for the year ended December 31, 2003, Commission File No. 1-10235)
10.4**	IDEX Corporation Incentive Award Plan (as amended and restated) (incorporated by reference to Appendix A of the Proxy Statement of IDEX on Schedule 14A, filed March 5, 2015, Commission File No. 1-10235)
10.5**	Amended and Restated Employment Agreement dated February 22, 2018 between IDEX Corporation and Andrew K. Silvernail (incorporated by reference to Exhibit 10.5 to the Annual Report of IDEX Corporation on Form 10-K for the fiscal year ended December 31, 2017, Commission File No. 1-10235)
10.6**	Third Amended and Restated IDEX Corporation Directors Deferred Compensation Plan (incorporated by reference to Exhibit No. 10.30 to the Annual Report of IDEX on Form 10-K for the year ended December 31, 2010, Commission File No. 1-10235)
10.7**	IDEX Corporation Supplemental Executive Retirement and Deferred Compensation Plan (incorporated by reference to Exhibit No. 10.31 to the Annual Report of IDEX on Form 10-K for the year ended December 31, 2010, Commission File No. 1-10235)
10.8**	Letter Agreement between IDEX Corporation and Jeffrey Bucklew, dated January 16, 2012 (incorporated by reference to Exhibit No. 10.16 to the Annual Report of IDEX on Form 10-K for the year ended December 31, 2013, Commission File No. 1-10235)
10.9**	Letter Agreements between IDEX Corporation and Eric Ashleman, dated January 14, 2008 and February 12, 2014 (incorporated by reference to Exhibit No. 10.14 to the Annual Report of IDEX on Form 10-K for the year ended December 31, 2014, Commission File No. 1-10235)
10.10**	Form of IDEX Corporation Restricted Stock Award Agreement effective February 2015 (incorporated by reference to Exhibit No. 10.16 to the Annual Report of IDEX on Form 10-K for the year ended December 31, 2014, Commission File No. 1-10235)

Exhibit Number	Description
10.11**	Form of IDEX Corporation Stock Option Agreement effective February 2015 (incorporated by reference to Exhibit No. 10.17 to the Annual Report of IDEX on Form 10-K for the year ended December 31, 2014, Commission File No. 1-10235)
10.12**	Form of IDEX Corporation Restricted Stock Unit Award Agreement effective February 2015 (incorporated by reference to Exhibit No. 10.18 to the Annual Report of IDEX on Form 10-K for the year ended December 31, 2014, Commission File No. 1-10235)
10.13**	Form of IDEX Corporation Restricted Stock Unit Award Agreement - Cash Settled effective February 2015 (incorporated by reference to Exhibit No. 10.19 to the Annual Report of IDEX on Form 10-K for the year ended December 31, 2014, Commission File No. 1-10235)
10.14**	Form of IDEX Corporation Performance Share Unit Award Agreement effective February 2015 (incorporated by reference to Exhibit No. 10.20 to the Annual Report of IDEX on Form 10-K for the year ended December 31, 2014, Commission File No. 1-10235)
10.15**	Form of IDEX Corporation Restricted Stock Unit Agreement for Directors effective February 2015 (incorporated by reference to Exhibit No. 10.21 to the Annual Report of IDEX on Form 10-K for the year ended December 31, 2014, Commission File No. 1-10235)
10.16**	Form of IDEX Corporation Stock Option Agreement effective February 2015 (incorporated by reference to Exhibit No. 10.22 to the Annual Report of IDEX on Form 10-K for the year ended December 31, 2014, Commission File No. 1-10235)
10.17**	Form of IDEX Corporation Restricted Stock Award Agreement effective February 2015 (incorporated by reference to Exhibit No. 10.23 to the Annual Report of IDEX on Form 10-K for the year ended December 31, 2014, Commission File No. 1-10235)
10.18**	Amendment of Letter Agreement dated January 16, 2012, between IDEX Corporation and Jeffrey D. Bucklew, effective January 12, 2018 (incorporated by reference to Exhibit 10.19 to the Annual Report of IDEX Corporation on Form 10-K for the fiscal year ended December 31, 2017, Commission File No. 1-10235)
10.19**	Letter Agreement between IDEX Corporation and Denise Cade, dated September 24, 2015 (incorporated by reference to Exhibit No. 10.24 to the Annual Report of IDEX Corporation on Form 10-K for the fiscal year ended December 31, 2015, Commission File No. 1-10235)
10.20	Stock Purchase Agreement, dated February 4, 2016, by and among IDEX Corporation, Premier Farnell PLC, Celdis Limited, Premier Farnell Corp. and Akron Brass Holding Corp. (incorporated by reference to Exhibit No. 10.25 to the Annual Report of IDEX Corporation on Form 10-K for the fiscal year ended December 31, 2015, Commission File No. 1-10235)
10.21**	Letter Agreement between IDEX Corporation and William K. Grogan, dated December 30, 2016 (incorporated by reference to Exhibit 10.22 to the Annual Report of IDEX Corporation on Form 10-K for the fiscal year ended December 31, 2016, Commission File No. 1-10235)
10.22**	Amendment to Letter Agreement dated September 24, 2015, between IDEX Corporation and Denise R. Cade, effective as of April 24, 2017 (incorporated by reference to Exhibit 10.1 to the Quarterly Report on Form 10-Q of IDEX Corporation for the quarter ended March 31, 2017, Commission File No. 1-10235)
10.23**	Amendment to Letter Agreement dated February 12, 2014, between IDEX Corporation and Eric D. Ashleman, effective as of April 24, 2017 (incorporated by reference to Exhibit 10.2 to the Quarterly Report on Form 10-Q of IDEX Corporation for the quarter ended March 31, 2017, Commission File No. 1-10235)
10.24**	Amendment to Letter Agreement dated December 30, 2016, between IDEX Corporation and William K. Grogan, effective as of April 24, 2017 (incorporated by reference to Exhibit 10.3 to the Quarterly Report on Form 10-Q of IDEX Corporation for the quarter ended March 31, 2017, Commission File No. 1-10235)
10.25**	Form of IDEX Corporation Performance Share Unit Award Agreement - Stock Settled, effective February 2018 (incorporated by reference to Exhibit 10.26 to the Annual Report of IDEX Corporation on Form 10-K for the fiscal year ended December 31, 2017, Commission File No. 1-10235)
10.26**	Form of IDEX Corporation Restricted Stock Award Agreement, effective February 2018 (incorporated by reference to Exhibit 10.27 to the Annual Report of IDEX Corporation on Form 10-K for the fiscal year ended December 31, 2017, Commission File No. 1-10235)

Exhibit Number	Description
10.27**	Form of IDEX Corporation Restricted Stock Unit Agreement for Directors, effective February 2018 (incorporated by reference to Exhibit 10.28 to the Annual Report of IDEX Corporation on Form 10-K for the fiscal year ended December 31, 2017, Commission File No. 1-10235)
10.28**	Form of IDEX Corporation Performance Share Unit Award Agreement - Cash Settled, effective February 2018 (incorporated by reference to Exhibit 10.29 to the Annual Report of IDEX Corporation on Form 10-K for the fiscal year ended December 31, 2017, Commission File No. 1-10235)
10.29**	Form of IDEX Corporation Stock Option Agreement, effective February 2018 (incorporated by reference to Exhibit 10.30 to the Annual Report of IDEX Corporation on Form 10-K for the fiscal year ended December 31, 2017, Commission File No. 1-10235)
10.30**	Form of IDEX Corporation Stock Option Agreement - Cash Settled, effective February 2018 (incorporated by reference to Exhibit 10.31 to the Annual Report of IDEX Corporation on Form 10-K for the fiscal year ended December 31, 2017, Commission File No. 1-10235)
10.31**	Form of IDEX Corporation Restricted Stock Unit Award Agreement - Cash Settled, effective February 2018 (incorporated by reference to Exhibit 10.32 to the Annual Report of IDEX Corporation on Form 10-K for the fiscal year ended December 31, 2017, Commission File No. 1-10235)
10.32**	Form of IDEX Corporation Restricted Stock Unit Award Agreement, effective December 2015 (incorporated by reference to Exhibit 10.33 to the Annual Report of IDEX Corporation on Form 10-K for the fiscal year ended December 31, 2017, Commission File No. 1-10235)
10.33**	Form of IDEX Corporation Confidential Information, Work Product and Restrictive Covenant Agreement (incorporated by reference to Exhibit 10.34 to the Annual Report of IDEX Corporation on Form 10-K for the fiscal year ended December 31, 2017, Commission File No. 1-10235)
10.34	Credit Agreement, dated as of May 31, 2019, by and among IDEX Corporation and certain of its subsidiaries, as borrowers, Bank of America, N.A., as administrative agent, swing line lender and an issuer of letters of credit; JPMorgan Chase Bank, N.A. and Wells Fargo Bank, National Association, as co-syndication agents and issuers of letters of credit; HSBC Bank USA, National Association, Mizuho Bank, Ltd., PNC Bank, National Association, and U.S. Bank, National Association, as co-documentation agents, and the other lenders and financial institutions party thereto (incorporated by reference to Exhibit 10.1 to the Current Report on Form 8-K of IDEX Corporation filed with the SEC on June 4, 2019, Commission File No. 1-10235)
10.35*,**	IDEX Amended and Restated Non-Employee Director Compensation Policy, effective January 1, 2020
*21	Subsidiaries of IDEX
*23	Consent of Deloitte & Touche LLP
*31.1	Certification of Chief Executive Officer Pursuant to Rule 13a-14 (a) or Rule 15d-14 (a)
*31.2	Certification of Chief Financial Officer Pursuant to Rule 13a-14 (a) or Rule 15d-14 (a)
***32.1	Certification pursuant to Section 1350 of Chapter 63 of Title 18 of the United States Code
***32.2	Certification pursuant to Section 1350 of Chapter 63 of Title 18 of the United States Code
*,****101	The following materials from IDEX Corporation’s Annual Report on Form 10-K for the year ended December 31, 2019 formatted in Inline XBRL (Extensible Business Reporting Language): (i) the Consolidated Balance Sheets at December 31, 2019 and 2018, (ii) the Consolidated Statements of Operations for the three years ended December 31, 2019, (iii) the Consolidated Statements of Comprehensive Income for the three years ended December 31, 2019, (iv) the Consolidated Statements of Shareholders’ Equity for the three years ended December 31, 2019, (v) the Consolidated Statements of Cash Flows for the three years ended December 31, 2019, and (vi) Notes to the Consolidated Financial Statements.
*,****104	Cover Page Interactive Data File (Formatted Inline XBRL and contained in Exhibit 101)
* Filed herewith.	
** Management contract or compensatory plan or agreement.	

*** Furnished herewith.

**** In accordance with Rule 406T of Regulation S-T, the XBRL related information in Exhibits 101 and 104 to this Annual Report on Form 10-K shall not be deemed to be “filed” for purposes of Section 18 of the Exchange Act, or otherwise subject to the liability of that section, and shall not be part of any registration statement or other document filed under the Securities Act or the Exchange Act, except as shall be expressly set forth by specific reference in such filing.

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.

IDEX CORPORATION

By: /s/ WILLIAM K. GROGAN

William K. Grogan

Senior Vice President and Chief Financial Officer

Date: February 21, 2020

Pursuant to the requirements of the Securities Exchange Act of 1934, this report has been signed below by the following persons on behalf of the Registrant and in the capacities and on the dates indicated.

<u>Signature</u>	<u>Title</u>	<u>Date</u>
<u>/s/ ANDREW K. SILVERNAIL</u> Andrew K. Silvernail	President, Chairman of the Board and Chief Executive Officer (Principal Executive Officer)	February 21, 2020
<u>/s/ WILLIAM K. GROGAN</u> William K. Grogan	Senior Vice President and Chief Financial Officer (Principal Financial Officer)	February 21, 2020
<u>/s/ MICHAEL J. YATES</u> Michael J. Yates	Vice President and Chief Accounting Officer (Principal Accounting Officer)	February 21, 2020
<u>/s/ MARK A. BECK</u> Mark A. Beck	Director	February 21, 2020
<u>/s/ MARK A. BUTHMAN</u> Mark A. Buthman	Director	February 21, 2020
<u>/s/ CARL R. CHRISTENSON</u> Carl R. Christenson	Director	February 21, 2020
<u>/s/ WILLIAM M. COOK</u> William M. Cook	Director	February 21, 2020
<u>/s/ KATRINA L. HELMKAMP</u> Katrina L. Helmkamp	Director	February 21, 2020
<u>/s/ ERNEST J. MROZEK</u> Ernest J. Mrozek	Director	February 21, 2020
<u>/s/ DAVID C. PARRY</u> David C. Parry	Director	February 21, 2020
<u>/s/ LIVINGSTON L. SATTERTHWAITE</u> Livingston L. Satterthwaite	Director	February 21, 2020
<u>/s/ CYNTHIA J. WARNER</u> Cynthia J. Warner	Director	February 21, 2020

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

As of the date of the Annual Report on Form 10-K of which this exhibit is a part, IDEX Corporation (the "Corporation") has one class of securities registered under Section 12 of the Securities Exchange Act of 1934: our common stock.

DESCRIPTION OF CAPITAL STOCK

The following summary description relating to our capital stock is based upon our Restated Certificate of Incorporation, as amended (the "Certificate of Incorporation") and our Amended and Restated Bylaws (the "Bylaws"). The summary does not purport to be complete, and is qualified by reference to our Certificate of Incorporation and Bylaws, each of which are incorporated by reference as an exhibit to the Annual Report on Form 10-K of which this Exhibit 4.5 is a part.

Capitalization

Our authorized capital stock currently consists of 150,000,000 shares of common stock, par value \$.01 per share, and 5,000,000 shares of preferred stock, par value \$.01 per share.

Common Stock

Subject to the rights of the holders of any preferred stock and except as provided below, each holder of common stock on the applicable record date is entitled to receive such dividends as may be declared by the Corporation's Board of Directors (the "Board") out of funds legally available therefore. In the event of liquidation, dissolution or winding-up of the Corporation, each stockholder of record on the applicable date has the right to share equally and ratably in any distribution of our assets after payment of liabilities (including payments with respect to any outstanding shares of preferred stock). Each holder of common stock is entitled to one vote for each share held of record on the applicable record date on all matters presented to a vote of stockholders. Our Certificate of Incorporation does not provide for cumulative voting rights. A majority vote is required for all action to be taken by stockholders, except with respect to matters relating to (i) the election of directors, which requires a plurality of the votes cast, or (ii) adopting amendments to Article VIII of our Certificate of Incorporation, which provides, among other things, for our classified board of directors, or adopting an amendment to our Certificate of Incorporation to provide for cumulative voting rights in the election of directors, each of which requires the affirmative vote of the holders of not less than 80% of the outstanding shares of stock with voting rights. Holders of common stock do not have preemptive, subscription, redemption, sinking fund or conversion rights.

Our common stock is listed on the New York Stock Exchange under the symbol "IEX."

Preferred Stock

The Corporation's Board has been authorized, subject to certain limitations set forth in the Certificate of Incorporation, to issue shares of preferred stock in one or more series, by resolution providing for the issuance of such series, and to (i) fix the number of shares which will constitute such series and the designation thereof, (ii) determine the voting rights of shares of such series, (iii) determine the terms and conditions, if any, under which such series may be redeemable, (iv) determine the rate of any dividends payable with respect to shares of such series and any preferences or relations to dividends payable with respect to shares of other classes of our capital stock, (v) determine the rights of shares of such series upon our liquidation, (vi) determine if shares of such series are convertible into or exchangeable for shares of another class or classes of our capital stock and the rates or prices at which shares of such series are convertible or exchangeable, and (vii) determine such other preferences and relative, participating, optional or other special rights and qualifications of shares of such series as are not inconsistent with the terms of the Certificate of Incorporation.

The issuance of preferred stock, however, could adversely affect the voting power of holders of common stock and restrict their rights to receive payments upon liquidation of the Corporation. It could also have the effect of delaying, deferring or preventing a change in control of the Corporation.

Anti-Takeover Effects of Certain Provisions

Certain provisions of the Delaware General Corporation Law (“DGCL”), our Certificate of Incorporation and Bylaws summarized in the paragraphs above and in the following paragraphs may have an anti-takeover effect and could make the following transactions difficult: acquisition by means of a tender offer; acquisition by means of a proxy contest or otherwise; or removal of incumbent officers and directors. It is possible that these provisions could make it more difficult to accomplish or could deter transactions that stockholders may otherwise consider to be in their best interest or in the best interests of the Corporation, including transactions that might result in a premium over the market price for shares of common stock.

Authorized but Unissued Shares

The Corporation’s authorized but unissued shares of common stock and preferred stock are available for future issuance without stockholder approval. We may use additional shares for a variety of purposes, including future public offerings to raise additional capital, to fund acquisitions and as employee compensation. The existence of authorized but unissued shares of common stock and preferred stock could render more difficult or discourage an attempt to obtain control of the Corporation by means of a proxy contest, tender offer, merger or otherwise.

Undesignated Preferred Stock

The authority that our board of directors possess to issue preferred stock could potentially be used to discourage attempts by third parties to obtain control of the Corporation through a merger, tender offer, proxy contest or otherwise by making such attempts more difficult or more costly. Our board of directors may be able to issue preferred stock with voting rights or conversion rights that, if exercised, could adversely affect the voting power of the holders of common stock.

No Cumulative Voting

The DGCL provides that stockholders are denied the right to cumulate votes in the election of directors unless the company’s Certificate of Incorporation provides otherwise. Our Certificate of Incorporation does not provide for cumulative voting and prohibits any provision imposing cumulative voting in the election of directors from being added unless such action is approved by the affirmative vote of the holders of not less than 80% of the outstanding shares of stock with voting rights.

Classified Board of Directors

Pursuant to our Certificate of Incorporation, the Corporation’s Board is divided into three classes, with the number of directors in each class as nearly equal as possible. The directors in each class serve for staggered three-year terms. Only one class of directors will be elected at each annual meeting of the stockholders, with the other classes continuing for the remainder of their respective three-year terms.

Removal of Directors; Vacancy

Our Certificate of Incorporation and Bylaws provide for the removal of any of the Corporation’s directors only for cause and only by the affirmative vote of at least a majority of the voting power of the Corporation’s then outstanding capital stock entitled to vote in the election of directors. Furthermore, any vacancy on the Corporation’s Board, however occurring, including a vacancy resulting from an increase in the size of the Board, shall only be filled by the affirmative vote of a majority of the remaining directors of the class in which such vacancy occurs, or by the affirmative vote of a majority of the remaining directors of the other two classes if there is no director remaining in the class in which such vacancy occurs.

Special Meetings of the Stockholders

Unless otherwise permitted by applicable law, our Bylaws provide that special meetings of the stockholders may be called only by (i) the Chairman of the Board, (ii) the Board, pursuant to a resolution approved by a majority of the entire Board or (iii) the Secretary of the Corporation upon the written request of stockholders of record as of the record date who hold, in the aggregate, at least a majority of the voting power of the outstanding shares of capital stock of the Corporation.

Stockholder Advance Notice Procedures

Under our Bylaws, to be properly brought before an annual meeting of stockholders, any stockholder proposal or nomination for election to the Board must be delivered to the Secretary of the Corporation not less than 90 days nor more than 120 days prior to the one-year anniversary of the preceding year’s annual meeting; provided, however, that if the date of the annual

meeting is more than 30 days before or more than 60 days after such anniversary date, notice by the stockholder must be delivered not later than the 90th day prior to such annual meeting or, if later, the 10th day following the day on which public disclosure of the date of such annual meeting was first made. Such notice must contain information specified in our Bylaws as to the director nominee or proposal of other business, information about the stockholder making the nomination or proposal and the beneficial owner, if any, on behalf of whom the nomination or proposal is made.

Exclusive Forum

Our Bylaws provide that, unless the Corporation consents in writing to the selection of an alternative forum, the sole and exclusive forum for (i) any derivative action or proceeding brought in the right of the Corporation, (ii) any action asserting a claim of breach of a fiduciary duty owed by any of our directors or officers to the Corporation or our stockholders, (iii) any action asserting a claim against the Corporation arising pursuant to any provision of the DGCL, our Certificate of Incorporation or our Bylaws or (iv) any action asserting a claim against the Corporation governed by the internal affairs doctrine shall be the Court of Chancery of the State of Delaware, in each such case subject to said Court of Chancery having personal jurisdiction over the indispensable parties named as defendants therein.

Delaware Anti-Takeover Statute

We are subject to the provisions of Section 203 of the DGCL. In general, Section 203 prohibits a public Delaware corporation from engaging in a “business combination” with an “interested stockholder” for a period of three years after the date of the transaction in which the person became an interested stockholder, unless (i) before that person became an interested stockholder, the corporation’s board of directors approved the transaction in which the interested stockholder became an interested stockholder or approved the business combination; (ii) upon completion of the transaction that resulted in the interested stockholder’s becoming an interested stockholder, the interested stockholder owns at least 85% of the voting stock outstanding at the time the transaction commenced (excluding stock held by directors who are also officers of the corporation and by employee stock plans that do not provide employees with the right to determine confidentially whether shares held subject to the plan will be tendered in a tender or exchange offer); or (iii) following the transaction in which that person became an interested stockholder, the business combination is approved by the corporation’s board of directors and authorized at a meeting of stockholders by the affirmative vote of the holders of at least two-thirds of the outstanding voting stock not owned by the interested stockholder. Under Section 203, these restrictions also do not apply to certain business combinations proposed by an interested stockholder following the announcement or notification of one of certain extraordinary transactions involving the corporation and a person who was not an interested stockholder during the previous three years or who became an interested stockholder with the approval of a majority of the corporation’s directors, if that extraordinary transaction is approved or not opposed by a majority of the directors who were directors before any person became an interested stockholder in the previous three years or who were recommended for election or elected to succeed such directors by a majority of such directors then in office. “Business combination” includes mergers, assets sales and other transactions resulting in a financial benefit to the stockholder. An “interested stockholder” is any entity or person who, together with affiliates and associates, owns (or, within the previous three years, did own) 15% or more of the corporation’s outstanding voting stock.

IDEX
Amended and Restated Non-Employee Director Compensation Policy
(Effective January 1, 2020)

This Amended and Restated Non-Employee Director Compensation Policy, effective as of January 1, 2020 (the “**Policy**”), has been established by IDEX Corporation (the “**Company**” to provide each member of the Company’s Board of Directors (the “**Board**”) who is not an employee of the Company (a “**Director**”) with compensation for services performed as a Director. Each Director will, automatically and without further action of the Company, receive cash compensation and equity-based compensation in respect of shares of the Company’s common stock (“**Shares**”) pursuant to the terms and conditions set forth in this Policy, unless such Director declines the receipt of such cash or equity-based compensation by written notice to the Company or except as otherwise provided herein. This Policy shall remain in effect until it is revised or rescinded by further action of the Board.

Annual Cash Compensation

The annual cash compensation set forth below is payable in equal quarterly installments, in arrears following the end of each quarter in which the service occurred, pro-rated for the number of days served as a Director in any partial quarter (unless deferred under the section below entitled “Deferral Elections”):

1. Annual Board Service Retainer:
Each Director: \$90,000

2. Annual Committee Service Retainer (Chair):
 - a. Chair of the Audit Committee: \$18,000

 - b. Chair of the Compensation Committee: \$12,500

 - c. Chair of the Nominating and Corporate Governance Committee: \$10,000

3. Annual Lead Director Service Retainer:

Lead Director: \$15,000

Equity Compensation

Equity awards issued pursuant to the Policy shall be granted under the Second Amended and Restated IDEX Corporation Incentive Award Plan, as may be amended from time to time, or any successor thereto (the “**Plan**”), and shall be subject to the execution and delivery by the Director of a form of equity award agreement thereunder as previously adopted by the Board (or a duly authorized committee thereof).

1. Initial Grant. On the date of a Director’s initial election or appointment to the Board (or, if such date is not a market trading day, the first market trading day thereafter), the Director will receive a grant of restricted stock units (“**RSUs**”) in an amount equal to \$145,000, divided by the closing price of a Share on the New York Stock Exchange on the date of grant, rounded up to the next five whole Shares (an “**Initial Grant**”); provided, that if a Director is first appointed to the Board on a date other than an Annual Grant Date (as defined below), such Director will be granted, on the date of such appointment (or, if such date is not a market trading day, the first market trading day thereafter), a number of RSUs determined by (i) dividing (x) \$145,000, by (y) the closing price of a Share on the New York Stock Exchange on the date of grant, and (ii) multiplying such quotient by a fraction the numerator of which is the number of days between the date of grant and the next Annual Grant Date and the denominator of which is three hundred and sixty five (365), rounded up to the next five whole Shares.

2. **Annual Grant.** On the date of the first meeting of the Board held immediately following each annual meeting of the Company's stockholders (each, an "**Annual Grant Date**"), each Director (other than the Lead Director) then in office who has not given notice as of the Annual Grant Date of his or her intent to resign from the Board will receive a grant of RSUs in an amount equal to \$145,000, divided by the closing price of a Share on the New York Stock Exchange on the date of grant, rounded up to the next five whole Shares (the "**Annual Grant**"). A Director elected for the first time to the Board on an Annual Grant Date shall only receive an Initial Grant in connection with such election, and shall not receive an Annual Grant on such Annual Grant Date as well.
3. **Annual Lead Director Grant.** On each Annual Grant Date, the Lead Director will receive a grant of RSUs in an amount equal to \$160,000, divided by the closing price of a Share on the New York Stock Exchange on the date of grant, rounded up to the next five whole Shares (which grant shall be in lieu of the Annual Grant), provided, that the Lead Director has not given notice as of the Annual Grant Date of his or her intent to resign from the Board.

All RSUs issued pursuant to this Policy will vest in full on the earliest to occur of (i) the third anniversary of the date of grant, subject to the Director's continuous service through such date, (ii) the date on which the Director ceases to serve on the Board for any reason after achieving at least six years of continuous service on the Board, (iii) the date of the Director's death or disability, (iv) the date on which the Director ceases to serve on the Board by reason of a failure to be re-elected to the Board, or (v) the occurrence of a Change in Control (as defined in the Plan) subject to the Director's continuous service through such date. Settlement of the RSUs will be in the form of Shares at the time of vesting (unless deferred under the section below entitled "Deferral Elections"), subject to such other terms and conditions set forth in the applicable award agreement evidencing such RSUs. To the extent any RSUs have not vested at the time of a Director's cessation of service on the Board, such RSUs shall be forfeited by the Director and cancelled for no consideration.

Notwithstanding the foregoing, the Board may, in its sole discretion, determine to grant additional equity awards under the Plan to a Director at such time and upon such terms and conditions as determined by the Board, provided, that in no event shall the aggregate value of all equity awards granted to a Director under this Policy during any calendar year (measured at the time of grant in accordance with applicable accounting standards) exceed the maximum value of equity awards that may be granted to any Director during such calendar year as set forth in the Plan.

Stock Ownership Guideline

Each Director shall maintain direct ownership of Shares equal to or greater in value to five times the current Annual Board Service Retainer (the "**Ownership Guideline**"). No Director shall be permitted to sell Shares until the Director satisfies the Ownership Guideline, and after a Director meets the Ownership Guideline, the Director may not sell shares if the sale would put the Director below the Ownership Guideline. Shares directly owned, as well as unvested and deferred RSUs, shall count toward satisfying the Ownership Guideline.

Deferral Elections

1. **Cash Compensation.** A Director may elect to defer any cash compensation payable with respect to a calendar year of service in accordance with the Third Amended and Restated IDEX Corporation Directors Deferred Compensation Plan, as may be amended from time to time, or any successor thereto.
2. **RSUs.** A Director may elect to defer the settlement of Shares issuable with respect to any RSUs granted to the Director with respect to a calendar year of service, subject to the terms and conditions set forth in this Section, a deferral election form previously adopted by the Board (or a duly authorized committee thereof) and Section 409A of the Internal Revenue Code of 1986, as amended (the "**Code**") and the regulations thereunder.

The Director may elect to defer settlement of all or a portion of the RSUs granted to the Director with respect to a calendar year of service by filing a completed deferral election form with the Company. The Director must file the deferral election form no later than December 31 of the prior calendar year for the calendar year in which service is to be provided; provided, that if the Director is first appointed or elected to the Board during a calendar year, such Director may elect to defer settlement of RSUs within 30 days of such initial appointment or election to the Board with respect to RSUs that relate to service performed after the election. Each deferral election made with respect to a calendar year shall be irrevocable with respect to such calendar year. Pursuant to the deferral election form, the Director must irrevocably elect the specified

date(s) and increment(s) with respect to which the Director will receive Shares issuable upon the settlement of those RSUs that the Director has elected to defer (each, a “**Settlement Date**”). If the Director fails to elect a Settlement Date, settlement of the RSUs will occur on the earlier of (i) the fourth anniversary of the date of grant of the RSUs or (ii) the date of the Director’s “separation from service” (within the meaning of Section 409A of the Code). All deferral elections shall be made in accordance with rules and procedures established by the Company as determined in accordance with Section 409A of the Code and the regulations thereunder. Pursuant to the applicable deferral election form, the Director shall receive Shares issuable in respect of the RSUs on the earliest to occur of (x) the Settlement Date(s) elected by the Director (or, if the Director fails to elect a Settlement Date, the earlier to occur of the fourth anniversary of the date of grant of the RSUs or the date of the Director’s separation from service), (y) a Change in Control, or (z) the date of the Director’s death or disability.

Expenses

The Company will reimburse each Director for ordinary, necessary and reasonable out-of-pocket travel expenses to cover in-person attendance at and participation in Board and committee meetings. To the extent that any such reimbursements are deemed to constitute compensation to the Director, such amounts shall be reimbursed no later than December 31 of the year following the year in which the expense was incurred. The amount of any expense reimbursements that constitute compensation in one year shall not affect the amount of expense reimbursements constituting compensation that are eligible for reimbursement in any subsequent year, and the Director’s right to such reimbursement of any such expenses shall not be subject to liquidation or exchange for any other benefit.

Section 409A

To the extent applicable, the Policy shall be interpreted in accordance with Section 409A of the Code and the regulations and other interpretive guidance issued thereunder. Notwithstanding any provision in the Policy, any deferral election form or any other agreement evidencing amounts subject to the Policy to the contrary, if the Company determines that any amounts subject to the Policy may not be either exempt from or compliant with Section 409A of the Code, the Company may, in its sole discretion, adopt such amendments to the Policy, any deferral election form or any other agreement relating to the Policy, adopt other policies or procedures or take any other actions that the Company determines are necessary or appropriate to (i) exempt such amounts from Section 409A of the Code and/or preserve the intended tax treatment of such amounts, or (ii) comply with the requirements of Section 409A of the Code; provided, that this Section shall not create any obligation on the Company to adopt any such amendment, policy or procedure or take any such other action.

SUBSIDIARIES OF IDEX CORPORATION

SUBSIDIARY	JURISDICTION OF INCORPORATION
ADS Environmental Services Pty Limited	Australia
Fast and Fluid Management Australia Pty., Ltd.	Australia
IDEX Holdings GmbH	Austria
iPEK Spezial TV GmbH	Austria
BarbIDEX International SRL	Barbados
Toptech Systems NV	Belgium
IDEX do Brasil Servicos e Vendas Ltda.	Brazil
ADS Environmental Technologies Inc.	Canada
Fluid Management Canada Inc.	Canada
Knight (Canada) Limited	Canada
Quadro Engineering Corp.	Canada
Viking Pump of Canada, Inc.	Canada
IDEX Dinglee Technology (Tianjin) Co., Ltd.	China
IDEX Precision Products (Suzhou) Co., Ltd	China
IDEX Technology (Suzhou) Co., Ltd.	China
IDEX Trading (Shanghai) Co., Ltd	China
Richter EP (Nanjing) Co. Ltd.	China
Roplan Machinery (Ningbo) Co., Ltd.	China
Roplan Sales (Ningbo) Co., Ltd.	China
SFC KOENIG Flow Control (Suzhou) Co. Limited	China
SFC Trading Co. Ltd. Beijing	China
ADS Corp.	Delaware, USA
ADS LLC	Delaware, USA
Advanced Thin Films, Inc.	Delaware, USA
Akron Brass Company	Delaware, USA
Band-It-IDEX, Inc.	Delaware, USA
Corken, Inc.	Delaware, USA
CVI Laser, LLC	Delaware, USA
Fluid Management Operations LLC	Delaware, USA
Fluid Management, Inc.	Delaware, USA
FM Delaware, Inc.	Delaware, USA
FM Investment, Inc.	Delaware, USA
Hale Products, Inc.	Delaware, USA
IDEX Health & Science LLC	Delaware, USA
IDEX Holdings, Inc.	Delaware, USA
IDEX MPT Inc.	Delaware, USA
IDEX Service Corp.	Delaware, USA
Knight LLC	Delaware, USA
Knight, Inc.	Delaware, USA
Liquid Controls LLC	Delaware, USA
Microfluidics International Corporation	Delaware, USA

SUBSIDIARY	JURISDICTION OF INCORPORATION
Micropump, Inc.	Delaware, USA
Nova Technologies Corporation	Delaware, USA
Project Gold Acquisition Corp.	Delaware, USA
Pulsafeeder, Inc.	Delaware, USA
Richter Pumps & Valves Inc.	Delaware, USA
RV Acquisition Corp.	Delaware, USA
SFC Koenig LLC	Delaware, USA
Viking Pump, Inc.	Delaware, USA
Warren Rupp, Inc.	Delaware, USA
Wright Flow Technologies, Inc.	Delaware, USA
Band-It A/S	Denmark
Toptech Systems, Inc.	Florida, USA
FAST & Fluid Management France SARL	France
IDEX SAS	France
AWG Fittings GmbH	Germany
IDEX Europe GmbH	Germany
IDEX Leasing GmbH	Germany
iPEK International GmbH	Germany
LUKAS Hydraulik GmbH	Germany
Melles Griot GmbH	Germany
PP AWG GmbH	Germany
Richter Chemie-Technik GmbH	Germany
Roplan GmbH	Germany
SFC Koenig Beteiligungs GmbH	Germany
SFC Koenig GmbH	Germany
thinXXS Microtechnology AG	Germany
Vetter GmbH	Germany
KVT-Koenig Holding Limited	Hong Kong
IDEX Sourcing Corporation	Illinois, USA
IDEX India Private Limited	India
Banjo Corporation	Indiana, USA
IDEX Pump Technologies (Ireland) Limited	Ireland
Alfa Valvole S.r.l.	Italy
Banjo Europe S.r.l.	Italy
FAST & Fluid Management S.r.l.	Italy
IDEX Italy S.r.l.	Italy
Novotema S.p.A	Italy
OBL Srl	Italy
S.A.M.P.I. S.p.A.	Italy
IDEX Health & Science KK	Japan
IDEX Japan GK	Japan
IDEX Korea, Ltd	Korea
AEGIS Flow Technologies, L.L.C.	Louisiana, USA
IDEX Mexico S.A. de C.V.	Mexico
Gast Manufacturing, Inc.	Michigan, USA

SUBSIDIARY	JURISDICTION OF INCORPORATION
Fast & Fluid Management B.V.	Netherlands
Melles Griot B.V.	Netherlands
Hurst Jaws of Life, Inc.	Pennsylvania, USA
Fast & Fluid Management Eastern Europe Sp. Z O.O.	Poland
Band-It Clamps (Asia) Pte., Ltd.	Singapore
IDEX Asia Pacific Pte. Ltd.	Singapore
Velcora Holding AB	Sweden
Roplan Holding AB	Sweden
Roplan Sales AB	Sweden
Roplan AB	Sweden
Steridose Sales AB	Sweden
Roplan Machining AB	Sweden
Roplan Trading AB	Sweden
SFC Koenig AG	Switzerland
XAM Swiss Holding I GmbH	Switzerland
PPE, LLC	Texas, USA
IDEX Middle East FZE	United Arab Emirates
Band-It Company Limited	United Kingdom
CVI Laser Limited	United Kingdom
FTL Seals Technology Limited	United Kingdom
Gast Group Ltd	United Kingdom
Godiva Limited	United Kingdom
Godiva Products Limited	United Kingdom
Hale Products Europe Limited	United Kingdom
IDEX UK Investment Ltd	United Kingdom
IDEX UK Ltd.	United Kingdom
Knight UK Ltd	United Kingdom
Matcon (R&D) Limited	United Kingdom
Matcon Group Limited	United Kingdom
Matcon Limited	United Kingdom
Precision Polymer Engineering Limited	United Kingdom
Roplan Ltd	United Kingdom
Seals Limited	United Kingdom
Wright Flow Technologies Limited	United Kingdom
Trebor International, Inc.	Utah, USA
Roplan Inc.	Wisconsin, USA
Roplan Sales Inc.	Wisconsin, USA
Steridose Sales Inc.	Wisconsin, USA

CONSENT OF INDEPENDENT REGISTERED PUBLIC ACCOUNTING FIRM

We consent to the incorporation by reference in Registration Statement Nos. 333-102882, 333-104768, 333-70450, 333-70452, 333-123558, 333-150142, 333-166981, and 333-205935 on Form S-8 of our reports dated February 21, 2020, relating to the consolidated financial statements of IDEX Corporation and subsidiaries (the “Company”), and the effectiveness of the Company's internal control over financial reporting, appearing in this Annual Report on Form 10-K of IDEX Corporation for the year ended December 31, 2019.

/s/ DELOITTE & TOUCHE LLP

Chicago, Illinois
February 21, 2020

Certification of Chief Executive Officer Pursuant to Section 302 of the Sarbanes Oxley Act of 2002

I, Andrew K. Silvernail, certify that:

1. I have reviewed this annual report on Form 10-K of IDEX Corporation;
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 we have:
 - a) Designed such disclosure controls and procedures, or caused such disclosure controls and procedures to be designed under our supervision, to ensure that material information relating to the 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 function):
 - 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.

February 21, 2020

/s/ ANDREW K. SILVERNAIL

Andrew K. Silvernail

Chairman of the Board and Chief Executive Officer

Certification of Chief Financial Officer Pursuant to Section 302 of the Sarbanes Oxley Act of 2002

I, William K. Grogan, certify that:

1. I have reviewed this annual report on Form 10-K of IDEX Corporation;
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 we have:
 - a) Designed such disclosure controls and procedures, or caused such disclosure controls and procedures to be designed under our supervision, to ensure that material information relating to the 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 function):
 - 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.

February 21, 2020

/s/ WILLIAM K. GROGAN

William K. Grogan

Senior Vice President and Chief Financial Officer

Certification of Chief Executive Officer

Pursuant to 18 U.S.C. § 1350, as created by Section 906 of the Sarbanes-Oxley Act of 2002, the undersigned officer of IDEX Corporation (the "Company") hereby certifies, to such officer's knowledge, that:

(i) the accompanying Annual Report on Form 10-K of the Company for the annual period ended December 31, 2019 (the "Report") fully complies with the requirements of Section 13(a) or Section 15(d), as applicable, of the Securities Exchange Act of 1934, as amended; and

(ii) the information contained in the Report fairly presents, in all material respects, the financial condition and results of operations of the Company.

February 21, 2020

/s/ ANDREW K. SILVERNAIL

Andrew K. Silvernail

Chairman of the Board and Chief Executive Officer

Certification of Chief Financial Officer

Pursuant to 18 U.S.C. § 1350, as created by Section 906 of the Sarbanes-Oxley Act of 2002, the undersigned officer of IDEX Corporation (the "Company") hereby certifies, to such officer's knowledge, that:

(i) the accompanying Annual Report on Form 10-K of the Company for the annual period ended December 31, 2019 (the "Report") fully complies with the requirements of Section 13(a) or Section 15(d), as applicable, of the Securities Exchange Act of 1934, as amended; and

(ii) the information contained in the Report fairly presents, in all material respects, the financial condition and results of operations of the Company.

February 21, 2020

/s/ WILLIAM K. GROGAN

William K. Grogan

Senior Vice President and Chief Financial Officer