CECO ENVIRONMENTAL CORP
Form 10-K
March 09 2018

UNITED STATES

SECURITIES AND EXCHANGE COMMISSION

Washington, D.C. 20549

FORM 10-K

(Mark one)

Annual Report Pursuant to Section 13 or 15(d) of the Securities Exchange Act of 1934 For the fiscal year ended December 31, 2017

or

Transition Report Pursuant to Section 13 or 15(d) of the Securities Exchange Act of 1934 For the transition period from to

Commission File No. 0-7099

CECO ENVIRONMENTAL CORP.

Delaware 13-2566064 (State or other jurisdiction of (I.R.S. Employer

incorporation or organization) Identification No.)

14651 North Dallas Parkway

Dallas, Texas 75254 (Address of principal executive offices) (Zip Code)

Registrant's telephone number, including area code: (513) 458-2600

Securities registered under Section 12(b) of the Act:

Title of Each Class Common Stock, \$0.01 par value per share Securities registered under Section 12(g) of the Act: None Name of Each Exchange on Which Registered The NASDAQ Stock Market LLC

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 and posted on its corporate website, if any, every Interactive Data File required to be submitted and posted 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 and post such files). Yes No

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

Indicate by check mark whether the Registrant is a large accelerated filer, an accelerated filer, a non-accelerated filer, a smaller reporting company, or an emerging growth company. See the definitions of "large accelerated filer," "accelerated filer," "smaller reporting company," and "emerging growth company" in Rule 12b-2 of the Exchange Act. (check one)

Large 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 Exchange Act). Yes No

The aggregate market value of voting and non-voting common stock held by non-affiliates of the registrant was \$277.5 million based upon the closing market price and shares of common stock outstanding as of June 30, 2017. For the purpose of the foregoing calculation only, all directors and executive officers of the registrant and owners of more than 10% of the registrant's common stock are assumed to be affiliates of the registrant. This determination of affiliate status is not necessarily conclusive for any other purpose.

As of March 2, 2018, the registrant had 34,736,834 shares of common stock, par value \$0.01 per share, outstanding.

Documents Incorporated by Reference

Portions of the definitive Proxy Statement for the 2018 Annual Meeting of Stockholders, which is to be filed with the Securities and Exchange Commission within 120 days of the fiscal year ended December 31, 2017, are incorporated by reference into Part III of this Annual Report to the extent described herein.

CECO Corporation and Subsidiaries

ANNUAL REPORT ON FORM 10-K

For the year ended December 31, 2017

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CAUTIONARY NOTE REGARDING FORWARD-LOOKING STATEMENTS

This Annual Report on Form 10-K includes forward-looking statements within the meaning of the Securities Act of 1933 (the "Securities Act") and the Securities Exchange Act of 1934 (the "Exchange Act") which are intended to be covered by the safe harbor for "forward-looking statements" provided by the Private Securities Litigation Reform Act of 1995. Any statements contained in this Annual Report on Form 10-K, other than statements of historical fact, including statements about management's beliefs and expectations, are forward-looking statements and should be evaluated as such. These statements are made on the basis of management's views and assumptions regarding future events and business performance. We use words such as "believe," "expect," "anticipate," "intends," "estimate," "forecast," "project," "will," "plan," "should" and similar expressions to identify forward-looking statements. Forward-looking statements involve risks and uncertainties that may cause actual results to differ materially from any future results, performance or achievements expressed or implied by such statements. Potential risks and uncertainties, among others, that could cause actual results to differ materially are discussed under "Part I – Item 1A. Risk Factors" of this Annual Report on Form 10-K and include, but are not limited to: our ability to successfully realize the expected benefits of our restructuring program; our ability to successfully integrate acquired businesses and realize the synergies from acquisitions, as well as a number of factors related to our business, including economic and financial market conditions generally and economic conditions in CECO's service areas; dependence on fixed price contracts and the risks associated therewith, including actual costs exceeding estimates and method of accounting for contract revenue; fluctuations in operating results from period to period due to cyclicality or seasonality of the business; the effect of growth on CECO's infrastructure, resources, and existing sales; the ability to expand operations in both new and existing markets; the potential for contract delay or cancellation; liabilities arising from faulty services or products that could result in significant professional or product liability, warranty, or other claims; changes in or developments with respect to any litigation or investigation; failure to meet timely completion or performance standards that could result in higher cost and reduced profits or, in some cases, losses on projects; the potential for fluctuations in prices for manufactured components and raw materials; the substantial amount of debt incurred in connection with our acquisitions and our ability to repay or refinance it or incur additional debt in the future; the impact of federal, state or local government regulations; economic and political conditions generally; and the effect of competition in the environmental, energy and fluid handling and filtration industries. Many of these risks are beyond management's ability to control or predict. Should one or more of these risks or uncertainties materialize, or should the assumptions prove incorrect, actual results may vary in material aspects from those currently anticipated. Investors are cautioned not to place undue reliance on such forward-looking statements as they speak only to our views as of the date the statement is made. Furthermore, forward-looking statements speak only as of the date they are made. Except as required under the federal securities laws or the rules and regulations of the Securities and Exchange Commission, we undertake no obligation to update or review any forward-looking statements, whether as a result of new information, future events or otherwise.

PART I

Item 1. Business General

CECO Environmental is a global leader in industrial air quality and fluid handling serving the energy, industrial and other niche markets through an attractive asset-light business model. CECO provides innovative technology and application expertise that helps companies grow their businesses with safe, clean, and more efficient solutions to help protect our shared environment. CECO serves both established and emerging industries in regions around the world working to improve air quality, optimize the energy value chain, and provide customized engineered solutions in multiple applications that include oil and gas, power generation, water and wastewater, battery production, poly silicon fabrication, chemical and petrochemical processing, along with a wide range of other industries.

To achieve our mission of being a world-class global leader in the markets we serve and to maximize the availability, reliability and efficiency of our customers' operating assets, we continue to focus on increasing our recurring revenue stream from aftermarket parts and services, as well as continuously improving the efficiencies and capabilities of our technologies. CECO has over \$5 billion of installed equipment base with end users, which we target to expand and grow a higher recurring revenue of aftermarket products and services. We also continue to focus on operational excellence strategies as a central theme to improving our earnings and cash flows.

We believe we succeed in winning customer orders because of the relationships we have developed, the long history of performance and reliability of our systems and products, our ability to deliver products in compliance with our customers' needs and our advanced technical engineering capabilities on complex projects. We work closely with our customers to design, custom-engineer and fabricate our systems and products to meet their specific needs. Our customers include some of the largest natural gas processors, transmission and distribution companies, refineries, power generators, boiler manufacturers, compressor manufacturers, metals and minerals, industrial manufacturing, engineering and construction companies in the world. Reliable product performance, timely delivery, customer satisfaction and advanced engineering are critical in maintaining our competitive position.

CECO was incorporated in the State of New York in 1966 and reincorporated in the State of Delaware in January 2002. The Company has been publicly traded since January 1, 1978 and its common stock trades on the NASDAQ Stock Market under the symbol "CECE."

We operate through three reportable segments, as follows:

Energy Segment ("Energy")

Our Energy segment provides customized solutions for the power generation and petrochemical industry. This includes gas turbine exhaust systems, dampers and diverters, gas and liquid separation and filtration equipment, selective catalytic reduction ("SCR") and selective non-catalytic reduction ("SNCR") systems, acoustical components and silencers, secondary separators (nuclear plant reactor vessels) and expansion joints, the design and manufacture of technologies for flue gas and diverter dampers, non-metallic expansion joints, natural gas turbine exhaust systems, and silencer and precipitator applications, primarily for coal-fired and natural gas power plants, refining, oil production and petrochemical processing, as well as a variety of other industries.

Environmental Segment ("Environmental")

Our Environmental segment provides the design and manufacture of product recovery and air pollution control technologies that enable our customers to meet compliance targets for toxic emissions, fumes, volatile organic

compounds, process and industrial odors. These products and solutions include high efficiency and fluid catalytic cracking cyclone systems, scrubbers, regenerative thermal and catalytic oxidizers, dust collectors and baghouses, standard and engineered industrial ducting, fabric filters and cartridge collectors, ventilation and exhaust systems for emissions and contaminants, and process cooling systems for steel in rolling mills. This segment also provides component parts for industrial air systems and provides cost effective alternatives to traditional duct components, as well as custom metal engineered fabrication services. These products and services are applicable to a wide variety of industries.

Fluid Handling and Filtration Segment ("FHF")

Our Fluid Handling and Filtration segment provides the design and manufacture of high quality pump, filtration and fume exhaust solutions. This includes centrifugal pumps for corrosive, abrasive and high temperature liquids, filter products for air and liquid filtration, precious metal recovery systems, carbonate precipitators, and technologically advanced air movement and exhaust systems. These products are applicable to a wide variety of industries, particularly the aquarium/aquaculture, plating and metal finishing, food and beverage, chemical/petrochemical, wastewater treatment, desalination and pharmaceutical markets.

Industry Overview

We serve a multi-billion dollar global market that is highly fragmented and serves various end markets including power generation, natural gas power plants, petrochemical processing, general industrial, refining, aquaculture and wastewater treatment.

We believe demand for our products and services will continue to be driven by the following factors:

- Global Economic Conditions. The Company's businesses are impacted by economic conditions around the globe. Higher economic growth and other factors that would increase industrial gross domestic product and capital expenditures are projected to impact the markets the Company serves and could affect the Company's businesses by increasing demand for the Company's products and services.
- Worldwide Industrialization. Global trade has increased significantly over the last decade and is driven by growth in emerging markets, including China and India, as well as other developing nations in Asia and the Europe, Middle East, and Africa ("EMEA") region. As a result of globalization, manufacturing that was historically performed domestically continues to migrate to lower cost countries. This movement of the manufacture of goods throughout the world increases demand for industrial ventilation products as new construction continues. We expect that more rigorous environmental regulations will be introduced to create a cleaner working environment and reduce environmental emissions as these economies evolve.
- Natural Gas Infrastructure. The natural gas industry consists of the exploration, production, processing, transportation, storage and distribution of natural gas. The International Energy Association ("IEA") projects a pronounced shift in Organization for Economic Cooperation and Development ("OECD") countries away from oil and coal towards natural gas and renewables. Natural gas continues to be the fuel of choice for the electrical power and industrial sectors in many of the world's regions, in part because of its lower carbon intensity compared with coal and oil, which makes it an attractive fuel source in countries where governments are implementing policies to reduce greenhouse gas emissions.

Natural gas delivery is a complex process that refines raw natural gas for industrial, commercial or residential uses. Initially, raw natural gas is extracted from the earth and cleansed of contaminants such as dirt and water at the well site. The natural gas is then transported through a gathering facility to a processing facility, where it is processed to meet quality standards set by pipeline and distribution companies, such as specified levels of solids, liquids and other gases. After processing, the natural gas is transmitted for storage or through an extensive network of pipelines to consumers.

Power Generation. Power generation encompasses a broad range of activities related to the production of electricity. The primary types of fuel used to generate electricity are coal, natural gas and nuclear. In the United States, concerns about potential environmental regulations enhance the attractiveness of natural gas-fired power plants compared with coal-fired power plants, which generally have higher pollutant emission rates than natural gas-powered plants. Natural gas-fired power plants have lower initial capital needs and are more flexible in terms of operating times than coal plants.

Refining, Oil Production and Petrochemical Processing. Refining, oil production and petrochemical processing involves the producing, refining and processing of fuels and chemicals for use in a variety of applications, such as gasoline, fertilizers and plastics. In response to increasing international demand for petrochemicals and refined products, companies are producing more products from new sources, constructing new refineries and petrochemical processing facilities as well as expanding existing facilities. In many cases, these new and expanded facilities must comply with stricter environmental regulations, which influence both choice of fuel and demand for systems to control exhaust emissions. These facilities use a broad range of our products and systems, including our SCR pollution reduction systems, oily water treatment systems and separation and filtration products and our fluid catalytic cracking cyclone technology.

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Stringent Regulatory Environment. The adoption of increasingly stringent environmental regulations globally requires businesses to pay strict attention to environmental protection. Businesses and industries of all types from refineries, power, chemical processes, metals and minerals, energy market and industrial manufacturing must comply with these various international, federal, state and local government regulations or potentially face substantial fines or be forced to suspend production or alter their production processes. These increasingly stringent environmental regulations are a principal factor that drives our business.

These factors, individually or collectively, tend to cause increases in industrial capital spending that are not directly impacted by general economic conditions, expansion, or capacity increases. In contrast, favorable conditions in the economy generally lead to plant expansions and the construction of new industrial sites. However, in a weak economy, customers tend to lengthen the time from their initial inquiry to the purchase order, or defer purchases.

Strategy

Our goal is to become the global leader in environmental, energy, fluid handling and filtration products and services by delivering exceptional value for our customers, shareholders, and employees. Our core focus is:

Sustainable Profitable Growth -Implement profitable ways to grow globally, both organically and inorganically, with premier technology and solutions in diverse end markets. Higher-Margin, Recurring Aftermarket -Leverage \$5 billion installed equipment base to develop greater Revenue Growth customer connectivity. Lead with services and establish a lifecycle relationship in order to maximize availability, reliability and efficiency of customers' operating assets. Will lower customers' total cost of ownership and improve value proposition resulting in pull-through opportunities. -Leverage leading edge technology and create innovative integrated Expanding share in core markets solutions for customers. -Create customer successes and build customer loyalty. Product, Service and Project Excellence Operational Excellence -Run smart, asset-light, and best-in-class with innovative operating processes in all that we do. -Invest in employee training and development of our employees and Employee Development build world-class general management and leadership. -Improve sales and manufacturing (internal and external) resources to Global Market Coverage expand customer base and increase revenues. Uncover new customer opportunities in diverse industries.

Our strategy utilizes our resource capabilities to help customers meet specific regulatory requirements within their business processes through optimal design and integration, improvement of efficiencies, reduction in maintenance and extension of the life of our customer's infrastructure. Our engineering and design expertise in environmental, energy, and fluid handling and filtration, combined with our comprehensive suite of product and service offerings allow us to provide customers with a one-stop, cost-effective solution to meet their integrated abatement needs.

-Ensure employee safety through preventative safety practices.

Competitive Strengths

Safety Leadership

Leading Market Position as a Complete Solution Provider. We believe we are a leading provider of critical solutions in the environmental, energy, and fluid handling and filtration industries. The multi-billion dollar global market is highly fragmented with numerous small and regional contracting firms separately supplying engineering services, fabrication, installation, testing and monitoring, products and spare parts. We offer our customers a complete end-to-end solution, including engineering and project management services, procurement and fabrication, construction and installation, aftermarket support, and sale of consumables, which allows our customers to avoid dealing with multiple vendors when managing projects.

Long-standing experience and customer relationships in growing industry. We have serviced the needs of our target markets for well over 50 years. Our extensive experience and expertise in providing diversified solutions enhances our overall customer relationships, and provides us with a competitive advantage in our markets relative to other companies in the industry. We believe this is evidenced by strong relationships with many of our world-class

customers. We believe no single competitor has the resources to offer a similar portfolio of product and service capabilities. We offer the depth of a large organization, while our lean organizational structure keeps us close to our customers and markets, allowing us to offer rapid and complete solutions in each unique situation.

Global Diversification and Broad Customer Base. The global diversity of our operations and customer base provides us with multiple growth opportunities. As of December 31, 2017, we had a diversified customer base of approximately 4,839 active customers across a range of industries. Our customers represent some of the largest refineries, power, chemical processes, metals and minerals, energy market and industrial manufacturing companies. We believe that the diversity of our customers and end markets mitigates our risk of a potential fluctuation or downturn in demand from any individual industry or particular customer. We believe we have the resources and capabilities to meet the needs of our customers as they upgrade and expand domestically as well as into new international markets. Once systems have been installed and a relationship has been established with the customer, we are often awarded repetitive service and maintenance business as the customers' processes change and modifications or additions to their systems become necessary.

Experienced Management and Engineering Team. Our senior management team has substantial experience in the environmental, energy, and fluid handling and filtration segments. The business experience of our management team enables us to pursue our strategy. Our senior management team is supported by a strong operating management team, which possesses extensive

operational and managerial experience. Our workforce includes approximately 231 engineers, designers, and project managers whose significant specialized industry experience and technical expertise enables them to have a deep understanding of the solutions that will best suit the needs of our customers. The experience and stability of our management, operating and engineering teams have been crucial to our growth, developing and maintaining customer relationships, and increasing our market share.

Disciplined Acquisition Program with Successful Integration. We believe that we have demonstrated an ability to successfully acquire and integrate companies with complementary product or service offerings. We will continue to seek and execute additional strategic acquisitions and focus on expanding our product service and breadth, as well as entering into new adjacent markets. We believe that the breadth and diversity of our products and services and our ability to deliver full solutions to various end markets provides us with multiple sources of stable growth and a competitive advantage relative to other players in the industry.

Expand Customer Base and Penetrate End Markets through Global Market Coverage. We constantly look for opportunities to gain new customers and penetrate geographic locations and end markets with existing products and services or acquire new product or service opportunities.

We intend to continue to expand our sales force, customer base, and end markets, and have continued to pursue potential attractive growth opportunities both domestically and globally, including international projects in Asia, South America, and EMEA.

Develop Innovative Solutions. We intend to continue to leverage our engineering and manufacturing expertise and strong customer relationships to develop new customized products to address the identified needs of our customers or a particular end market. We thoroughly analyze new product opportunities by considering projected demand for the product or service, price point, and expected operating costs, and only pursue those opportunities that we believe will contribute to earnings growth in the near-term. In addition, we continually improve our traditional technologies and adapt them to new industries and processes.

Maintain Strong Customer Focus. We enjoy a diversified customer base of approximately 4,839 active customers across a broad base of industries, including power, municipalities, chemical, industrial manufacturing, refining, petrochemical, metals, minerals and mining, hospitals and universities. We believe that there are multiple opportunities for us to expand our penetration of existing markets and customers.

Products and Services

We believe we are a leading provider of critical solutions to the environmental, energy, and fluid handling and filtration industries. We focus on engineering, designing, building, and installing systems that capture, clean and destroy airborne contaminants from industrial facilities as well as equipment that control emissions from such facilities, as well as fluid handling and filtration systems. We provide a wide spectrum of products and services including dampers and diverters, selective catalytic reduction and selective non-catalytic reduction systems, cyclonic technology, thermal oxidizers, filtration systems, scrubbers, fluid handling equipment and plant engineering services and engineered design build fabrication.

Project Design and Research and Development

We focus our development efforts on designing and introducing new and improved approaches and methodologies that produce better system performance for our customers, and often improve customer process performance. We produce specialized products that are often tailored to the specifications of a customer or application. We continually collaborate with our customers to develop the proper solution and ensure customer satisfaction.

The project development cycle may follow many different paths depending on the specifics of the job and end-market. The cycle normally takes between one and six months from concept and design to production, but may vary significantly depending on developments that occur during the process, including among others, the emergence of new environmental demands, changes in design specifications and ability to obtain necessary approvals.

Sales, Marketing and Support

Our global selling strategy is to provide a solutions-based approach by being a single source provider of technology products and services. The strategy involves expanding our scope of products and services through selective acquisitions and the formation of new business units that are then integrated. We believe this strategy provides a discernible competitive advantage. We execute this strategy by utilizing our portfolio of in-house technologies and those of third-party equipment suppliers. Many of these have been long standing relationships, which have evolved from pure supplier roles to value-added business partnerships. This enables us to leverage existing business with selective alliances of suppliers and application specific engineering expertise. Our products primarily compete on the basis of price, performance, speed of delivery, quality, customer support, and single source. Our value proposition to customers

is to provide competitively priced, customized solutions. Our industry-specific knowledge, accompanied by our product and service offerings, provides valuable synergies for design innovation.

We sell and market our products and services with our own direct sales force, including employees in the United States, the Netherlands, United Kingdom, Canada, United Arab Emirates, India, Mexico, China, and Singapore, in conjunction with outside sales representatives in North America, South America, EMEA, Asia, and India. We expect to continue expanding our sales and support capabilities and our network of outside sales representatives in key regions domestically and internationally.

Much of our marketing effort consists of individual visits to customers, dissemination of sales and advertising materials, such as product announcements, brochures, magazine articles, advertisements and cover or article features in trade journals and other publications. We also participate in public relations and promotional events, including industry tradeshows and technical conferences. We have an internal marketing organization that is responsible for these initiatives.

Our customer service organization or sales force provides our customers with technical assistance, use and maintenance information as well as other key information regarding their purchase. We also actively provide our customers with access to key information regarding changes and pending changes in environmental regulations as well as new product or service developments. We believe that maintaining a close relationship with our customers and providing them with the support they request improves their level of satisfaction and enables us to foresee their potential future product needs or service demands. Moreover, they can lead to sales of annual service and support contracts as well as consumables. Our website also provides our customers with online tools and technical resources.

Quality Assurance

In engineered systems, quality is defined as system performance. We review with our customers, before the contract is signed, the technical specification and the efficiency of the equipment that will be customized to meet their specific needs. We then review these same parameters internally to assure that warranties will be met. Standard project management and production management tools are used to help ensure that all work is done to specification and that project schedules are met. Equipment is tested at the site to ensure it is functioning properly.

Customers

We are not dependent upon any single customer, and no customer comprised 10% or more of our consolidated revenues for 2017, 2016 or 2015. We do not believe the loss of any one of our customers would have a material adverse effect on us.

Suppliers and Subcontractors

We purchase our raw materials and supplies from a variety of global sources. When possible, we directly secure angle iron and sheet plate products from steel mills, whereas other materials are purchased from a variety of steel service centers. Steel prices have been volatile, but we typically mitigate the risk of higher prices by including a "surcharge" on our standard products. On contract work, we mitigate the risk of higher prices by including the current price in our estimate and generally include price inflation clauses for protection.

We believe we have a good relationship with our suppliers and do not anticipate any difficulty in continuing to purchase such items on terms acceptable to us. We have not experienced difficulty in procuring a sufficient supply of materials in the past. We typically agree to billing terms with our suppliers ranging from net 30 to 45 days. To the extent that our current suppliers are unable or unwilling to continue to supply us with materials, we believe that we

would be able to obtain such materials from other suppliers on acceptable terms.

Typically, on turnkey projects, we subcontract manufacturing, electrical work, concrete work, controls, conveyors and insulation. We use subcontractors with whom we have good working relationships and review each project at the beginning and on an ongoing basis to help ensure that all work is being done according to our specifications. Subcontractors are generally paid when we are paid by our customers according to the terms of our contract with the customer. The Company's asset-light business model focuses on effective management of subcontractors, which allows the Company to achieve targeted working capital levels through reduction in certain assets and reduced capital expenditures.

Backlog

Backlog is a representation of the amount of revenue expected from complete performance of firm fixed-price contracts that have not been completed for products and services we expect to substantially deliver within the next 12 to 18 months. Our customers

may have the right to cancel a given order, although historically cancellations have been rare. Backlog was \$168.9 million and \$197.0 million as of December 31, 2017 and 2016, respectively. Substantially all 2016 backlog was completed in 2017. Most of the 2017 backlog is expected to be completed in 2018. Backlog is not defined by United States generally accepted accounting principles ("GAAP") and our methodology for calculating backlog may not be consistent with methodologies used by other companies.

Competition

The markets we serve are highly fragmented with numerous small and regional participants. We believe no single company competes with us across the full range of our systems and products. Competition in the markets we serve is based on a number of considerations, including price, timeliness of delivery, technology, applications experience, know-how, reputation, product warranties and service. Demand for our product can vary period over period depending on conditions in the markets we serve. Revenue recognized during the period is correlated with the orders booked in prior periods. We believe our reputation, technical engineering capabilities and service differentiate us from many of our competitors, including those competitors who often offer products at a lower price.

Due to the size and shipping weight of many of our projects, localized manufacturing/fabrication capabilities are very important to our customers. As a result, competition varies widely by region and industry. The market for our engineered products is reasonably competitive and is characterized by technological change, continuously changing environmental regulations, and evolving customer requirements. We believe that the additional competitive factors in our markets include:

- performance track record in difficult plant applications;
- comprehensive portfolio of products with leading technology;
- solid brand recognition in the fluid handling market;
- ability to design standard and custom products that meet customers' needs;
- ability to provide reliable solutions in a timely manner;
- quality customer service and support; and
- financial and operational stability, including reputation.

We believe we compete favorably with respect to these factors.

Government Regulations

We believe our operations are in material compliance with applicable environmental laws and regulations. We believe that changes in environmental laws and regulations create opportunity given the nature of our business.

We are subject to the requirements of the Occupational Safety and Health Administration ("OSHA") and comparable state statutes. We believe we are in material compliance with OSHA and state requirements, including general industry standards, record keeping requirements and monitoring of occupational exposures. In general, we expect to increase our expenditures to comply with stricter industry and regulatory safety standards when needed. Although such expenditures cannot be accurately estimated at this time, we do not believe that they will have a material adverse effect on our financial position, results of operations or cash flows.

Intellectual Property

We rely on a combination of patent, trademark, copyright and trade secret laws, employee and third-party nondisclosure/confidentiality agreements and license agreements to protect our intellectual property. We sell most of our products under a number of registered trade names, brand names and registered trademarks, which we believe are widely recognized in the industry. While we hold patents within a number of our businesses, we do not view our

patents to be material to our business.

Financial Information about Geographic Areas

For 2017, 2016 and 2015, sales to customers outside the United States, including export sales, accounted for approximately 32%, 37% and 38%, respectively, of consolidated net sales. The largest portion of these sales were to Asian and European customers. Of consolidated long-lived assets, \$39.0 million and \$34.8 million were located outside of the United States as of December 31, 2017 and 2016, respectively. Our operations outside of the United States are subject to additional risks, which are fully described in "Item 1A. Risk Factors." See Note 16 in the "Notes to Consolidated Financial Statements."

Employees

We had approximately 880 full-time and 20 part-time employees as of December 31, 2017. The facilities in Greensboro, North Carolina, Louisville, Kentucky, Columbia, Tennessee, and Telford, Pennsylvania are unionized except for selling, engineering, design, administrative and operating management personnel. None of our other employees are subject to any collective bargaining agreements. We consider our relationship with our employees to be satisfactory. In total, as of December 31, 2017, approximately 160 employees were represented by international or independent labor unions under various union contracts that expire at various intervals.

Executive Officers of the Registrant

The following are the executive officers of the Company as of March 2, 2018. The terms of all officers expire at the next annual meeting of the board of directors and upon the election of the successors of such officers.

Name Age Position with CECO

Dennis Sadlowski 57 Chief Executive Officer, President and Director

Matthew Eckl 37 Chief Financial Officer and Secretary

Paul Gohr 36 Chief Accounting Officer

Dennis Sadlowski has served as our Chief Executive Officer since June 2017 and as a director since May 2016. Mr. Sadlowski served as Interim Chief Executive Officer and President from January 2017 until his appointment as Chief Executive Officer in June 2017. Previously, he was the Chief Operating Officer of LSG Sky Chefs North America, a provider of food and food-related services for transportation providers, from April 2013 until March 2015. As Chief Operating Officer, Mr. Sadlowski oversaw operations across over 40 locations in North America and managed over 8,000 employees. Previously, Mr. Sadlowski served as the Chief Executive Officer of International Battery, an early stage green tech company focused on large format lithium ion batteries for the grid storage markets, from September 2011 until April 2012. Mr. Sadlowski worked at Siemens from July 2000 to March 2010, serving as the President & Chief Executive Officer of Siemens Energy & Automation, Inc. from July 2007 until October 2009, an operating subsidiary of the global manufacturer Siemens AG, where he had executive accountability for the company's global strategic direction, operating performance and marketplace success. His responsibilities at Siemens Energy & Automation included overseeing six operating divisions along with a combined sales organization, a number of wholly-owned subsidiaries and over 12,000 employees. Mr. Sadlowski has also previously worked at General Electric and Thomas & Betts. Mr. Sadlowski serves on the board of directors and audit committee of Trojan Battery, a privately-held global leader in deep cycle lead-acid batteries. Mr. Sadlowski earned a Bachelor's degree in Chemical and Nuclear Engineering from the University of California at Berkeley, and his Master's Degree in Business Administration from Seattle University.

Matthew Eckl has served as our Chief Financial Officer and Secretary since January 2017. Prior to joining the Company, Mr. Eckl served as Vice President, Finance – Energy Group at Gardner Denver, Inc. from 2012 until January 2017. In this role, he oversaw a \$1 billion revenue business group that designs, manufactures, markets and services pumps, fluid transfer equipment and engineered systems for oil & gas and petrochemical industries. Prior to joining Gardner Denver, Mr. Eckl served at various roles of increasing responsibility within General Electric Company, a global digital industrial company, from 2002 until 2012, where he worked with various business groups to integrate new acquisitions and streamline financial reporting processes.

Paul Gohr was appointed as the Chief Accounting Officer on May 16, 2017. Mr. Gohr previously served as our Vice President of Financial Reporting since joining the Company in September 2014. From 2004 to 2014, Mr. Gohr served at various roles of increasing responsibility within Grant Thornton LLP, a global public accounting firm, most recently as a Senior Manager of Audit Services. While at Grant Thornton LLP, Mr. Gohr served a broad base of both public and private companies with international operations, many of which were acquisitive in nature. Mr. Gohr is a Certified Public Accountant.

Available Information

We use the Investor Relations section of our website, www.cecoenviro.com, as a channel for routine distribution of important information, including news releases, investor presentations and financial information. We post filings as soon as reasonably practicable after they are electronically filed with, or furnished to, the United States Securities and Exchange Commission, or SEC, including our annual, quarterly, and current reports on Forms 10-K, 10-Q, and 8-K; proxy statements; and any amendments to those reports or statements. All such postings and filings are available on our website free of charge. The SEC also maintains a website, www.sec.gov, that contains reports, proxy and information statements and other information regarding issuers that file electronically with the SEC. The content on any website referred to in this Annual Report on Form 10-K is not incorporated by reference into this Annual Report on Form 10-K unless expressly noted.

Item 1A. Risk Factors

An investment in our securities involves a high degree of risk. You should carefully consider the risk factors described below, together with the other information included in this Annual Report on Form 10-K, before you decide to invest in our securities. The risks described below are the material risks of which we are currently aware; however, they may not be the only risks that we may face. Additional risks and uncertainties not currently known to us or that we currently view as immaterial may also impair our business. If any of these risks develop into actual events, it could materially and adversely affect our business, financial condition, results of operations and cash flows, and the trading price of your shares could decline and you may lose all or part of your investment.

Risks Related to Our Business and Industry

Our business may be adversely affected by global economic conditions.

A national or global economic downturn or credit crisis may have a significant negative impact on our financial condition, future results of operations and cash flows. Specific risk factors related to these overall economic and credit conditions include the following: customer or potential customers may reduce or delay their procurement or new product development; key suppliers may become insolvent resulting in delays for our material purchases; vendors and other third parties may fail to perform their contractual obligations; customers may be unable to obtain credit to finance purchases of our products and services; and certain customers may become insolvent. These risk factors could reduce our product sales, increase our operating costs, impact our ability to collect customer receivables, lengthen our cash conversion cycle and increase our need for cash, which would ultimately decrease our profitability and negatively impact our financial condition. They could also limit our ability to expand through acquisitions due to the tightening of the credit markets.

Our dependence upon fixed-price contracts could adversely affect our operating results.

The majority of our projects are currently performed on a fixed-price basis. Under a fixed-price contract, we agree on the price that we will receive for the entire project, based upon a defined scope, which includes specific assumptions and project criteria. If our estimates of our own costs to complete the project are below the actual costs that we incur, our margins will decrease, and we may incur a loss. The revenue, cost and gross profit realized on a fixed-price contract will often vary from the estimated amounts because of unforeseen conditions or changes in job conditions and variations in labor and equipment productivity over the term of the contract. If we are unsuccessful in mitigating these risks, we may realize gross profits that are different from those originally estimated and incur reduced profitability or losses on projects. Depending on the size of a project, these variations from estimated contract performance could have a significant effect on our operating results. In general, turnkey contracts to be performed on a fixed-price basis involve an increased risk of significant variations. This is a result of the long-term nature of these contracts and the inherent difficulties in estimating costs and of the interrelationship of the integrated services to be provided under these contracts whereby unanticipated costs or delays in performing part of the contract can have compounding effects by increasing costs of performing other parts of the contract.

Percentage-of-completion method of accounting for contract revenue may result in material adjustments that would adversely affect our financial condition, results of operations and cash flows.

We recognize contract revenue for a substantial component of our business using the percentage-of-completion method on fixed price contracts. Under this method, for each contract, estimated contract revenue is calculated based generally on the percentage that actual direct costs to date are to total estimated direct costs. Estimated contract losses are recognized in full when determined. Accordingly, contract revenue and total direct cost estimates are reviewed and revised periodically as the work progresses and as change orders are approved, and adjustments based upon the percentage-of-completion are reflected in contract revenue in the period when these estimates are revised. These

estimates are based on management's reasonable assumptions and our historical experience, and are only estimates. Variation of actual results from these assumptions, which are outside the control of management and can differ from our historical experience, could be material. To the extent that these adjustments result in an increase, a reduction or the elimination of previously reported contract revenue, we would recognize a credit or a charge against current earnings, which could be material.

Our inability to deliver our backlog on time could affect our future sales and profitability, and our relationships with our customers.

Our backlog was \$168.9 million at December 31, 2017 from \$197.0 million at December 31, 2016. Our ability to meet customer delivery schedules for our backlog is dependent on a number of factors including, but not limited to, access to the raw materials required for production, an adequately trained and capable workforce, project engineering expertise for certain large projects,

sufficient internal manufacturing plant capacity, available subcontractors and appropriate planning and scheduling of manufacturing resources. Our failure to deliver in accordance with customer expectations may result in damage to existing customer relationships and result in the loss of future business. Failure to deliver backlog in accordance with expectations could negatively impact our financial performance and cause adverse changes in the market price of our common stock.

Volatility of oil and natural gas prices can adversely affect demand for our products and services

Volatility in oil and natural gas prices can also impact our customers' activity levels and spending for our products and services. Current energy prices are important contributors to cash flow for our customers and their ability to fund capital expenditure activities. Expectations about future prices and price volatility are important for determining future spending levels. Lower oil and natural gas prices generally lead to decreased spending by our customers. While higher oil and natural gas prices generally lead to increased spending by our customers, sustained high energy prices can be an impediment to economic growth, and can therefore negatively impact spending by our customers. Our customers also take into account the volatility of energy prices and other risk factors by requiring higher returns for individual projects if there is a higher perceived risk. Any of these factors could affect the demand for oil and natural gas and could have a material effect on our results of operations.

Our financial performance may vary significantly from period to period, making it difficult to estimate future revenue.

Our annual revenues and earnings have varied in the past and are likely to vary in the future. Our contracts generally stipulate customer specific delivery terms and may have contract cycles of a year or more, which subjects these contracts to many factors beyond our control. In addition, contracts that are significantly larger in size than our typical contracts tend to intensify their impact on our annual operating results. Furthermore, as a significant portion of our operating costs are fixed, an unanticipated decrease in our revenues, a delay or cancellation of orders in backlog, or a decrease in the demand for our products, may have a significant impact on our annual operating results. Therefore, our annual operating results may be subject to significant variations and our operating performance in one period may not be indicative of our future performance.

Customers may cancel or delay projects. As a result, our backlog may not be indicative of our future revenue.

Customers may cancel or delay projects for reasons beyond our control. Our orders normally contain cancellation provisions that permit us to recover our costs, and, for most contracts, a portion of our anticipated profit in the event a customer cancels an order. If a customer elects to cancel an order, we may not realize the full amount of revenues included in our backlog. If projects are delayed, the timing of our revenues could be affected and projects may remain in our backlog for extended periods of time. Revenue recognition occurs over long periods of time and is subject to unanticipated delays. If we receive relatively large orders in any given quarter, fluctuations in the levels of our quarterly backlog can result because the backlog in that quarter may reach levels that may not be sustained in subsequent quarters. As a result, our backlog may not be indicative of our future revenues. With rare exceptions, we are not issued contracts until a customer is ready to start work on a project. Thus, it is our experience that the only relation between the length of a project and the possibility that a project may be cancelled is simply the fact that there is more time involved. In a year-long project as opposed to a three-month project more time is available for the customer to experience a softening in their business, which may cause the customer to cancel a project.

We face significant competition in the markets we serve.

All of the industries in which we compete are highly competitive and highly fragmented. We compete against a number of local, regional and national contractors and manufacturers in each of our product or service lines, many of which have been in existence longer than us and some of which have substantially greater financial resources than we

do. Our products primarily compete on the basis of price, performance, speed of delivery, quality, customer support and single source. Any failure by us to compete effectively in the markets we serve could have a material adverse effect on our financial condition, results of operations and cash flows.

We may incur material costs as a result of existing or future product liability claims, or other claims and litigation that could adversely affect our financial condition, results of operations and cash flows; and our insurance coverage may not cover all claims or may be insufficient to cover the claims.

Despite our quality assurance measures, we may be exposed to product liability claims, other claims and litigation in the event that the use of our products results, or is alleged to result, in bodily injury and/or property damage or our products actually or allegedly fail to perform as expected. Such claims may also be accompanied by fraud and deceptive trade practices claims. While we maintain insurance coverage with respect to certain product liability and other claims, we may not be able to obtain such insurance on acceptable terms in the future, if at all, and any such insurance may not provide adequate coverage against product liability and other claims. Furthermore, our insurance may not cover damages from breach of contract by us or based on alleged fraud or deceptive trade practices. Any future damages that are not covered by insurance or are in excess of policy limits could have a material adverse effect

on our financial condition, results of operations and cash flows. In addition, product liability and other claims can be expensive to defend and can divert the attention of management and other personnel for significant periods of time, regardless of the ultimate outcome.

An unsuccessful defense of a product liability or other claim could have an adverse effect on our financial condition, results of operations and cash flows. Even if we are successful in defending against a claim relating to our products, claims of this nature could cause our customers to lose confidence in our products and us.

Liability to customers under warranties may adversely affect our reputation, our ability to obtain future business and our earnings.

We provide certain warranties as to the proper operation and conformance to specifications of the products we manufacture or produce. Failure of our products to operate properly or to meet specifications may increase our costs by requiring additional engineering resources and services, replacement of parts and equipment or monetary reimbursement to customers. We have in the past received warranty claims, are currently subject to warranty claims, and we expect to continue to receive claims in the future. To the extent that we incur substantial warranty claims in any period, our reputation, our ability to obtain future business and our earnings could be adversely affected.

If we do not develop improved products and new products in a timely manner in response to industry demands, our business and revenues will be adversely affected.

Our industry is characterized by ongoing technological developments and changing customer requirements. As a result, our success and continued growth depend, in part, on our ability in a timely manner to develop or acquire rights to, and successfully introduce into the marketplace, enhancements of existing products and new products that incorporate technological advances, meet customer requirements and respond to products developed by our competition. We cannot assure you that we will be successful in developing or acquiring such rights to products on a timely basis or that such products will adequately address the changing needs of the marketplace.

Our business can be significantly affected by changes in technology and regulatory standards.

The markets that the Company serves are characterized by changing technology, competitively imposed process standards and regulatory requirements, each of which influences the demand for our products and services. Changes in legislative, regulatory or industrial requirements may render certain of our products and processes obsolete. Acceptance of new products and services may also be affected by the adoption of new government regulations requiring stricter standards. Our ability to anticipate changes in technology and regulatory standards and to respond with new and enhanced products on a timely basis will be a significant factor in our ability to grow and to remain competitive. We cannot guarantee that we will be able to achieve the technological advances that may be necessary for us to remain competitive or that certain of our products or services will not become obsolete.

Changes in current environmental legislation could have an adverse impact on the sale of our environmental control systems and products and on our financial condition, results of operations and cash flows.

Our business is primarily driven by capital spending, clean air rules, plant upgrades by our customers to comply with laws and regulations governing the discharge of pollutants into the environment or otherwise relating to the protection of the environment or human health. These laws include, but are not limited to, United States federal statues such as Resource Conservation and Recovery Act of 1976, the Comprehensive Environmental Response, Compensation, and Liability Act of 1980, the Clean Water Act, the Clean Air Act, the Clean Air Interstate Rule, and the regulations implementing these statutes, as well as similar laws and regulations at state and local levels and in other countries. These United States laws and regulations may change and other countries may not adopt similar laws and

regulations. Our business may be adversely impacted to the extent that environmental regulations are repealed, amended, implementation dates are delayed, or to the extent that regulatory authorities reduce enforcement.

Our operations outside of the United States are subject to political, investment and local business risks.

For the year ended December 31, 2017, approximately 32% of our total revenue was derived from products or services ultimately delivered or provided to end-users outside the United States. As part of our operating strategy, we intend to expand our international operations through internal growth and selected acquisitions. Operations outside of the United States, particularly in emerging markets, are subject to a variety of risks that are different from or are in addition to the risks we face within the United States. Among others, these risks include:

- local, economic, political and social conditions, including potential hyperinflationary conditions and political instability in certain countries;
- imposition of limitations on the remittance of dividends and payments by foreign subsidiaries;
- adverse currency exchange rate fluctuations, including significant devaluations of currencies;
- •ax-related risks, including the imposition of taxes and the lack of beneficial treaties, that result in higher effective tax rates for us;
- difficulties in enforcing agreements and collecting receivables through certain foreign local systems;
- domestic and foreign customs, tariffs and quotas or other trade barriers;
- increased costs for transportation and shipping;
- difficulties in protecting intellectual property;
- risk of nationalization of private enterprises by foreign governments;
- managing and obtaining support and distribution channels for overseas operations;
 - hiring and retaining qualified management personnel for our overseas operations;
- legal and regulatory requirements, including import, export, defense regulations and foreign exchange controls; imposition or increase of restrictions on investment;
- disadvantages of competing against companies from countries that are not subject to United States laws and regulations, including the Foreign Corrupt Practice Act ("FCPA");
- required compliance with a variety of local laws and regulations, which may differ materially from those to which we are subject in the United States; and
- •increasingly complex laws and regulations concerning privacy and data security, including the European Union's General Data Protection Regulations.

In addition, we could be adversely affected by violations of the FCPA and similar worldwide anti-bribery laws as well as export controls and economic sanction laws. The FCPA and similar anti-bribery laws in other jurisdictions generally prohibit companies and their intermediaries from making improper payments to non-United States officials for the purposes of obtaining or retaining business. Our policies mandate compliance with these laws. We operate in many parts of the world that have experienced governmental corruption to some degree and, in certain circumstances, strict compliance with anti-bribery laws may conflict with local customs and practices. We cannot assure you that our internal controls and procedures will always protect us from reckless or criminal acts committed by our employees or agents. If we are found to be liable for FCPA, export control or sanction violations, we could suffer from criminal or civil penalties or other sanctions, including loss of export privileges or authorization needed to conduct aspects of our international business, which could have a material adverse effect on our business.

The occurrence of one or more of the foregoing factors could have a material adverse effect on our international operations or upon our financial condition, results of operations and cash flows.

Increasing costs for manufactured components, raw materials, transportation, health care and energy prices may adversely affect our profitability.

We use a broad range of manufactured components and raw materials in our products, including raw steel, steel-related components, filtration media, and equipment such as fans and motors. Materials and subcontracting costs comprise the largest components of our total costs. Further increases in the price of these items could further materially increase our operating costs and materially adversely affect our profit margins. Similarly, transportation, steel and health care costs have risen steadily over the past few years and represent an increasing burden for us. Although we try to contain these costs whenever possible, and although we try to pass along increased costs in the form of price increases to our customers, we may be unsuccessful in doing so, and even when successful, the timing of such price increases may lag significantly behind our incurrence of higher costs.

Our gross margins are affected by shifts in our product mix.

Certain of our products have higher gross profit margins than others. Consequently, changes in the product mix of our sales from quarter-to-quarter or from year-to-year can have a significant impact on our reported gross profit margins. Certain of our products also have a much higher internally manufactured cost component. Therefore, changes from quarter-to-quarter or from year-to-year can have a significant impact on our reported gross margins. In addition, contracts with a higher percentage of subcontracted work or equipment purchases may result in lower gross profit margins.

Our manufacturing operations are dependent on third-party suppliers.

Although we are not dependent on any one supplier, we are dependent on the ability of our third-party suppliers to supply our raw materials, as well as certain specific component parts. The third-party suppliers upon which we depend may default on their obligations to us due to bankruptcy, insolvency, lack of liquidity, adverse economic conditions, operational failure, fraud, loss of key personnel, or other reasons. We cannot assure you that our third-party suppliers will dedicate sufficient resources to meet our scheduled delivery requirements or that our suppliers will have sufficient resources to satisfy our requirements during any period of sustained demand. Failure of suppliers to supply, or delays in supplying, our raw materials or certain components, or allocations in the supply of certain high demand raw components could materially adversely affect our operations and ability to meet our own delivery schedules on a timely and competitive basis. Additionally, our third-party suppliers may provide us with raw materials or component parts that fail to meet our expectations or the expectations of our customers, which could subject us to product liability claims, other claims and litigation.

Our use of subcontractors could potentially harm our profitability and business reputation.

Occasionally we act as a prime contractor in some of the engineered projects we undertake. In our capacity as lead provider and when acting as a prime contractor, we perform a portion of the work on our projects with our own resources and typically subcontract activities such as manufacturing, electrical work, concrete work, insulation, conveyors and controls. In our industry, the lead contractor is normally responsible for the performance of the entire contract, including subcontract work. Thus, when acting as a prime contractor, we are subject to risk associated with the failure of one or more subcontractors to perform as anticipated.

We employ subcontractors at various locations around the world to meet our customers' needs in a timely manner, meet local content requirements and reduce costs. Subcontractors generally perform the majority of our manufacturing for international customers. We also utilize subcontractors in North America. The use of subcontractors decreases our control over the performance of these functions and could result in project delays, escalated costs and substandard quality. These risks could adversely affect our profitability and business reputation. In addition, many of our

competitors, who have greater financial resources and greater bargaining power than we have, use the same subcontractors that we use and could potentially influence our ability to hire these subcontractors. If we were to lose relationships with key subcontractors, our business could be adversely impacted.

A significant portion of our accounts receivable are related to larger contracts, which increases our exposure to credit risk.

We closely monitor the credit worthiness of our customers. Significant portions of our sales are to customers who place large orders for custom products and whose activities are related to the power and oil/gas industries. As a result, our exposure to credit risk is affected to some degree by conditions within these industries and governmental and/or political conditions. We frequently attempt to reduce our exposure to credit risk by requiring progress payments and letters of credit. However, the continuing economic climate and other unanticipated events that affect our customers could have a materially adverse impact on our operating results.

Changes in billing terms can increase our exposure to working capital and credit risk.

Our products are generally sold under contracts that allow us to bill upon the completion of certain agreed upon milestones or upon actual shipment of the product, and certain contracts include a retention provision. We attempt to negotiate progress-billing milestones on all large contracts to help us manage the working capital and credit risk associated with these large contracts. Consequently, shifts in the billing terms of the contracts in our backlog from period to period can increase our requirement for working capital and can increase our exposure to credit risk.

Currency fluctuations may reduce profits on our foreign sales or increase our costs, either of which could adversely affect our financial results.

Given that approximately 32% of our revenues are outside the United States, we are subject to fluctuations in foreign currency exchange rates. Translation losses resulting from currency fluctuations may adversely affect the profits from our operations and have a negative impact on our financial results. Foreign currency fluctuations may also make our systems and products more expensive for our customers, which could have a negative impact on our sales. In addition, we purchase some foreign-made products directly from and through our subcontractors. Due to the multiple currencies involved in our business, foreign currency positions partially offset and are netted against one another to reduce exposure. We cannot assure that fluctuations in foreign currency exchange rates will not make these products more expensive to purchase. Increases in our direct or indirect cost of purchasing these products could negatively impact our financial results if we are not able to pass those increased costs on to our customers.

If our goodwill or intangibles become impaired, we may be required to recognize charges that would reduce our net income or increase our net loss.

As of December 31, 2017, goodwill and indefinite lived intangibles represented \$186.6 million, or 42.6%, of our total assets. Goodwill and indefinite lived intangible assets are not amortized, but instead are subject to annual impairment evaluations (or more frequently if circumstances require). Major factors that influence our evaluations are our estimates for future revenue and expenses associated with the specific intangible asset or the reporting unit in which our goodwill resides. This is the most sensitive of our estimates related to our evaluations. Other factors considered in our evaluations include assumptions as to the business climate, industry and economic conditions. These assumptions are subjective and different estimates could have a significant impact on the results of our analyses. While management, based on current forecasts and outlooks, believes that the assumptions and estimates are reasonable, we can make no assurances that future actual operating results will be realized as planned and that there will not be material impairment charges as a result. In particular, an economic downturn could have a material adverse impact on our customers thereby forcing them to reduce or curtail doing business with us and such a result may materially affect the amount of cash flow generated by our future operations. Any write-down of goodwill or intangible assets resulting from future periodic evaluations would, as applicable, either decrease our net income or increase our net loss and those decreases or increases could be material.

We may incur costs as a result of certain restructuring activities, which may negatively impact our financial results, and we may not achieve some or all of the expected benefits of our restructuring plans.

We are continuously seeking the most cost-effective means and structure to serve our customers, protect our shareholders and respond to changes in our markets. Beginning in the fourth quarter of 2017, as part of our ongoing effort to drive efficiencies throughout our organization, we engaged in restructuring activities as part of an ongoing

and comprehensive review of our organizational structure, primarily within our Energy segment due to end market dynamics. In connection with these restructuring activities, our business will occasionally incur restructuring costs. From time to time, we may continue to engage in restructuring activities in an effort to improve cost competitiveness and profitability. We may not achieve the desired or anticipated benefits from these restructuring activities. As a result, restructuring costs may vary significantly from year to year depending on the scope of such activities. Such restructuring costs and expenses could adversely impact our financial results.

Changes in laws or regulations or the manner of their interpretation or enforcement could adversely impact our financial performance and restrict our ability to operate our business or execute our strategies.

New laws or regulations, or changes in existing laws or regulations, or the manner of their interpretation or enforcement, could increase our cost of doing business and restrict our ability to operate our business or execute our strategies. In particular, there may be significant changes in U.S. laws and regulations and existing international trade agreements by the current U.S. presidential administration that could affect a wide variety of industries and businesses, including those businesses we own and operate. If the current U.S. presidential administration materially modifies U.S. laws and regulations and international trade agreements, our business, financial condition, and results of operations could be adversely affected.

On December 22, 2017, U.S. tax reform legislation informally known as the Tax Cuts and Jobs Act (the "Tax Act") was signed into law. The Tax Act makes substantial changes to U.S. tax law, including a reduction in the corporate tax rate, a limitation on deductibility of interest expense, a limitation on the use of net operating losses to offset future taxable income, the allowance of immediate expensing of capital expenditures, deemed repatriation of foreign earnings and significant changes to the taxation of foreign earnings going forward. We expect the Tax Act to have significant effects on us, some of which may be adverse. For example, we would expect impacts on the amount of tax expense and deferred tax assets and liabilities recognized in the financial statements. The extent of the impact remains uncertain at this time and is subject to any other regulatory or administrative developments including any regulations or other guidance promulgated by the U.S. Internal Revenue Service. The Tax Act contains numerous, complex provisions impacting U.S. multinational companies, and we continue to review and assess the legislative language and its potential impact on us.

We are party to asbestos-containing product litigation that could adversely affect our financial condition, results of operations and cash flows.

Our subsidiary, Met-Pro, beginning in 2002, began to be named in asbestos-related lawsuits filed against a large number of industrial companies including, in particular, those in the pump and fluid handling industries. In management's opinion, the complaints typically have been vague, general and speculative, alleging that Met-Pro, along with the numerous other defendants, sold unidentified asbestos-containing products and engaged in other related actions that caused injuries (including death) and loss to the plaintiffs. Counsel has advised that more recent cases typically allege more serious claims of mesothelioma. The Company's insurers have hired attorneys who, together with the Company, are vigorously defending these cases. Many cases have been dismissed after the plaintiff fails to produce evidence of exposure to Met-Pro's products. In those cases where evidence has been produced, the Company's experience has been that the exposure levels are low and the Company's position has been that its products were not a cause of death, injury or loss. The Company has been dismissed from or settled a large number of these cases. Cumulative settlement payments of all legal fees other than corporate counsel expenses from 2002 through December 31, 2017 for cases involving asbestos-related claims were \$1.3 million, of which \$1.2 million has been paid by the Company's insurers. The average cost per settled claim, excluding legal fees, was approximately \$28,000.

Based upon the most recent information available to the Company regarding such claims, there were a total of 218 cases pending against the Company as of December 31, 2017 (with Connecticut, New York, Pennsylvania and West Virginia having the largest number of cases), as compared with 229 cases that were pending as of December 31, 2016. During 2017, 51 new cases were filed against the Company, and the Company was dismissed from 56 cases and settled six cases. Most of the pending cases have not advanced beyond the early stages of discovery, although a number of cases are on schedules leading to, or are scheduled for trial. The Company believes that its insurance coverage is adequate for the cases currently pending against the Company and for the foreseeable future, assuming a continuation of the current volume, nature of cases and settlement amounts. However, the Company has no control over the number and nature of cases that are filed against it, nor as to the financial health of its insurers or their position as to coverage. The Company also presently believes that none of the pending cases will have a material adverse impact upon the Company's results of operations, liquidity or financial condition.

Our ability to obtain financing for future growth opportunities may be limited.

Our ability to execute our growth strategies may be limited by our ability to secure and retain additional financing on terms reasonably acceptable to us or at all. Certain of our competitors are larger companies that may have greater access to capital, and therefore, may have a competitive advantage over us should our access to capital be limited.

We have a substantial amount of indebtedness, and incurrence of additional indebtedness could adversely affect our ability to operate our business, remain in compliance with debt covenants, make payments on our debt and limit our

growth.

As of December 31, 2017, we had outstanding indebtedness of \$120.1 million. Our outstanding indebtedness could have important consequences for investors, including the following:

- •t may be more difficult for us to satisfy our obligations with respect to our Credit Agreement, and any failure to comply with the obligations of any of the agreements governing any additional indebtedness, including financial and other restrictive covenants, could result in an event of default under such agreements;
- the covenants contained in our debt agreements, including our Credit Agreement, limit our ability to borrow money in the future for acquisitions, capital expenditures or to meet our operating expenses or other general corporate obligations;
- the amount of our interest expense may increase because a substantial portion of our borrowings are at variable rates of interest, which, if interest rates increase, could result in higher interest expense;

we may need to use a portion of our cash flows to pay principal and interest on our debt, which will reduce the amount of money we have for operations, working capital, capital expenditures, expansion, acquisitions or general corporate or other business activities;

we may have a higher level of debt than some of our competitors, which could put us at a competitive disadvantage; we may be more vulnerable to economic downturns and adverse developments in our industry or the economy in general; and

our debt level could limit our flexibility in planning for, or reacting to, changes in our business and the industry in which we operate.

Our ability to meet our expenses and debt obligations will depend on our future performance, which will be affected by financial, business, economic, regulatory and other factors. We will not be able to control many of these factors. We cannot be certain that our earnings will be sufficient to allow us to pay the principal and interest on our existing or future debt and meet our other obligations. If we do not have enough money to service our existing or future debt, we may be required to refinance all or part of our existing or future debt, sell assets, borrow more money or raise equity. We may not be able to refinance our existing or future debt, sell assets, borrow more money or raise equity on terms acceptable to us, if at all.

We might be unable to protect our intellectual property rights and our products could infringe the intellectual property rights of others, which could expose us to costly disputes.

Although we believe that our products do not infringe patents or violate the proprietary rights of others, it is possible that our existing patent rights may not be valid or that infringement of existing or future patents or proprietary rights may occur. In the event our products infringe patents or proprietary rights of others, we may be required to modify the design of our products or obtain a license for certain technology. We cannot guarantee that we will be able to do so in a timely manner, upon acceptable terms and conditions, or at all. Failure to do any of the foregoing could have a material adverse effect upon our business. Moreover, if our products infringe patents or proprietary rights of others, we could, under certain circumstances, become liable for damages, which also could have a material adverse effect on our business.

Risks related to our pension and other post-retirement plans may adversely impact our results of operations and cash flow.

Significant changes in actual investment return on pension assets, discount rates, and other factors may adversely affect our results of operations and pension contributions in future periods. GAAP requires that we calculate income or expense for the plans using actuarial valuations. These valuations reflect assumptions about financial markets and interest rates. We establish the discount rate used to determine the present value of the projected and accumulated benefit obligation at the end of each year based upon the available market rates for high quality, fixed-income investments. An increase in the discount rate would increase future pension expense and, conversely, a decrease in the discount rate would decrease future pension expense. Funding requirements for our United States pension plans may become more significant. The ultimate amounts to be contributed are dependent upon, among other things, interest rates, underlying asset returns and the impact of legislative or regulatory changes related to pension funding obligations. For a discussion regarding the significant assumptions used to estimate pension expense, including discount rate and the expected long-term rate of return on plan assets, and how our financial statements can be affected by pension plan accounting policies, see "Critical Accounting Policies" included in this Annual Report on Form 10-K in "Item 7. Management's Discussion and Analysis of Financial Condition and Results of Operations."

We may be subject to substantial withdrawal liability assessments in the future related to multiemployer pension plans to which certain of our subsidiaries make contributions pursuant to collective bargaining agreements.

Under applicable federal law, any employer contributing to a multiemployer pension plan that completely ceases participating in the plan while the plan is underfunded is subject to payment of such employer's assessed share of the aggregate unfunded vested benefits of the plan. In certain circumstances, an employer can be assessed a withdrawal liability for a partial withdrawal from a multiemployer pension plan. If any of these adverse events were to occur in the future, it could result in a substantial withdrawal liability assessment that could have a material adverse effect on our business, financial condition, results of operations or cash flows.

We rely on several key employees whose absence or loss could disrupt our operations or be adverse to our business.

We are highly dependent on the experience of our management in the continuing development of our operations. The loss of the services of certain of these individuals would have a material adverse effect on our business. Although we have employment and non-competition agreements with certain of our key employees, as a practical matter, those agreements will not assure the retention of our employees, and we may not be able to enforce all of the provisions in any employment or non-competition agreement. Our future

success will depend in part on our ability to attract and retain qualified personnel to manage our development and future growth. We cannot guarantee that we will be successful in attracting and retaining such personnel. Our failure to recruit additional key personnel could have a material adverse effect on our financial condition, results of operations and cash flows.

Work stoppages or similar difficulties could significantly disrupt our operations.

As of December 31, 2017, approximately 160 of our approximately 900 employees are represented by international or independent labor unions under various union contracts that expire from May 31, 2018 to May 31, 2020. It is possible that our workforce will become more unionized in the future. Although we consider our employee relations to generally be good, our existing labor agreements may not prevent a strike or work stoppage at one or more of our facilities in the future and we may be affected by other labor disputes. A work stoppage at one or more of our facilities may have a material adverse effect on our business. Unionization activities could also increase our costs, which could have an adverse effect on our profitability.

Additionally, a work stoppage at one of our suppliers could adversely affect our operations if an alternative source of supply were not readily available. Work stoppages by employees of our customers also could result in reduced demand for our products.

Failure to maintain adequate internal controls could adversely affect our business.

Under Section 404 of Sarbanes-Oxley, we are required to include in each of our Annual Reports on Form 10-K, a report containing our management's assessment of the effectiveness of our internal control over financial reporting and an attestation report of our independent auditor. These laws, rules and regulations continue to evolve and could become increasingly stringent in the future. We have undertaken actions to enhance our ability to comply with the requirements of Sarbanes-Oxley, including, but not limited to, the engagement of consultants, the documentation of existing controls and the implementation of new controls or modification of existing controls as deemed appropriate.

We continue to devote substantial time and resources to the documentation and testing of our controls, and to plan for and the implementation of remedial efforts in those instances where remediation is indicated. If we fail to maintain the adequacy of our internal controls, including remediating any material weaknesses or deficiencies in our internal controls, as such standards are modified, supplemented or amended in the future, we could be subject to regulatory actions, civil or criminal penalties or shareholder litigation. In addition, failure to maintain adequate internal controls could result in financial statements that do not accurately reflect our financial condition, results of operations and cash flows. We believe that the out-of-pocket costs, the diversion of management's attention from running our day-to-day operations and operational changes caused by the need to comply with the requirements of Section 404 will continue to be significant.

There are inherent limitations in all internal control systems over financial reporting, and misstatements due to error or fraud may occur and not be detected.

While we continue to take action to ensure compliance with the internal control, disclosure control and other requirements of Sarbanes-Oxley and the rules and regulations promulgated thereunder by the SEC, there are inherent limitations in our ability to control all circumstances. Our management, including our Chief Executive Officer and Chief Financial Officer, does not expect that our internal controls and disclosure controls can prevent all errors and all frauds. A control system, no matter how well conceived and operated, can provide only reasonable assurance that the objectives of the control system are met. In addition, the design of a control system must reflect the fact that there are resource constraints and the benefit of controls must be evaluated in relation to their costs. Because of the inherent limitations in all control systems, no evaluation of controls can provide absolute assurance that all control issues and

instances of fraud, if any, have been detected. These inherent limitations include the realities that judgments in decision-making can be faulty and that breakdowns can occur because of simple error or mistake. Further, controls can be circumvented by individual acts of some persons, by collusion of two or more persons, or by management override of the controls. The design of any system of controls also is based in part upon certain assumptions about the likelihood of future events, and there can be no assurance that any design will succeed in achieving its stated goals under all potential future conditions. Over time, a control may be inadequate because of changes in conditions or the degree of compliance with the policies or procedures may deteriorate. Because of inherent limitations in a cost-effective control system, misstatements due to error or fraud may occur and not be detected.

If we are not able to maintain the adequacy of our internal control over financial reporting, including any failure to implement required new or improved controls, or if we experience difficulties in their implementation, our business, financial condition and operating results could be harmed. We can give no assurances that any additional material weaknesses will not arise in the future due to our failure to implement and maintain adequate internal control over financial reporting.

We have made and may make future acquisitions or divestitures, which involve numerous risks that could impact our financial condition, results of operations and cash flows.

Our operating strategy has involved expanding or contracting our scope of products and services through selective acquisitions or divestitures and the formation or elimination of new business units that are then integrated or separated into or out of our growing family of turnkey system providers. We have acquired other businesses, product or service lines, assets or technologies that are complementary to our business. We may be unable to find or consummate future acquisitions at acceptable prices and terms. We continually evaluate potential acquisition opportunities in the ordinary course of business.

Although we conduct what we believe to be a prudent level of investigation regarding the operating and financial condition of the businesses, product or service lines, assets or technologies we purchase, an unavoidable level of risk remains regarding their actual operating and financial condition. Until we actually assume operating control of these businesses, product or service lines, assets or technologies, we may not be able to ascertain their actual value or understand potential liabilities. This is particularly true with respect to acquisitions outside the United States.

In addition, acquisitions of businesses may require additional debt or equity financing, resulting in additional leverage or dilution of ownership. Our Credit Agreement ("Credit Agreement") contains certain covenants that limit, or which may have the effect of limiting, among other things, acquisitions, capital expenditures, the sale of assets and the incurrence of additional indebtedness.

Increased information technology security threats and more sophisticated and targeted computer crime could pose a risk to our systems, networks, and products.

Increased global information technology security threats and more sophisticated and targeted computer crime pose a risk to the security of our systems and networks and the confidentiality, availability and integrity of our data and communications. While we attempt to mitigate these risks by employing a number of measures, including employee training, comprehensive monitoring of our networks and systems, and maintenance of backup and protective systems, our systems, networks and products remain potentially vulnerable to advanced persistent threats. Depending on their nature and scope, such threats could potentially lead to the compromising of confidential information and communications, improper use of our systems and networks, manipulation and destruction of data, defective products, production downtimes and operational disruptions, which in turn could adversely affect our reputation, competitiveness and results of operations.

In addition, we could be subject to legal claims or proceedings, liability under laws that protect the privacy of personal information and regulatory penalties if confidential information relating to our employees or other parties is misappropriated from our systems and networks.

Risks Related to Our Common Stock

The market price of our common stock may be volatile or may decline regardless of our operating performance and investors may not be able to resell shares they purchase at their purchase price.

The stock market has experienced and may in the future experience volatility that has often been unrelated to the operating performance of particular companies. The market price of our common stock has experienced, and may continue to experience, substantial volatility. During the year ended December 31, 2017, the sales price of our common stock on the NASDAQ ranged from \$4.68 to \$14.46 per share. We expect our common stock to continue to be subject to fluctuations. Broad market and industry factors may adversely affect the market price of our common stock, regardless of our actual operating performance. Factors that could cause fluctuation in the common stock price

may include, among other things:

- actual or anticipated variations in quarterly operating results;
- nedverse general economic conditions, including, but not limited to, withdrawals of investments in the stock markets generally or a tightening of credit available to potential acquirers of businesses, that result in a lower average prices being paid for public company shares and lower valuations being placed on businesses;
- other domestic and international macroeconomic factors unrelated to our performance;
- our failure to meet the expectations of the investment community;
- industry trends and the business success of our customers;
- loss of key customers;
- announcements of technological advances by us or our competitors;

- current events affecting the political and economic environment in the United States;
- conditions or trends in our industry, including demand for our products and services, technological advances and governmental regulations;
- 4itigation or other proceedings involving or affecting us; and
- additions or departures of our key personnel.

The realization of any of these risks and other factors beyond our control could cause the market price of our common stock to decline significantly.

We are not currently paying dividends and cannot make assurances that we will pay dividends on our common stock and our indebtedness could limit our ability to pay dividends.

The timing, declaration, amount and payment of future dividends to our shareholders fall within the discretion of our Board of Directors and will depend on many factors, including our financial condition, results of operations and capital requirements, as well as applicable law, regulatory constraints, industry practice and other business considerations that our Board of Directors considers relevant. There can be no assurance that we will pay a dividend in the future.

Additionally, if we cannot generate sufficient cash flow from operations to meet our debt payment obligations, then our ability to pay dividends, if so determined by the Board of Directors will be impaired and we may be required to attempt to restructure or refinance our debt, raise additional capital or take other actions such as selling assets, or reducing or delaying capital expenditures. There can be no assurance, however, that any such actions could be undertaken on satisfactory terms, if at all, or would be permitted by the terms of our debt or our other credit and contractual arrangements.

The number of shares of our common stock eligible for future sale could adversely affect the market price of our stock.

We have reserved 1.9 million shares of our common stock for issuance under our 2017 Equity Incentive Plan (the "2017 Plan"), which may include option grants, stock grants, performance unit grants and restricted stock grants. We had outstanding options to purchase approximately 589,000 shares of our common stock and 263,000 outstanding restricted stock units under our 2007 Equity Incentive Plan (the "2007 Plan"), and outstanding options to purchase approximately 67,000 shares of our common stock and 291,000 outstanding restricted stock units under our 2017 Plan as of December 31, 2017. The shares under both plans are registered for resale on currently effective registration statements.

We may issue additional restricted securities or register additional shares of common stock under the Securities Act in the future. The issuance of a significant number of shares of common stock upon the exercise of stock options or warrants, vesting of restricted stock units, or the availability for sale, or resale, of a substantial number of the shares of common stock under registration statements, under Rule 144 or otherwise, could adversely affect the market price of our common stock.

One or more issuances of shares of our common stock under our stock incentive plan or securities in connection with financing transactions or the conversion of warrants will dilute current shareholders.

Pursuant to our stock incentive plan, we may grant stock awards to our employees, directors and consultants. Dilution will occur upon exercise of any outstanding stock awards convertible into or exchangeable or exercisable for common stock. Moreover, if we raise additional funds by issuing additional common stock, or securities, further dilution to our existing shareholders will result. In addition, we have historically issued warrants to purchase common shares in conjunction with business acquisitions, debt issuances and employment contracts, which may cause dilution when

exercised.

Our ability to issue preferred stock could adversely affect the rights of holders of our common stock.

Our certificate of incorporation authorizes us to issue up to 10,000 shares of preferred stock in one or more series on terms that may be determined at the time of issuance by our board of directors. Accordingly, we may issue shares of any series of preferred stock that would rank senior to our common stock as to voting or dividend rights or rights upon our liquidation, dissolution or winding up.

Certain provisions in our charter documents have anti-takeover effects.

Certain provisions of our certificate of incorporation and bylaws may have the effect of delaying, deferring or preventing a change in control of us. Such provisions, including those limiting who may call special shareholders' meetings, together with the possible issuance of our preferred stock without shareholder approval, may make it more difficult for other persons, without the

approval of our board of directors, to make a tender offer or otherwise acquire substantial amounts of our common stock or to launch other takeover attempts that a shareholder might consider to be in such shareholder's best interest.

Item 1B. Unresolved Staff Comments Not Applicable.

Item 2.Properties
The following facilities were owned or leased by the Company as of December 31, 2017.

Owned and Leased Locations	Туре	Square Footage	Leased or Owned				
Energy Segment:							
Moorpark, California	Sales	4,300	Leased				
Cincinnati, Ohio	Manufacturing	96,400	Leased				
Nunspeet, the Netherlands	Manufacturing	58,125	Leased				
Nunspeet, the Netherlands	Sales	6,545	Leased				
JiangYin City, People's Republic of China	Manufacturing	181,447	Leased				
Montreal, Canada	Sales	3,514	Leased				
Orchard Park, New York	Sales	17,900	Leased				
Denton, Texas	Manufacturing	80,000	Leased				
Monroe, Connecticut	Sales	8,825	Leased				
Alberta, Canada	Sales	1,100	Leased				
Dubai, United Arab Emirates	Sales	2,463	Leased				
Dubai, United Arab Emirates	Sales	906	Leased				
Singapore	Sales	4,643	Leased				
Essex, United Kingdom	Sales	120	Leased				
Zhenjiang, People's Republic of China	Held for Sale	175,000	Owned				
Wichita Falls, Texas	Held for Sale	128,000	Owned				
Michigan City, Indiana	Held for Sale	5,000	Owned				
Environmental Segment:							
Anaheim, California	Sales	7,000	Leased				
Wood Dale, Illinois	Sales/Warehouse	16,000	Leased				
Lennon, Michigan	Sales/Warehouse	8,000	Leased				
Louisville, Kentucky	Manufacturing	35,000	Owned				
Louisville, Kentucky	Sales	5,450	Leased				
Lebanon, Pennsylvania	Sales	4,221	Leased				
Pittsburgh, Pennsylvania	Sales	4,000	Leased				
Columbia, Tennessee	Manufacturing	34,800	Leased				
Shanghai, People's Republic of China	Sales	270	Leased				
Pune, India	Sales	678	Leased				
Islandia, New York	Sales	8,178	Leased				
Cambridgeshire, United Kingdom	Sales	1,600	Leased				
Shanghai, People's Republic of China	Sales	5,608	Leased				
Cincinnati, Ohio	Sales/Warehouse	53,210	Leased				
Greensboro, North Carolina	Manufacturing	30,000	Leased				
Fluid Handling and Filtration Segment:							
Telford, Pennsylvania	Manufacturing	93,500	Leased				
Indianapolis, Indiana	Manufacturing	66,000	Leased				
Pottstown, Pennsylvania	Sales/Warehouse	11,800	Leased				
Heerenveen, the Netherlands	Manufacturing	34,000	Owned				
Guangzhou, People's Republic of China	Manufacturing	17,168	Leased				
Corporate offices:							
Cincinnati, Ohio	Administrative	7,000	Leased				
Toronto, Canada	Administrative	4,000					