FLOWSERVE CORP Form 10-K/A August 11, 2017

#### UNITED STATES SECURITIES AND EXCHANGE COMMISSION

Washington, D.C. 20549

Form 10-K/A

**bANNUAL REPORT PURSUANT TO SECTION 13 OR 15(d) OF THE SECURITIES EXCHANGE ACT OF 1934** FOR THE FISCAL YEAR ENDED DECEMBER 31, 2016

TRANSITION REPORT PURSUANT TO SECTION 13 OR 15(d) OF THE SECURITIES EXCHANGE ACT OF  $^{\rm o}$   $^{\rm 1934}$ 

Commission file number 1-13179

FLOWSERVE CORPORATION

(Exact name of registrant as specified in its charter) New York 31-0267900 (I.R.S. Employer (State or other jurisdiction of incorporation or organization) Identification No.)

5215 N. O'Connor Boulevard 75039

Suite 2300, Irving, Texas (Zip Code)

(Address of principal executive offices)

Registrant's telephone number, including area code:

(972) 443-6500

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

Title of Each Class Name of Each Exchange on Which Registered

Common Stock, \$1.25 Par Value New York Stock Exchange

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

None

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

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 o No b

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 b Indicate by check mark whether the registrant has submitted electronically and posted on its corporate Web site, 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 b No o

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. b

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

Large accelerated filer b Accelerated filer o Non-accelerated filer o Smaller Reporting company o (Do not check if a smaller reporting company)

Indicate by check mark whether the registrant is a shell company. Yes o No b

The aggregate market value of the common stock held by non-affiliates of the registrant, computed by reference to the closing price of the registrant's common stock as reported on June 30, 2016 (the last business day of the registrant's most recently completed second fiscal quarter), was approximately \$3,389,096,066. For purposes of the foregoing calculation only, all directors, executive officers and known 5% beneficial owners have been deemed affiliates. Number of the registrant's common shares outstanding as of February 10, 2017 was 130,520,401.

### DOCUMENTS INCORPORATED BY REFERENCE

Certain information contained in the definitive proxy statement for the registrant's 2017 Annual Meeting of Shareholders scheduled to be held on May 18, 2017 is incorporated by reference into Part III hereof.

# FLOWSERVE CORPORATION FORM 10-K

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#### **EXPLANATORY NOTE**

Flowserve Corporation is filing this amendment on Form 10-K/A to its Annual Report on Form 10-K for the fiscal year ended December 31, 2016, originally filed with the Securities and Exchange Commission on February 16, 2017 ("the original filing") to make the following changes:

- To amend Item 1A. Risk Factors to add an additional risk factor regarding the potential adverse impact the material weaknesses could have on our timely and accurate reporting of financial results.
- To amend Item 8. Financial Statements and Supplementary Data for the change in the Report of Independent
- Registered Public Accounting Firm, in relation to the independent registered public accounting firm's report on our internal control over financial reporting.
- To make revisions for immaterial errors in the consolidated financial statements previously issued in the original filing in Item 1. Business, Item 6. Selected Financial Data, Item 7. Management's Discussion and Analysis, Item 7A. Qualitative and Quantitative Disclosures About Market Risk and Item 8. Financial Statements and Supplementary
- To amend Item 9A. Controls and Procedures related to the effectiveness of our disclosure controls and procedures and internal control over financial reporting.

On July 27, 2017, we announced that during the 2017 second quarter we determined that material weaknesses existed in our internal control structure for the year ended December 31, 2016 and continued through the end of the second quarter of 2017. Item 9A Controls and Procedures has been amended herein to reflect that change.

Additionally, certain immaterial accounting errors were identified in prior period financial statements for prior periods through the first quarter of 2017, which occurred primarily at two non-U.S. sites, and principally involved certain inventory, accounts receivable, cost of sales and selling, general and administrative expense balances. While not material to any prior annual or quarterly period, in order to facilitate comparisons among periods, we have revised our consolidated financial statements included in this amendment, as well as an amendment to our Form 10-Q for the quarterly period ended March 31, 2017, to reflect the revisions to our consolidated financial statements for the fiscal years ended December 31, 2016, 2015 and 2014 and to the unaudited condensed consolidated financial statements for the fiscal quarters ended March 31, 2017 and 2016.

For additional discussion regarding the revision adjustments, see Note 2 of the consolidated financial statements and "Item 7. Management's Discussion and Analysis of Financial Condition and Results of Operations" in this annual report on Form 10-K/A. This amendment has not been updated or amended to give effect to any subsequent events beyond those that existed as of the original filing date and should thus be read in conjunction with the original filing and any of the Company's other filings with the Securities and Exchange Commission ("SEC") subsequent to the original filing, together with any amendments to those filings.

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PART I

# ITEM 1. BUSINESS OVERVIEW

Flowserve Corporation is a world leading manufacturer and aftermarket service provider of comprehensive flow control systems. Under the name of a predecessor entity, we were incorporated in the State of New York on May 1, 1912. Flowserve Corporation as it exists today was created in 1997 through the merger of two leading fluid motion and control companies — BW/IP and Durco International. Over the years, we have evolved through organic growth and strategic acquisitions, and our 220-year history of Flowserve heritage brands serves as the foundation for the breadth and depth of our products and services today. Unless the context otherwise indicates, references to "Flowserve," "the Company" and such words as "we," "our" and "us" include Flowserve Corporation and its subsidiaries.

We develop and manufacture precision-engineered flow control equipment integral to the movement, control and protection of the flow of materials in our customers' critical processes. Our product portfolio of pumps, valves, seals, automation and aftermarket services supports global infrastructure industries, including oil and gas, chemical, power generation (including nuclear, fossil and renewable) and water management, as well as certain general industrial markets where our products and services add value. Through our manufacturing platform and global network of Quick Response Centers ("QRCs"), we offer a broad array of aftermarket equipment services, such as installation, advanced diagnostics, repair and retrofitting.

We sell our products and services to more than 10,000 companies, including some of the world's leading engineering, procurement and construction firms ("EPC"), original equipment manufacturers, distributors and end users. Our products and services are used in several distinct industries having a broad geographic reach. Our bookings mix by industry in 2016 and 2015 consisted of:

2016 2015
 oil and gas 36% 36%
 general industries(1)25% 24%
 chemical 21% 22%
 power generation 14% 14%

• water management 4 % 4 %

General industries includes mining and ore processing, pharmaceuticals, pulp and paper, food and beverage and (1)other smaller applications, as well as sales to distributors whose end customers typically operate in the industries we primarily serve.

The breakdown of the geographic regions to which our sales were shipped in 2016 and 2015 were as follows:

2016 2015

North America 40 % 39 %
Europe 22 % 22 %
Asia Pacific 18 % 18 %
Middle East and Africa 13 % 12 %
Latin America 7 % 9 %

We have pursued a strategy of industry diversity and geographic breadth to mitigate the impact on our business of normal economic downturns in any one of the industries or in any particular part of the world we serve. For events that may occur and adversely impact our business, financial condition, results of operations and cash flows, refer to "Item 1A. Risk Factors" of this Annual Report on Form 10-K/A for the year ended December 31, 2016 ("Annual Report"). For information on our sales and long-lived assets by geographic areas, see Note 16 to our consolidated financial statements included in "Item 8. Financial Statements and Supplementary Data" ("Item 8") of this Annual Report.

We conduct our operations through three business segments based on type of product and how we manage the business:

Engineered Product Division ("EPD") for long lead time, custom and other highly-engineered pumps and pump systems, mechanical seals, auxiliary systems and replacement parts and related services;

Industrial Product Division ("IPD") for pre-configured engineered pumps and pump systems and related products and services; and

Flow Control Division ("FCD") for engineered and industrial valves, control valves, actuators and controls and related services.

Our business segments share a focus on industrial flow control technology and benefit from our global footprint and our economies of scale in reducing administrative and overhead costs to serve customers more cost effectively. EPD and IPD have a high number of common customers and complementary product offerings and technologies that are often combined in applications that provide us a net competitive advantage. All segments share certain resources and functions, including elements of research and development ("R&D"), supply chain, safety, quality assurance and administrative functions that provide efficiencies and an overall lower cost structure.

Our operations leadership reports to our Chief Operating Officer, and the segments share leadership for operational support functions such as R&D, marketing and supply chain. We believe this leadership structure positions the Company to leverage operational excellence, cost reduction initiatives and internal synergies across our entire operating platform to drive further growth and increase shareholders' value.

Our sales, product management and commercialization, R&D and strategy leadership reports to our Chief Sales and Strategy Officer. We believe this structure positions the Company to execute coordinated customer-centric business and sales strategies, promoting collaboration and best practices across the organization to drive growth. Strategies

Our overarching objective is to grow our position as a product and integrated solutions provider in the flow control industry. This objective includes continuing to sell products by building on existing sales relationships and leveraging the power of our portfolio of products and services to attract new customers. It also includes delivering specific end-user solutions that help customers attain their business goals by ensuring maximum reliability at a decreased cost of ownership. This objective is pursued by cultivating a corporate culture based on workplace safety for our employees, ethical and transparent business practices and a dedicated focus on serving our customers. These three pillars support a collaborative, 'One Flowserve' approach that leverages a diverse and inclusive work environment worldwide. We seek to drive increasing enterprise value by using the following strategies: disciplined profitable growth, customer intimacy, innovation and portfolio management, strategic localization, operational excellence, employee focus and sustainable business model. The key elements of these strategies are outlined below. Disciplined Profitable Growth

Disciplined profitable growth is focused on growing revenues profitably from our existing portfolio of products and services, as well as through the development or acquisition of new customer-driven products and services. Its overarching goals are to focus on opportunities that can maximize the organic growth from existing customers and to evaluate potential new customer-partnering initiatives that maximize the capture of products' total life cycle value. We believe we are the largest major pump, valve and seal company that can offer customers a differentiated option of flow management products and services across a broad portfolio, as well as offer additional options that include any combination of products and solution support packages.

We also seek to continue to review our substantial installed pump, valve and seal base as a means to expand the aftermarket parts and services business. To date, the aftermarket business has provided us with a steady source of revenues and cash flows at higher margins than are typically realized with original equipment sales. Aftermarket sales represented approximately 45% and 43% of total sales in 2016 and 2015, respectively. We are building on our established presence through an extensive global QRC network to provide the immediate parts, service and technical support required to effectively manage and expand the aftermarket business created from our installed base. Customer Relationship

Through our ongoing relationships with our customers, we seek to gain a rich understanding of their business objectives and how our portfolio of offerings can best help them succeed. We collaborate with our customers on the front-end engineering and design work to drive flow management solutions that effectively generate the desired business outcomes. As we progress through original equipment projects, we work closely with our customers to understand and prepare for the long-term support needs for their operations with the intent of maximizing total life cycle value for our customers' investments.

We seek to capture additional aftermarket business by creating mutually beneficial opportunities for us and our customers through sourcing and maintenance alliance programs where we provide all or an agreed-upon portion of customers' parts and servicing needs. These alliances enable us to develop long-term relationships with our customers

and serve as an effective platform for introducing new products and services and generating additional sales.

### Innovation and Portfolio Management

The ongoing management of our portfolio of products and services is critical to our success. As part of managing our portfolio, we continue to rationalize our portfolio of products and services to ensure alignment with changing market requirements. We also continue to invest in R&D to expand the scope of our product offerings and our deployment of advanced technologies. The infusion of advanced technologies into new products and services continues to play a critical role in the ongoing evolution of our product portfolio. Our objective is to improve the percentage of revenue derived from new products as a function of overall sales, utilizing technological innovation to improve overall product life cycle and reduce total cost of ownership for our customers.

We employ a robust portfolio management and project execution process to seek out new product and technology opportunities, evaluate their potential return on investment and allocate resources to their development on a prioritized basis. Each project is reviewed on a routine basis for such performance measures as time to market, net present value, budget adherence, technical and commercial risk and compliance with customer requirements. Technical skill sets and knowledge are deployed across business segment boundaries to ensure that we bring the best capabilities to bear for each project. Collectively, our R&D portfolio is a key to our ability to differentiate our product and service offerings from other competitors in our target markets.

We are focused on exploring and commercializing new technologies. In many of our research areas, we are teaming with universities and experts in the appropriate scientific fields to accelerate the required learning and to shorten the development time in leveraging the value of applied technologies in our products and services. Our intent is to be a market leader in the application of advanced technology to improve product performance and return on investment for our customers.

We have a track record of success in the area of remotely monitoring and diagnosing flow control equipment for our customers. Our approach is to build on that success by utilizing new technologies and best-in-class technology partners. The growth and acceleration in this space has created new opportunities to build on our existing capabilities, while also creating opportunities to offer more comprehensive solutions that help our customers leverage their infrastructure investments and gain new insight into the performance and reliability of their pump and flow control products. Partnering with best-in-class technology vendors provides both Flowserve and our partners a mutually beneficial opportunity to deliver solutions that benefit customers by optimizing their operating performance and lowering their total cost of ownership

We continually evaluate acquisitions, joint ventures and other strategic investment opportunities to broaden our product portfolio, service capabilities, geographic presence and operational capabilities to meet the growing needs of our customers. We evaluate all investment opportunities through a decision filtering process to ensure a good strategic, financial and cultural fit.

Strategic Localization

Strategic localization continues to drive our global growth strategy. While we are a global company, we recognize that opportunities still remain. Therefore, we strive to advance our presence in geographies that we believe are critical to our future success as a company by focusing on the following areas:

expanding our global presence to capture business in developing geographic market areas;

expanding our low-cost manufacturing capabilities in Southeast Asia and Latin America for local markets and exports;

utilizing low-cost sourcing opportunities to remain competitive in the global economy; and

attracting and retaining the global intellectual capital required to support our growth plans in new geographical areas.

We believe there are attractive opportunities in international markets, particularly in Africa, China, India, Latin America and the Middle East, and we intend to continue to utilize our global presence and strategically invest to further penetrate these markets. In the aftermarket services business, we seek to strategically add QRC sites in order to provide rapid response, fast delivery and field repair on a global scale for our customers.

We believe that our future success will be supported by investments made to establish indigenous operations to effectively serve the local market while taking advantage of low-cost manufacturing, competent engineering and strategic sourcing to support both local markets and export. We believe that this positions us well to support our global customers from project conception through commissioning and throughout the life of their operations. For

example, we are currently expanding our pump and valve operations in China, valve operations in India and pump operations in Mexico.

We continue to develop and increase our manufacturing, engineering and sourcing functions in lower-cost regions and emerging markets such as India, China, Mexico, Latin America, the Middle East and Eastern Europe as we drive higher value-add from our supply base of materials and components and satisfy local content requirements. In 2016, these lower-cost regions supplied our business segments with direct materials ranging from 25% to 35% of business segment spending.

Operational Excellence

The operational excellence strategy encapsulates ongoing programs that work to drive increased customer fulfillment and yield internal productivity. This initiative includes:

driving improved customer fulfillment through metrics such as on-time delivery, cost reduction, quality, cycle time reduction and warranty cost reduction as a percentage of sales;

continuing to develop a culture of continuous improvement that delivers maximum productivity and cost efficiencies; and

implementing global functional competencies to drive standardized processes.

We seek to increase our operational efficiency through our Continuous Improvement Process ("CIP") initiative, which utilizes tools such as value analysis, value engineering, six sigma methodology, lean manufacturing and capacity management to improve quality and processes, reduce product cycle times and lower costs. Recognizing that employees are our most valuable resource in achieving operational excellence goals, we have instituted CIP training tailored to maximize the impact on our business. At this date, we have approximately 1,700 active employees that are CIP-trained or certified as "Green Belts," "Black Belts" or "Master Black Belts," and are deployed on CIP projects throughout our operations and supporting functions of the business. As a result of the CIP initiative, we have developed and implemented processes at various sites to reduce our engineering and manufacturing process cycle time, improve on-time delivery and service response time, optimize working capital levels and reduce costs. We have also experienced success in sharing and applying best practices achieved in one business segment and deploying those ideas to other segments of the business.

We continue to rationalize existing Enterprise Resource Planning ("ERP") systems onto six strategic ERP systems. Going forward, these six strategic ERP systems will be maintained as core systems with standard tool sets, and will be enhanced as needed to meet the growing needs of the business in areas such as e-commerce, back office optimization and export compliance. Further investment in non-strategic ERP systems will be limited to compliance matters and conversion to strategic ERP systems.

We also seek to improve our working capital utilization, with a particular focus on management of accounts receivable and inventory. See further discussion in the "Liquidity and Capital Resources" section of "Item 7. Management's Discussion and Analysis of Financial Condition and Results of Operations" ("Item 7") of this Annual Report.

**Employee Focus** 

We focus on several elements in our strategic efforts to continuously enhance our organizational capability, including: institutionalizing our succession planning along with our core competencies and performance management capabilities, with a focus on key positions and critical talent pools;

utilizing these capabilities to drive employee engagement through our training initiatives and leadership development programs and facilitate our cross-business segment and functional development assignments;

developing talent acquisition programs to address current and future critical talent needs to support our emerging markets and global growth;

capturing the intellectual capital in the current workforce, disseminating it throughout our company and sharing it with customers as a competitive advantage;

creating a total compensation program that provides our associates with equitable opportunities that are competitive and linked to business and individual performance while promoting employee behavior consistent with our code of business conduct and risk tolerance; and

building a diverse and globally inclusive organization with a strong ethical and compliance culture based on transparency and trust.

We continue to focus on training through the distribution of electronic learning packages in multiple languages for our Code of Business Conduct, workplace harassment, facility safety, anti-bribery, export compliance and other regulatory and compliance programs. We also drive our training and leadership development programs through the deployment of general management development, manager competencies and a series of multi-lingual programs that focus on enhancing people management skills.

### Sustainable Business Model

The sustainable business model initiative is focused on areas that have the potential of adversely affecting our reputation, limiting our financial flexibility or creating unnecessary risk for any of our stakeholders. We proactively administer an enterprise risk management program with regular reviews of high-level matters with our Board of Directors. We work with our capital sourcing partners to ensure that the terms of our credit facilities and long-term debt are appropriately aligned with our business strategy. We also train our associates on and monitor matters of a legal or ethical nature to support understanding and compliance on a global basis.

# Competition

Despite consolidation activities in past years, the markets for our products remain highly competitive, with primary competitive drivers being price, reputation, project management, timeliness of delivery, quality, proximity to service centers and technical expertise, as well as contractual terms and previous installation history. In the pursuit of large capital projects, competitive drivers and competition vary depending on the industry and products involved. Industries experiencing slow growth generally tend to have a competitive environment more heavily influenced by price due to supply outweighing demand, and price competition tends to be more significant for original equipment orders than aftermarket services. Considering the domestic and global economic environments in 2016 and current forecasts for 2017, pricing was and may continue to be a particularly influential competitive factor. The unique competitive environments in each of our three business segments are discussed in more detail under the "Business Segments" heading below.

In the aftermarket portion of our business, we compete against large, well-established national and global competitors and, in some markets, against regional and local companies. In the oil and gas and chemical industries, the primary competitors for aftermarket services tend to be customers' own in-house capabilities. In the nuclear power generation industry, we possess certain competitive advantages due to our "N Stamp" certification, which is a prerequisite to serve customers in that industry, as well as our considerable base of proprietary knowledge. Aftermarket competition for standardized products is aggressive due to the existence of common standards allowing for easier replacement or repair of the installed products.

In the sale of aftermarket products and services, we benefit from our large installed base of pumps, valves and seals, which continually require maintenance, repair and replacement parts due to the nature of the products and the conditions under which they operate. Timeliness of delivery, quality and the proximity of service centers are important customer considerations when selecting a provider for aftermarket products and services. In geographic regions where we are locally positioned to provide a quick response, customers have traditionally relied on us, rather than our competitors, for aftermarket products relating to our highly-engineered and customized products, although we are seeing increased competition in this area.

Generally, our customers attempt to reduce the number of vendors from which they purchase, thereby reducing the size and diversity of their supply chain. Although vendor reduction programs could adversely affect our business, we have been successful in establishing long-term supply agreements with a number of customers. While the majority of these agreements do not provide us with exclusive rights, they can provide us a "preferred" status with our customers and thereby increase opportunities to win future business. We also utilize our LifeCycle Advantage program to establish fee-based contracts to manage customers' aftermarket requirements. These programs provide an opportunity to manage the customer's installed base and expand the business relationship with the customer.

Our ability to use our portfolio of products, solutions and services to meet customer needs is a competitive strength. Our market approach is to create value for our customers throughout the life cycle of their investments in flow control management. We continue to explore and develop potential new offerings in conjunction with our customers. In the early phases of project design, we endeavor to create value in optimizing the selection of equipment for the customer's specific application, as we are capable of providing technical expertise on product and system capabilities even outside the scope of our specific products, solutions and services. After the equipment is constructed and delivered to

the customer's site, we continue to create value through our aftermarket capabilities by optimizing the performance of the equipment over its operational life. Our skilled service personnel can provide these aftermarket services for our products, as well as many competitors' products, within the installed base. This value is further enhanced by the global reach of our QRCs and, when combined with our other solutions for our customers' flow control management needs, allows us to create value for our customers during all phases of the capital and operating expenditure cycles.

### New Product Development

We spent \$42.8 million, \$45.9 million and \$40.9 million during 2016, 2015 and 2014, respectively, on company-sponsored R&D initiatives. Our R&D group consists of engineers involved in new product development and improvement of existing products. Additionally, we sponsor consortium programs for research with various universities and jointly conduct limited development work with certain vendors, licensees and customers. We believe our R&D expenditures are adequate to sustain our ongoing and necessary future product development. In addition, we work closely with our customers on customer-sponsored research activities to help execute their R&D initiatives in connection with our products and services. New product development in each of our three business segments is discussed in more detail under the "Business Segments" heading below.

#### Customers

We sell to a wide variety of customers globally including leading EPC firms, original equipment manufacturers, distributors and end users in several distinct industries: oil and gas, chemical, power generation, water management and general industries. We believe that we do not have sales to any individual customer that represent 10% or more of consolidated 2016 revenues. Customer information relating to each of our three business segments is discussed in more detail under the "Business Segments" heading below.

We are not normally required to carry unusually high amounts of inventory to meet customer delivery requirements, although higher backlog levels and longer lead times generally require higher amounts of inventory. We typically require advance cash payments from customers on longer lead time projects to help offset our investment in inventory. We have initiated programs targeted at improving our operational effectiveness to reduce our overall working capital needs. While we do provide cancellation policies through our contractual relationships, we generally do not provide rights of product return for our customers.

# Selling and Distribution

We primarily distribute our products through direct sales by employees assigned to specific regions, industries or products. In addition, we use distributors and sales representatives to supplement our direct sales force in countries where it is more appropriate due to business practices or customs, or whenever the use of direct sales staff is not economically efficient. We generate a majority of our sales leads through existing relationships with vendors, customers and prospects or through referrals.

# **Intellectual Property**

We own a number of trademarks and patents relating to the names and designs of our products. We consider our trademarks and patents to be valuable assets of our business. In addition, our pool of proprietary information, consisting of know-how and trade secrets related to the design, manufacture and operation of our products, is considered particularly valuable. Accordingly, we take proactive measures to protect such proprietary information. We generally own the rights to the products that we manufacture and sell and are unencumbered by licensing or franchise agreements. Our trademarks can typically be renewed indefinitely as long as they remain in use, whereas our existing patents generally expire 10 to 20 years from the dates they were filed, which has occurred at various times in the past. We do not believe that the expiration of any individual patent will have a material adverse impact on our business, financial condition or results of operations.

#### Raw Materials

The principal raw materials used in manufacturing our products are readily available and include ferrous and non-ferrous metals in the form of bar stock, machined castings, fasteners, forgings and motors, as well as silicon, carbon faces, gaskets and fluoropolymer components. A substantial volume of our raw materials is purchased from outside sources, and we have been able to develop a robust supply chain and anticipate no significant shortages of such materials in the future. We continually monitor the business conditions of our suppliers to manage competitive market conditions and to avoid potential supply disruptions. We continue to expand global sourcing to capitalize on localization in emerging markets and low-cost sources of purchased goods balanced with efficient consolidated and compliant logistics.

Metal castings used in the manufacture of our pump, valve, and mechanical seals are purchased from qualified and approved foundry sources. We remain vertically integrated with metal castings in certain strategic product families.

Concerning the products we supply to customers in the nuclear power generation industry, suppliers of raw materials for nuclear power generation markets must be qualified to meet the requirements of nuclear industry standards and governmental regulations. Supply channels for these materials are currently adequate, and we do not anticipate difficulty in obtaining such materials in the future.

# **Employees and Labor Relations**

We have approximately 18,000 employees globally as of December 31, 2016. In the United States ("U.S."), a portion of the hourly employees at our pump manufacturing plant located in Vernon, California, our valve manufacturing plant located in Lynchburg, Virginia and our foundry located in Dayton, Ohio, are represented by unions. Additionally, some employees at select facilities in the following countries are unionized or have employee works councils: Argentina, Australia, Austria, Brazil, Finland, France, Germany, India, Italy, Mexico, The Netherlands, Spain, South Africa, Sweden, Thailand and the United Kingdom ("U.K."). We believe relations with our employees throughout our operations are generally satisfactory, including those employees represented by unions and employee works councils. No unionized facility accounted for more than 10% of our consolidated 2016 revenues. Environmental Regulations and Proceedings

We are subject to environmental laws and regulations in all jurisdictions in which we have operating facilities. These requirements primarily relate to the generation and disposal of waste, air emissions and waste water discharges. We periodically make capital expenditures to enhance our compliance with environmental requirements, as well as to abate and control pollution. At present, we have no plans for any material capital expenditures for environmental control equipment at any of our facilities. However, we have incurred and continue to incur operating costs relating to ongoing environmental compliance matters. Based on existing and proposed environmental requirements and our anticipated production schedule, we believe that future environmental compliance expenditures will not have a

We use hazardous substances and generate hazardous wastes in many of our manufacturing and foundry operations. Most of our current and former properties are or have been used for industrial purposes and some may require clean-up of historical contamination. During the due diligence phase of our acquisitions, we conduct environmental site assessments to identify potential environmental liabilities and required clean-up measures. We are currently conducting follow-up investigation and/or remediation activities at those locations where we have known environmental concerns. We have cleaned up a majority of the sites with known historical contamination and are addressing the remaining identified issues.

material adverse effect on our financial condition, results of operations or cash flows.

Over the years, we have been involved as one of many potentially responsible parties ("PRP") at former public waste disposal sites that are or were subject to investigation and remediation. We are currently involved as a PRP at five Superfund sites. The sites are in various stages of evaluation by government authorities. Our total projected "fair share" cost allocation at these five sites is expected to be immaterial. See "Item 3. Legal Proceedings" included in this Annual Report for more information.

We have established reserves that we currently believe to be adequate to cover our currently identified on-site and off-site environmental liabilities.

#### **Exports**

Our export sales from the U.S. to foreign unaffiliated customers were \$259.1 million in 2016, \$295.6 million in 2015 and \$338.5 million in 2014.

Licenses are required from U.S. and other government agencies to export certain products. In particular, products with nuclear power generation and/or military applications are restricted, as are certain other pump, valve and seal products.

#### **BUSINESS SEGMENTS**

In addition to the business segment information presented below, Note 16 to our consolidated financial statements in Item 8 of this Annual Report contains additional financial information about our business segments and geographic areas in which we have conducted business in 2016, 2015 and 2014.

#### ENGINEERED PRODUCT DIVISION

Our largest business segment is EPD, through which we design, manufacture, distribute and service custom and other highly-engineered pumps and pump systems, mechanical seals, auxiliary systems, replacement parts and related services. EPD includes longer lead time, highly-engineered pump products, and shorter cycle engineered pumps and mechanical seals that are generally manufactured within shorter lead times. EPD also manufactures replacement parts and related equipment and provides a full array of replacement parts, repair and support services (collectively referred to as "aftermarket"). EPD products and services are primarily used by companies that operate in the oil and gas, power generation, chemical, water management and general industries. We market our pump and mechanical seal products through our global sales force and our regional ORCs and service and repair centers or through independent distributors and sales representatives. A portion of our mechanical seal products are sold directly to original equipment manufacturers for incorporation into rotating equipment requiring mechanical seals.

Our pump products are manufactured in a wide range of metal alloys and with a variety of configurations to meet the critical operating demands of our customers. Mechanical seals are critical to the reliable operation of rotating equipment in that they prevent leakage and emissions of hazardous substances from the rotating equipment and reduce shaft wear on the equipment caused by the use of non-mechanical seals. We also manufacture a gas-lubricated mechanical seal that is used in high-speed compressors for gas pipelines and in the oil and gas production and process markets. Our products are currently manufactured at 32 plants worldwide, 10 of which are located in Europe, 10 in North America, seven in Asia Pacific and five in Latin America.

We also conduct business through strategic foreign joint ventures. We have six unconsolidated joint ventures that are located in China, India, Japan, Saudi Arabia, South Korea and the United Arab Emirates, where a portion of our products are manufactured, assembled or serviced in these territories. These relationships provide numerous strategic opportunities, including increased access to our current and new markets, access to additional manufacturing capacity and expansion of our operational platform to support low-cost sourcing initiatives and capacity demands for other markets.

#### **EPD Products**

We manufacture more than 40 different active types of pumps and approximately 185 different models of mechanical seals and sealing systems. The following is a summary list of our EPD products and globally recognized brands: **EPD Product Types** 

Between Bearings Pumps

Overhung **Pumps** 

API

• Single Case — Axially Split

**Process** 

- Single Case Radially Split
- · Double Case

Positive Displacement Pumps Mechanical Seals and Seal Support Systems

Multiphase

· Gas Barrier Seals

• Screw

• Dry-Running Seals

**Specialty Products** 

- Nuclear Pumps
- Power Recovery DWEER
- Nuclear Seals
- Power Recovery Hydroturbine
- Cryogenic Pumps
- Energy Recovery Devices
- CVP Concrete Volute Pumps Hydraulic Decoking Systems
- Wireless Transmitters
- API Slurry Pumps

#### **EPD Brand Names**

• BW Seals

• Byron Jackson

• Calder Energy Recovery Devices • ORCTM

Cameron

• Durametallic

• FEDD Wireless

• Five Star Seal

Flowserve

GASPACTM

IDP

Interseal

• Lawrence

LifeCycle Advantage

• Niigata Worthington

Pacific

· Pacific Weitz

Pac-Seal

ReadySeal

· United Centrifugal

• Western Land Roller

· Wilson-Snyder

• Worthington

• Worthington-Simpson

#### **EPD Services**

We provide engineered aftermarket services through our global network of 123 QRCs, some of which are co-located in manufacturing facilities, in 47 countries. Our EPD service personnel provide a comprehensive set of equipment services for flow management control systems, including installation, commissioning, repair, advanced diagnostics, re-rate and retrofit programs, machining and comprehensive asset management solutions. We provide asset management services and condition monitoring for rotating equipment through special contracts with many of our customers that reduce maintenance costs. A large portion of EPD's service work is performed on a quick response basis, and we offer 24-hour service in all of our major markets.

### **EPD New Product Development**

Our investments in new product R&D continue to focus on increasing the capability of our products as customer applications become more advanced, demanding greater levels of production (i.e., flow, power and pressure) and under more extreme conditions beyond the level of traditional technology. We continue to develop innovations that improve product performance and our competitive position in the engineered equipment industry, specifically targeting pipeline, offshore and downstream applications for the oil and gas market. The emergence of extreme pressure applications prompted the development of an advanced stage design and construction of high pressure test capability necessary to validate the technology prior to introduction into the market.

As new sources of energy generation are explored, we continue to develop new product designs to support the most critical applications in the power generation market. New designs and qualification test programs continue to support the critical services found in the modern nuclear power generation plant. Continued engagement with our end users is exemplified through completion of advancements in coke cutting technology, nozzle design and auxiliary equipment improvements, as well as creation of an automated cutting system to improve operator safety.

We continue to address our core products with design enhancements to improve performance and the speed at which we can deliver our products. Application of advanced computational fluid dynamics methods utilizing unsteady flow analysis led to the development of an advanced inlet chamber and impeller vane design for high energy injection water pumps. Our engineering teams continue to apply and develop sophisticated design technology and methods supporting continuous improvement of our proven technology. Additionally, we are incentivizing our operations and tracking the R&D projects more closely, which is leading to broader engagement in developing new products. In 2016, EPD continued to advance our Insight platform (formerly known as Technology Advantage) through the Integrated Solutions Organization ("ISO"). This platform utilizes a combination of our developed technologies and leading edge technology partners to increase our asset management and service capabilities for our end-user customers. These technologies include intelligent devices, advanced communication and security protocols, wireless and satellite communications and web-enabled data convergence. Additionally, we have been exploring the "additive manufacturing" opportunities in our products and auxiliary systems.

None of these newly developed products or services required the investment of a material amount of our assets or was otherwise material to our business.

#### **EPD Customers**

Our customer mix is diversified and includes leading EPC firms, original equipment manufacturers, distributors and end users. Our sales mix of original equipment products and aftermarket products and services diversifies our business and helps mitigate the impact of normal economic cycles on our business. Our sales are diversified among several industries, including oil and gas, power generation, chemical, water management and general industries. EPD Competition

The pump and mechanical seal industry is highly fragmented, with hundreds of competitors. We compete, however, primarily with a limited number of large companies operating on a global scale. Competition among our closest competitors is generally driven by delivery times, expertise, price, breadth of product offerings, contractual terms, previous installation history and reputation for quality. Some of our largest industry competitors include: Sulzer Pumps; Ebara Corp.; SPX FLOW, Inc.; Eagle Burgmann, which is a joint venture of two traditional global seal manufacturers, A. W. Chesterton Co. and AES Corp.; John Crane Inc., a unit of Smiths Group Plc; and Weir Group Plc.

The pump and mechanical seal industry continues to undergo considerable consolidation, which is primarily driven by (i) the need to lower costs through reduction of excess capacity and (ii) customers' preference to align with global full service suppliers to simplify their supplier base. Despite the consolidation activity, the market remains highly competitive.

We believe that our strongest sources of competitive advantage rest with our extensive range of pumps for the oil and gas, chemical and power generation industries, our large installed base of products, our strong customer relationships, our more than 200 years of legacy experience in manufacturing and servicing pumping equipment, our reputation for providing quality engineering solutions and our ability to deliver engineered new seal product orders within 72 hours from the customer's request.

# **EPD Backlog**

EPD's backlog of orders as of December 31, 2016 was \$968.8 million (including \$11.7 million of interdivision backlog, which is eliminated and not included in consolidated backlog), compared with \$1,160.5 million (including \$10.5 million of interdivision backlog) as of December 31, 2015 . We expect to ship approximately 87% of December 31, 2016 backlog during 2017 .

# INDUSTRIAL PRODUCT DIVISION

Through IPD we design, manufacture, distribute and service pre-configured engineered pumps and pump systems, including submersible motors, for industrial markets. Our globalized operating platform, low-cost sourcing and continuous improvement initiatives are essential aspects of this business. IPD's standardized, general purpose pump products are primarily utilized by the oil and gas, chemical, water management, power generation and general industries. Our products are currently manufactured in 20 manufacturing facilities, five of which are located in the U.S and 10 in Europe, four in Asia, one in Latin America. IPD operates 32 QRCs worldwide, including 20 sites in Europe, six in the U.S., three in Asia Pacific and three in Latin America.

# **IPD Products**

We manufacture approximately 40 different active types of pumps, which are available in a wide range of metal alloys and non-metallics with a variety of configurations to meet the critical operating demands of our customers. The following is a summary list of our IPD products and globally recognized brands:

### IPD Pump Product Types

#### Overhung

#### Between Bearings

- Chemical Process ASME and ISO Side Channel Multistage
- Slurry and Solids Handling
- Segmental Channel Multistage
- Single Case Axially Split
- Single Case Radially Split

#### **Specialty Products**

Industrial Process

- Vertical
- Ag Chem
- Wet Pit and Suction Case API • Molten Salt VTP Pump • Deep Well Submersible Motor
- Submersible Pump
- Slurry and Solids Handling
- Thruster
- Sump
- Geothermal Deepwell
- Vacuum Systems
- Barge Pump
- Sewage Submersible
- Vacuum Systems
- Liquid Ring

### Positive Displacement

• LR Systems

Sier Bath

Worthington

Western Land Roller

• Worthington-Simpson

- Gear
- Dry Systems

SIHI

• TKL

#### **IPD Brand Names**

- Aldrich
- Durco
- Halberg
- IDP
- Innomag
- Labour
- Meregalli
- Pacific
- Pleuger & Byron Jackson
- Scienco

# **IPD Services**

We market our pump products through our worldwide sales force and our regional service and repair centers or through independent distributors and sales representatives. We provide an array of aftermarket services including product installation and commissioning services, spare parts, repairs, re-rate and upgrade solutions, advanced diagnostics and maintenance solutions through our global network of QRCs.

# IPD New Product Development

Our IPD development projects target product feature enhancements, design improvements and sourcing opportunities that we believe will improve the competitive position of our industrial pump product lines. We will invest in our chemical product platform to expand and enhance our products offered to the global chemical industry. We continue to address our core products with design enhancements to improve performance and the speed at which we can deliver our products. Successful new product release of permanent magnet motor technology in our submersible motor products demonstrated improved product efficiency. We will further our energy efficiency initiatives in response to various global governmental directives. Cost reduction projects incorporating product rationalization, value engineering, lean manufacturing and overhead reduction continue to be key drivers for IPD. None of these newly developed products or services required the investment of a material amount of our assets or was otherwise material.

#### **IPD Customers**

Our customer mix is diversified and includes leading EPC firms, original equipment manufacturers, distributors and end users. Our sales mix of original equipment products and aftermarket products and services diversifies our business and helps mitigate the impact of normal economic cycles on our business. Our sales are diversified among several industries, including oil and gas, chemical, water management, power generation and general industries. IPD Competition

The industrial pump industry is highly fragmented, with many competitors. We compete, however, primarily with a limited number of large companies operating on a global scale. Competition among our closest competitors is generally driven by delivery times, expertise, price, breadth of product offerings, contractual terms, previous installation history and reputation for quality. Some of our largest industry competitors include ITT Industries, KSB Inc. and Sulzer Pumps.

We believe that our strongest sources of competitive advantage rest with our extensive range of pumps for the chemical industry, our large installed base, our strong customer relationships, our more than 200 years of legacy experience in manufacturing and servicing pumping equipment and our reputation for providing quality engineering solutions.

# IPD Backlog

IPD's backlog of orders as of December 31, 2016 was \$375.6 million (including \$14.2 million of interdivision backlog, which is eliminated and not included in consolidated backlog), compared with \$424.6 million (including \$15.7 million of interdivision backlog) as of December 31, 2015 . We expect to ship approximately 90% of December 31, 2016 backlog during 2017 .

#### FLOW CONTROL DIVISION

FCD designs, manufactures, distributes and services a broad portfolio of industrial valve and automation solutions, including isolation and control valves, actuation, controls and related equipment. In addition, FCD offers energy management products such as steam traps, boiler controls and condensate and energy recovery systems. FCD leverages its experience and application know-how by offering a complete menu of engineering and project management services to complement its expansive product portfolio. FCD products are used to control, direct and manage the flow of liquids and gases and are an integral part of any flow control system. Our valve products are most often customized and engineered to perform specific functions within each customer's unique flow control environment.

Our flow control products are primarily used by companies operating in the chemical, power generation, oil and gas, water management and general industries. Our products are currently manufactured in 26 principal manufacturing facilities, five of which are located in the U.S., 13 located in Europe, seven located in Asia Pacific and one located in Latin America. FCD operates 32 QRCs worldwide, including 11 sites in Europe, 11 in the U.S., nine in Asia Pacific and one in Latin America.

#### **FCD Products**

Our valve, automation and controls product and solutions portfolio represents one of the most comprehensive in the flow control industry. Our products are used in a wide variety of applications, from general service to the most severe and demanding services, including those involving high levels of corrosion, extreme temperatures and/or pressures, zero fugitive emissions and emergency shutdown.

Our "smart" valve and diagnostic technologies integrate sensors, microprocessor controls and software into high performance integrated control valves, digital positioners and switchboxes for automated on/off valve assemblies and electric actuators. These technologies permit real-time system analysis, system warnings and remote indication of asset health. These technologies have been developed in response to the growing demand for reduced maintenance, improved process control efficiency and digital communications at the plant level. We are committed to further enhancing the quality of our product portfolio by continuing to upgrade our existing offerings with cutting-edge technologies.

Our valve automation products encompass a broad range of pneumatic, electric, hydraulic and stored energy actuation designs to take advantage of whatever power source the customer has available. FCD's actuation products can utilize the process fluid flowing through the pipeline as a source of power to actuate the valve. Our actuation products also cover one of the widest ranges of output torques in the industry, providing the ability to automate anything from the smallest linear globe valve to the largest multi-turn gate valve. Most importantly, FCD combines best-in-class mechanical designs with the latest in digital controls in order to provide complete integrated automation solutions that optimize the combined valve-actuator-controls package.

The following is a summary list of our generally available valve and automation products and globally recognized brands:

### FCD Product Types

- Valve Automation Systems
- Control Valves
- Ball Valves
- Gate Valves
- Globe Valves
- · Check Valves
- Butterfly Valves
- Lined Plug Valves
- Lined Ball Valves
- Lubricated Plug Valves
- Integrated Valve Controllers Boiler Controls
- Diagnostic Software

- Digital Positioners
- Pneumatic Positioners
- Intelligent Positioners
- Electric/Electronic Actuators
- · Pneumatic Actuators
- Hydraulic Actuators
- Diaphragm Actuators
- Direct Gas and Gas-over-Oil Actuators
- Limit Switches
- Steam Traps
- Non-Lubricated Plug Valves Condensate and Energy Recovery Systems

  - Digital Communications
- Electro Pneumatic Positioners Valve and Automation Repair Services

#### FCD Brand Names

- Accord NAF
- Anchor/Darling • Noble Alloy
- Argus Norbro
- Nordstrom Atomac
- Automax • PMV
- · Serck Audco Durco
- Edward • Schmidt Armaturen
- Flowserve Valbart Gestra Valtek
- Kammer • Vogt
- Limitorque • Worcester Controls
- McCANNA/MARPAC

#### **FCD Services**

Our service personnel provide comprehensive equipment maintenance services for flow control systems, including advanced diagnostics, repair, installation, commissioning, retrofit programs and field machining capabilities. A large portion of our service work is performed on a quick response basis, which includes 24-hour service in all of our major markets. We also provide in-house repair and return manufacturing services worldwide through our manufacturing facilities. We believe our ability to offer comprehensive, quick turnaround services provides us with a unique competitive advantage and unparalleled access to our customers' installed base of flow control products.

### FCD New Product Development

Our R&D investment is focused on areas that will advance our technological leadership and further differentiate our competitive advantage from a product perspective. Investment has been focused on significantly enhancing the digital integration and interoperability of valve top works (e.g., positioners, actuators, limit switches and associated accessories) with Distributed Control Systems ("DCS"). We continue to pursue the development and deployment of next-generation hardware and software for valve diagnostics and the integration of the resulting device intelligence through the DCS to provide a practical and effective asset management capability for the end user. In addition to developing these new capabilities and value-added services, our investments also include product portfolio expansion and fundamental research in material sciences in order to increase the temperature, pressure and corrosion/erosion-resistance limits of existing products, as well as noise and cavitation reduction. These investments are made by adding new resources and talent to the organization, as well as leveraging the experience of EPD and IPD and increasing our collaboration with third parties. We expect to continue our R&D investments in the areas discussed above.

None of these newly developed valve products or services required the investment of a material amount of our assets or was otherwise material.

#### **FCD Customers**

Our customer mix spans several markets, including the chemical, power generation, oil and gas, water management, pulp and paper, mining and other general industries. Our product mix includes original equipment and aftermarket parts and services. FCD contracts with a variety of customers, ranging from EPC firms, to distributors, end users and other original equipment manufacturers.

### **FCD** Competition

While in recent years the valve market has undergone a significant amount of consolidation, the market remains highly fragmented. Some of the largest valve industry competitors include Pentair Ltd., Cameron International Corp. (a Schlumberger company), Emerson Electric Co., General Electric Co. and Crane Co.

Our market research and assessments indicate that the top 10 global valve manufacturers collectively comprise less than 25% of the total valve market. Based on independent industry sources, we believe that we are the fourth largest industrial valve supplier in the world. We believe that our strongest sources of competitive advantage rest with our comprehensive portfolio of valve products and services, our focus on execution and our expertise in severe corrosion and erosion applications.

### FCD Backlog

FCD's backlog of orders as of December 31, 2016 was \$584.5 million, compared with \$622.0 million as of December 31, 2015. We expect to ship approximately 87% of December 31, 2016 backlog during 2017.

### **AVAILABLE INFORMATION**

We maintain an Internet web site at www.flowserve.com. Our Annual Reports on Form 10-K, Quarterly Reports on Form 10-Q, Current Reports on Form 8-K and any amendments to those reports filed or furnished pursuant to Section 13(a) of the Securities Exchange Act of 1934 are made available free of charge through the "Investor Relations" section of our Internet web site as soon as reasonably practicable after we electronically file the reports with, or furnish the reports to, the U.S. Securities and Exchange Commission ("SEC").

Also available on our Internet web site are our Corporate Governance Guidelines for our Board of Directors and Code of Ethics and Business Conduct, as well as the charters of the Audit, Finance, Organization and Compensation and Corporate Governance and Nominating Committees of our Board of Directors and other important governance documents. All of the foregoing documents may be obtained through our Internet web site as noted above and are available in print without charge to shareholders who request them. Information contained on or available through our Internet web site is not incorporated into this Annual Report or any other document we file with, or furnish to, the SEC.

#### ITEM 1A. RISK FACTORS

Any of the events discussed as risk factors below may occur. If they do, our business, financial condition, results of operations and cash flows could be materially adversely affected. While we believe all known material risks are disclosed, additional risks and uncertainties not presently known to us, or that we currently deem immaterial, may also impair our business operations. Because of these risk factors, as well as other variables affecting our operating results, past financial performance may not be a reliable indicator of future performance, and historical trends should not be used to anticipate results or trends in future periods.

Our business depends on the levels of capital investment and maintenance expenditures by our customers, which in turn are affected by numerous factors, including the state of domestic and global economies, global energy demand, the cyclical nature of their markets, their liquidity and the condition of global credit and capital markets. Demand for most of our products and services depends on the level of new capital investment and planned maintenance expenditures by our customers. The level of capital expenditures by our customers depends, in turn, on general economic conditions, availability of credit, economic conditions within their respective industries and expectations of future market behavior. Additionally, volatility in commodity prices can negatively affect the level of these activities and can result in postponement of capital spending decisions or the delay or cancellation of existing orders. The ability of our customers to finance capital investment and maintenance may also be affected by factors independent of the conditions in their industry, such as the condition of global credit and capital markets. The businesses of many of our customers, particularly oil and gas companies, chemical companies and general industrial companies, are to varying degrees cyclical and have experienced periodic downturns. Our customers in these industries, particularly those whose demand for our products and services is primarily profit-driven, historically have tended to delay large capital projects, including expensive maintenance and upgrades, during economic downturns. For example, our chemical customers generally tend to reduce their spending on capital investments and operate their facilities at lower levels in a soft economic environment, which reduces demand for our products and services. Additionally, fluctuating energy demand forecasts and lingering uncertainty concerning commodity pricing, specifically the price of oil, can cause our customers to be more conservative in their capital planning, which may reduce demand for our products and services. Reduced demand for our products and services could result in the delay or cancellation of existing orders or lead to excess manufacturing capacity, which unfavorably impacts our absorption of fixed manufacturing costs. This reduced demand may also erode average selling prices in our industry. Any of these results could adversely affect our business, financial condition, results of operations and cash flows. Additionally, some of our customers may delay capital investment and maintenance even during favorable conditions in their industries or markets. Despite these favorable conditions, the general health of global credit and capital markets and our customers' ability to access such markets may impact investments in large capital projects, including necessary maintenance and upgrades. In addition, the liquidity and financial position of our customers could impact capital investment decisions and their ability to pay in full and/or on a timely basis. Any of these factors, whether individually or in the aggregate, could have a material adverse effect on our customers and, in turn, our business, financial condition, results of operations and cash flows.

Volatility in commodity prices, effects from credit and capital market conditions and global economic growth forecasts could prompt customers to delay or cancel existing orders, which could adversely affect the viability of our backlog and could impede our ability to realize revenues on our backlog.

Our backlog represents the value of uncompleted customer orders. While we cannot be certain that reported backlog will be indicative of future results, our ability to accurately value our backlog can be adversely affected by numerous factors, including the health of our customers' businesses and their access to capital, volatility in commodity prices (e.g., copper, nickel, stainless steel) and economic uncertainty. While we attempt to mitigate the financial consequences of order delays and cancellations through contractual provisions and other means, if we were to experience a significant increase in order delays or cancellations that can result from the aforementioned economic conditions or other factors beyond our control, it could impede or delay our ability to realize anticipated revenues on our backlog. Such a loss of anticipated revenues could have a material adverse effect on our business, financial condition, results of operations and cash flows.

We may be unable to deliver our backlog on time, which could affect our revenues, future sales and profitability and our relationships with customers.

At December 31, 2016, backlog was \$1.9 billion. In 2017, our ability to meet customer delivery schedules for backlog is dependent on a number of factors including, but not limited to, sufficient manufacturing plant capacity, adequate supply channel access to the raw materials and other inventory required for production, an adequately trained and capable workforce, project engineering expertise for certain large projects and appropriate planning and scheduling of manufacturing resources. Many of the contracts we enter into with our customers require long manufacturing lead times and contain penalty clauses related to on-time delivery. Failure to deliver in accordance with customer expectations could subject us to financial penalties, may result in damage to existing customer relationships and could have a material adverse effect on our business, financial condition, results of operations and cash flows. We sell our products in highly competitive markets, which results in pressure on our profit margins and limits our

ability to maintain or increase the market share of our products.

The markets for our products and services are geographically diverse and highly competitive. We compete against large and well-established national and global companies, as well as regional and local companies, low-cost replicators of spare parts and in-house maintenance departments of our end-user customers. We compete based on price, technical expertise, timeliness of delivery, contractual terms, previous installation history and reputation for quality and reliability. Competitive environments in slow-growth industries and for original equipment orders have been inherently more influenced by pricing and domestic and global economic conditions and current economic forecasts suggest that the competitive influence of pricing has broadened. Additionally, some of our customers have been attempting to reduce the number of vendors from which they purchase in order to reduce the size and diversity of their supply chain. To remain competitive, we must invest in manufacturing, marketing, customer service and support and our distribution networks. No assurances can be made that we will have sufficient resources to continue to make the investment required to maintain or increase our market share or that our investments will be successful. If we do not compete successfully, our business, financial condition, results of operations and cash flows could be materially adversely affected.

If we are unable to obtain raw materials at favorable prices, our operating margins and results of operations may be adversely affected.

We purchase substantially all electric power and other raw materials we use in the manufacturing of our products from outside sources. The costs of these raw materials have been volatile historically and are influenced by factors that are outside our control. In recent years, the prices for energy, metal alloys, nickel and certain other of our raw materials have been volatile. While we strive to offset our increased costs through supply chain management, contractual provisions and our CIP initiative, where gains are achieved in operational efficiencies, our operating margins and results of operations and cash flows may be adversely affected if we are unable to pass increases in the costs of our raw materials on to our customers or operational efficiencies are not achieved.

Economic, political and other risks associated with international operations could adversely affect our business. A substantial portion of our operations is conducted and located outside the U.S. We have manufacturing, sales or service facilities in more than 50 countries and sell to customers in over 90 countries, in addition to the U.S. Moreover, we primarily outsource certain of our manufacturing and engineering functions to, and source our raw materials and components from, China, Eastern Europe, India and Latin America. Accordingly, our business and results of operations are subject to risks associated with doing business internationally, including: instability in a specific country's or region's political or economic conditions, particularly economic conditions in

- Europe, and political conditions in Russia, the Middle East, North Africa, Latin America and other emerging markets;
- •trade protection measures, such as tariff increases, and import and export licensing and control requirements;
- •political or economic instability relating to the recent Brexit referendum in the United Kingdom;
- uncertainties related to any geopolitical, economic and regulatory effects or changes due to the 2016 U.S. presidential election;
- •potentially negative consequences from changes in tax laws or tax examinations;
- •difficulty in staffing and managing widespread operations;

- •increased aging and slower collection of receivables, particularly in Latin America and other emerging markets;
- •difficulty of enforcing agreements and collecting receivables through some foreign legal systems;
- •differing and, in some cases, more stringent labor regulations;
- •potentially negative consequences from fluctuations in foreign currency exchange rates;
- •partial or total expropriation;
- •differing protection of intellectual property;
- •inability to repatriate income or capital; and

difficulty in administering and enforcing corporate policies, which may be different than the customary business practices of local cultures.

For example, political unrest or work stoppages could negatively impact the demand for our products from customers in affected countries and other customers, such as U.S. oil refineries, that could be affected by the resulting disruption in the supply of crude oil. Similarly, military conflicts in Russia, the Middle East and North Africa could soften the level of capital investment and demand for our products and services.

Some of the risks outlined above are particularly prevalent in Venezuela. The operating environment in Venezuela is challenging, with high inflation, increased risk of political and economic instability and increased government restrictions. As a result of these factors, we have experienced delays in payments from the national oil company in Venezuela, our primary Venezuelan customer, though these amounts are not disputed. Due to certain actions of this customer and the diminished activity of business and payments in 2016, we have estimated that our ability to fully collect the accounts receivable from our primary Venezuelan customer has become less than probable and we recorded a charge to selling, general and administrative expense ("SG&A") to fully reserve for those potential uncollectible accounts receivable and a charge to cost of sales ("COS")to reserve for related net inventory exposures. For additional information, see the discussion in Item 7 of this Annual Report and under Note 1 to our consolidated financial statements included in Item 8 of this Annual Report. Going forward, additional government actions, political and labor unrest, or other economic headwinds, including the Venezuelan government's inability to fulfill its fiscal obligations, could have further adverse impacts on our ability to fully collect our receivable and our business in Venezuela.

In order to manage our day-to-day operations, we must overcome cultural and language barriers and assimilate different business practices. In addition, we are required to create compensation programs, employment policies and other administrative programs that comply with laws of multiple countries. We also must communicate and monitor standards and directives across our global network. Our failure to successfully manage our geographically diverse operations could impair our ability to react quickly to changing business and market conditions and to enforce compliance with standards and procedures.

Our future success will depend, in large part, on our ability to anticipate and effectively manage these and other risks associated with our international operations. Any of these factors could, however, materially adversely affect our international operations and, consequently, our financial condition, results of operations and cash flows. Our international operations and foreign subsidiaries are subject to a variety of complex and continually changing laws and regulations.

Due to the international scope of our operations, the system of laws and regulations to which we are subject is complex and includes, without limitation, regulations issued by the U.S. Customs and Border Protection, the U.S. Department of Commerce's Bureau of Industry and Security, the U.S. Treasury Department's Office of Foreign Assets Control and various foreign governmental agencies, including applicable export controls, customs, currency exchange control and transfer pricing regulations, as applicable. No assurances can be made that we will continue to be found to be operating in compliance with, or be able to detect violations of, any such laws or regulations. In addition, we cannot predict the nature, scope or effect of future regulatory requirements to which our international operations might be subject or the manner in which existing laws might be administered or interpreted. There may be uncertainty as to the position the U.S. will take with respect to world affairs and events following the 2016 U.S. presidential election and related change in the U.S. political agenda, coupled with the transition of administrations. This uncertainty may relate to such issues as the new administration's support or plans for new or existing treaty and trade relationships with other countries, such as the January 2017 U.S. withdrawal from the Trans-Pacific Partnership, which may affect restrictions or tariffs imposed on products we buy or sell. This

uncertainty, together with other key global events during

2016 (such as the continuing uncertainty arising from the Brexit referendum in the U.K. as well as ongoing terrorist activity), may adversely impact the ability or willingness of non-U.S. companies to transact business in the U.S. This uncertainty may also affect regulations and trade agreements affecting U.S. companies, global stock markets (including the NYSE, on which our common shares are traded), currency exchange rates, and general global economic conditions. All of these factors are outside of our control, but may nonetheless cause us to adjust our strategy in order to compete effectively in global markets.

Our international operations expose us to fluctuations in foreign currency exchange rates.

A significant portion of our revenue and certain of our costs, assets and liabilities, are denominated in currencies other than the U.S. dollar. The primary currencies to which we have exposure are the Euro, British pound, Mexican peso, Brazilian real, Indian rupee, Japanese yen, Singapore dollar, Argentine peso, Canadian dollar, Australian dollar, Chinese yuan, Colombian peso, Chilean peso and South African rand. Certain of the foreign currencies to which we have exposure, such as the Venezuelan bolivar and Argentine peso, have undergone significant devaluation in the past, which can reduce the value of our local monetary assets, reduce the U.S. dollar value of our local cash flow, generate local currency losses that may impact our ability to pay future dividends from our subsidiary to the parent company and potentially reduce the U.S. dollar value of future local net income. Although we enter into forward exchange contracts to economically hedge some of our risks associated with transactions denominated in certain foreign currencies, no assurances can be made that exchange rate fluctuations will not adversely affect our financial condition, results of operations and cash flows.

We could be adversely affected by violations of the U.S. Foreign Corrupt Practices Act and similar worldwide anti-bribery laws and regulations.

The U.S. Foreign Corrupt Practices Act ("FCPA") and similar anti-bribery laws and regulations in other jurisdictions, such as the UK Bribery Act, generally prohibit companies and their intermediaries from making improper payments to government officials for the purpose of obtaining or retaining business or securing an improper advantage. Because we operate in many parts of the world and sell to industries that have experienced corruption to some degree, our policies mandate compliance with applicable anti-bribery laws worldwide. If we are found to be in violation of the FCPA or other similar anti-bribery laws or regulations, whether due to our or others' actions or inadvertence, we could be subject to civil and criminal penalties or other sanctions that could have a material adverse impact on our business, financial condition, results of operations and cash flows. In addition, actual or alleged violations could damage our reputation or ability to do business.

Terrorist acts, conflicts and wars may materially adversely affect our business, financial condition and results of operations and may adversely affect the market for our common stock.

As a global company with a large international footprint, we are subject to increased risk of damage or disruption to us, our employees, facilities, partners, suppliers, distributors, resellers or customers due to terrorist acts, conflicts and wars, wherever located around the world. The potential for future attacks, the national and international responses to attacks or perceived threats to national security, and other actual or potential conflicts or wars, such as the Israeli-Hamas conflict and ongoing instability in Syria and Egypt, have created many economic and political uncertainties. In addition, as a global company with headquarters and significant operations located in the U.S., actions against or by the U.S. may impact our business or employees. Although it is impossible to predict the occurrences or consequences of any such events, they could result in a decrease in demand for our products, make it difficult or impossible to deliver products to our customers or to receive components from our suppliers, create delays and inefficiencies in our supply chain and pose risks to our employees, resulting in the need to impose travel restrictions, any of which could adversely affect our business, financial condition, results of operations and cash flows.

Environmental compliance costs and liabilities could adversely affect our financial condition, results of operations and cash flows.

Our operations and properties are subject to regulation under environmental laws, which can impose substantial sanctions for violations. We must conform our operations to applicable regulatory requirements and adapt to changes in such requirements in all countries in which we operate.

We use hazardous substances and generate hazardous wastes in many of our manufacturing and foundry operations. Most of our current and former properties are or have been used for industrial purposes, and some may require

clean-up of historical contamination. We are currently conducting investigation and/or remediation activities at a number of locations where we have known environmental concerns. In addition, we have been identified as one of many PRPs at five Superfund sites. The projected cost of remediation at these sites, as well as our alleged "fair share" allocation, while not anticipated to

be material, has been reserved. However, until all studies have been completed and the parties have either negotiated an amicable resolution or the matter has been judicially resolved, some degree of uncertainty remains.

We have incurred, and expect to continue to incur, operating and capital costs to comply with environmental requirements. In addition, new laws and regulations, stricter enforcement of existing requirements, the discovery of previously unknown contamination or the imposition of new clean-up requirements could require us to incur costs or become the basis for new or increased liabilities. Moreover, environmental and sustainability initiatives, practices, rules and regulations are under increasing scrutiny of both governmental and non-governmental bodies, which can cause rapid change in operational practices, standards and expectations and, in turn, increase our compliance costs. Any of these factors could have a material adverse effect on our financial condition, results of operations and cash flows.

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

We are a defendant in a substantial number of lawsuits that seek to recover damages for personal injury allegedly resulting from exposure to asbestos-containing products formerly manufactured and/or distributed by us. Such products were used as internal components of process equipment, and we do not believe that there was any significant emission of asbestos-containing fibers during the use of this equipment. Although we are defending these allegations vigorously and believe that a high percentage of these lawsuits are covered by insurance or indemnities from other companies, there can be no assurance that we will prevail or that coverage or payments made by insurance or such other companies would be adequate. Unfavorable rulings, judgments or settlement terms could have a material adverse impact on our business, financial condition, results of operations and cash flows.

Our business may be adversely impacted by work stoppages and other labor matters.

As of December 31, 2016, we had approximately 18,000 employees, of which approximately 5,000 were located in the U.S. Approximately 5% of our U.S. employees are represented by unions. We also have unionized employees or employee work councils in Argentina, Australia, Austria, Brazil, Finland, France, Germany, India, Italy, Mexico, The Netherlands, Spain, South Africa, Sweden, Thailand and the U.K. No individual unionized facility produces more than 10% of our revenues. Although we believe that our relations with our employees are generally satisfactory and we have not experienced any material strikes or work stoppages recently, no assurances can be made that we will not in the future experience these and other types of conflicts with labor unions, works councils, other groups representing employees or our employees generally, or that any future negotiations with our labor unions will not result in significant increases in our cost of labor.

Our ability to implement our business strategy and serve our customers is dependent upon the continuing ability to employ talented professionals and attract, train, develop and retain a skilled workforce. We are subject to the risk that we will not be able to effectively replace the knowledge and expertise of an aging workforce as workers retire. Without a properly skilled and experienced workforce, our costs, including productivity costs and costs to replace employees may increase, and this could negatively impact our earnings.

We depend on key personnel, the loss of whom would harm our business.

Our future success will depend in part on the continued service of key executive officers and personnel. The loss of the services of any key individual could harm our business. Our future success also depends on our ability to recruit, retain and engage our personnel sufficiently, both to maintain our current business and to execute our strategic initiatives. Competition for officers and employees in our industry is intense and we may not be successful in attracting and retaining such personnel.

We have recently experienced changes in our senior management, including the resignation and retirement of Mark A. Blinn, our President and Chief Executive Officer, effective March 31, 2017, and the hiring of his successor, R. Scott Rowe

Inability to protect our intellectual property could negatively affect our competitive position.

We rely on a combination of patents, copyrights, trademarks, trade secrets, confidentiality provisions and licensing arrangements to establish and protect our proprietary rights. We cannot guarantee, however, that the steps we have taken to protect our intellectual property will be adequate to prevent infringement of our rights or misappropriation of our technology. For example, effective patent, trademark, copyright and trade secret protection may be unavailable or limited in some of the foreign countries in which we operate. In addition, while we generally enter into confidentiality

agreements with our employees and third parties to protect our intellectual property, such confidentiality agreements could be breached or otherwise may not provide meaningful protection for our trade secrets and know-how related to the design, manufacture or operation of our products. If it became necessary for us to resort to litigation to protect our intellectual property rights, any proceedings could

be burdensome and costly, and we may not prevail. Further, adequate remedies may not be available in the event of an unauthorized use or disclosure of our trade secrets and manufacturing expertise. If we fail to successfully enforce our intellectual property rights, our competitive position could suffer, which could harm our business, financial condition, results of operations and cash flows.

Significant changes in pension fund investment performance or assumptions changes may have a material effect on the valuation of our obligations under our defined benefit pension plans, the funded status of these plans and our pension expense.

We maintain defined benefit pension plans that are required to be funded in the U.S., Belgium, Canada, India, Italy, Mexico, The Netherlands, Switzerland and the U.K., and defined benefit plans that are not required to be funded in Austria, France, Germany, Japan and Sweden. Our pension liability is materially affected by the discount rate used to measure our pension obligations and, in the case of the plans that are required to be funded, the level of plan assets available to fund those obligations and the expected long-term rate of return on plan assets. A change in the discount rate can result in a significant increase or decrease in the valuation of pension obligations, affecting the reported status of our pension plans and our pension expense. Significant changes in investment performance or a change in the portfolio mix of invested assets can result in increases and decreases in the valuation of plan assets or in a change of the expected rate of return on plan assets. This impact may be particularly prevalent where we maintain significant concentrations of specified investments, such as the U.K. equity and fixed income securities in our non-U.S. defined benefit plans. Changes in the expected return on plan assets assumption can result in significant changes in our pension expense and future funding requirements.

We continually review our funding policy related to our U.S. pension plan in accordance with applicable laws and regulations. U.S. regulations have increased the minimum level of funding for U.S pension plans in prior years, which has at times required significant contributions to our pension plans. Contributions to our pension plans reduce the availability of our cash flows to fund working capital, capital expenditures, R&D efforts and other general corporate purposes.

We may incur material costs as a result of product liability and warranty claims, which could adversely affect our financial condition, results of operations and cash flows.

We may be exposed to product liability and warranty claims in the event that the use of one of our products results in, or is alleged to result in, bodily injury and/or property damage or our products actually or allegedly fail to perform as expected. While we maintain insurance coverage with respect to certain product liability claims, we may not be able to obtain such insurance on acceptable terms in the future, and any such insurance may not provide adequate coverage against product liability claims. In addition, product liability 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 claim could have an adverse effect on our business, 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 our company. Warranty claims are not generally covered by insurance, and we may incur significant warranty costs in the future for which we would not be reimbursed.

The recording of increased deferred tax asset valuation allowances in the future or the impact of tax law changes on such deferred tax assets could affect our operating results.

We currently have significant net deferred tax assets resulting from tax credit carryforwards, net operating losses and other deductible temporary differences that are available to reduce taxable income in future periods. Based on our assessment of our deferred tax assets, we determined, based on projected future income and certain available tax planning strategies, that approximately \$289 million of our deferred tax assets will more likely than not be realized in the future, and no valuation allowance is currently required for this portion of our deferred tax assets. Should we determine in the future that these assets will not be realized we will be required to record an additional valuation allowance in connection with these deferred tax assets and our operating results would be adversely affected in the period such determination is made. In addition, tax law changes could negatively impact our deferred tax assets. Our outstanding indebtedness and the restrictive covenants in the agreements governing our indebtedness limit our operating and financial flexibility.

We are required to make scheduled repayments and, under certain events of default, mandatory repayments on our outstanding indebtedness, which may require us to dedicate a substantial portion of our cash flows from operations to payments on our indebtedness, thereby reducing the availability of our cash flows to fund working capital, capital expenditures, R&D

efforts and other general corporate purposes, such as dividend payments and share repurchases, and could generally limit our flexibility in planning for, or reacting to, changes in our business and industry.

In addition, the agreements governing our indebtedness impose certain operating and financial restrictions on us and somewhat limit management's discretion in operating our businesses. These agreements limit or restrict our ability, among other things, to: incur additional debt; pay dividends and make other distributions; prepay subordinated debt; make investments and other restricted payments; create liens; sell assets; and enter into transactions with affiliates. We are also required to maintain certain debt ratings, comply with leverage and interest coverage financial covenants and deliver to our lenders audited annual and unaudited quarterly financial statements. Our ability to comply with these covenants may be affected by events beyond our control. Failure to comply with these covenants could result in an event of default which, if not cured or waived, may have a material adverse effect on our business, financial condition, results of operations and cash flows.

We may not be able to continue to expand our market presence through acquisitions, and any future acquisitions may present unforeseen integration difficulties or costs.

Since 1997, we have expanded through a number of acquisitions, and we may pursue strategic acquisitions of businesses in the future. Our ability to implement this growth strategy will be limited by our ability to identify appropriate acquisition candidates, covenants in our credit agreement and other debt agreements and our financial resources, including available cash and borrowing capacity. Acquisitions may require additional debt financing, resulting in higher leverage and an increase in interest expense. In addition, acquisitions may require large one-time charges and can result in the incurrence of contingent liabilities, adverse tax consequences, substantial depreciation or deferred compensation charges, the amortization of identifiable purchased intangible assets or impairment of goodwill, any of which could have a material adverse effect on our business, financial condition, results of operations and cash flows.

Should we acquire another business, the process of integrating acquired operations into our existing operations may create operating difficulties and may require significant financial and managerial resources that would otherwise be available for the ongoing development or expansion of existing operations. Some of the more common challenges associated with acquisitions that we may experience include:

loss of key employees or customers of the acquired company;

conforming the acquired company's standards, processes, procedures and controls, including accounting systems and controls, with our operations, which could cause deficiencies related to our internal control over financial reporting; coordinating operations that are increased in scope, geographic diversity and complexity;

retooling and reprogramming of equipment;

hiring additional management and other critical personnel; and

the diversion of management's attention from our day-to-day operations.

Further, no guarantees can be made that we would realize the cost savings, synergies or revenue enhancements that we may anticipate from any acquisition, or that we will realize such benefits within the time frame that we expect. If we are not able to timely address the challenges associated with acquisitions and successfully integrate acquired businesses, or if our integrated product and service offerings fail to achieve market acceptance, our business could be adversely affected.

Goodwill impairment could negatively impact our net income and stockholders' equity.

Goodwill is not amortized, but is tested for impairment at the reporting unit level, which is an operating segment or one level below an operating segment. Goodwill is required to be tested for impairment annually and between annual tests if events or circumstances indicate that it is more likely than not that the fair value of a reporting unit is less than its carrying value. Reductions in or impairment of the value of our goodwill or other intangible assets will result in charges against our earnings, which could have a material adverse effect on our reported results of operations and financial position in future periods.

There are numerous risks that may cause the fair value of a reporting unit to fall below its carrying amount, which could lead to the measurement and recognition of goodwill impairment. These risks include, but are not limited to, lowered expectations of future financial results, adverse changes in the business climate, increase in the discount rate, an adverse action or assessment by a regulator, the loss of key personnel, a more-likely-than-not expectation that all or a significant portion of a reporting unit may be disposed of, failure to realize anticipated synergies from acquisitions, a

in the Company's market capitalization, and significant, prolonged negative variances between actual and expected financial results. In recent years, the estimated fair value of EPO and IPD have fluctuated, partially due to broad-based capital spending declines and heightened pricing pressures experienced in the oil and gas markets. Although we have concluded that there is no impairment on the goodwill associated with our EPO and IPD reporting units as of December 31, 2016, we will continue to monitor their performance and related market conditions for future indicators of potential impairment. For additional information, see the discussion in Item 7 of this Annual Report and under Note 1 to our consolidated financial statements included in Item 8 of this Annual Report.

Cybersecurity threats could disrupt our business and result in the loss of critical and confidential information. Our information technology networks and related systems and devices are critical to the operation of our business and essential to our ability to successfully perform day-to-day operations. Cybersecurity breaches could expose us to a risk of loss, misuse, or interruption of sensitive and critical information and functions, including our proprietary information and information related to our customers, suppliers and employees. While we devote substantial resources to maintaining adequate levels of cybersecurity, there can be no assurance that we will be able to prevent all of the rapidly evolving forms of increasingly sophisticated and frequent cyberattacks. The potential consequences of a material cybersecurity incident include reputational damage, litigation with third parties, regulatory actions, theft of intellectual property, and increased cybersecurity protection and remediation costs. If we are unable to prevent, detect or adequately respond to security breaches, our operations could be disrupted and our business could be materially and adversely affected.

If we are not able to successfully execute and realize the expected financial benefits from our strategic realignment and other cost-saving initiatives, our business could be adversely affected.

In April 2015, we announced cost saving actions and a strategic manufacturing optimization initiative intended to reduce our cost structure and drive an optimized, low-cost manufacturing footprint. This initiative was expanded in the latter half of 2015 and the beginning of 2016 to include additional realignment activities that will continue beyond 2016. This initiative will involve reducing our workforce, accelerating structural changes in our global manufacturing footprint through leveraging investments in low-cost regions, additional consolidation of product manufacturing and further SG&A reductions.

While we expect significant financial benefits from our strategic realignment, we may not realize the full benefits that we currently expect within the anticipated time frame or at all. Adverse effects from our execution of realignment activities could interfere with our realization of anticipated synergies, customer service improvements and cost savings from these strategic initiatives. Additionally, our ability to fully realize the benefits and implement the realignment program may be limited by the terms of our credit facilities and other contractual commitments. Moreover, because such expenses are difficult to predict and are necessarily inexact, we may incur substantial expenses in connection with the execution of our realignment plans in excess of what is currently forecast. Further, realignment activities are a complex and time-consuming process that can place substantial demands on management, which could divert attention from other business priorities or disrupt our daily operations. Any of these failures could, in turn, materially adversely affect our business, financial condition, results of operations and cash flows, which could constrain our liquidity.

If these measures are not successful or sustainable, we may undertake additional realignment and cost reduction efforts, which could result in future charges. Moreover, our ability to achieve our other strategic goals and business plans may be adversely affected, and we could experience business disruptions with customers and elsewhere if our realignment efforts prove ineffective.

Ineffective internal controls could impact the accuracy and timely reporting of our business and financial results. Our internal control over financial reporting may not prevent or detect misstatements because of its inherent limitations, including the possibility of human error, the circumvention or overriding of controls, or fraud. Even effective internal controls can provide only reasonable assurance with respect to the preparation and fair presentation of financial statements. If we fail to maintain the adequacy of our internal controls, including any failure to implement required new or improved controls, or if we experience difficulties in their implementation, our business and financial results could be harmed and we could fail to meet our financial reporting obligations. For example, in connection with the revisions made in this Form 10-K/A, management re-evaluated the effectiveness of our internal control over financial reporting as of December 31, 2016 and concluded that a deficiency in our internal controls related to the

control environment primarily related to the operation of certain inventory controls or recording of unsupported manual journal entries at one of the non-U.S. sites and the design and maintenance of effective business performance reviews represents material weaknesses in our internal control over financial reporting and, therefore, that we did not maintain effective internal control over financial reporting as of December 31, 2016. For a description of the material weaknesses identified by management and the remediation efforts being implemented for the material weaknesses, see "Part II, Item 9A - Controls and Procedures." If the enhanced controls implemented to address the material

weaknesses and to strengthen the overall internal control related to the control environment at the one non-U.S. site and the business performance review controls are not designed or do not operate effectively, if we are unsuccessful in implementing or following these enhanced processes, or we are otherwise unable to remediate these material weaknesses, this may result in untimely or inaccurate reporting of our financial results. Forward-Looking Information is Subject to Risk and Uncertainty

This Annual Report and other written reports and oral statements we make from time-to-time include "forward-looking statements" within the meaning of Section 27A of the Securities Act of 1933, Section 21E of the Securities Exchange Act of 1934 and the Private Securities Litigation Reform Act of 1995. All statements other than statements of historical facts included in this Annual Report regarding our financial position, business strategy, plans and objectives of management for future operations, industry conditions, market conditions and indebtedness covenant compliance are forward-looking statements. In some cases forward looking statements can be identified by terms such as "may," "should," "expects," "could," "intends," "projects," "predicts," "plans," "anticipates," "estimates," "believes," "forecasts" or other comparable terminology. These statements are not historical facts or guarantees of future performance, but instead are based on current expectations and are subject to significant risks, uncertainties and other factors, many of which are outside of our control.

We have identified factors that could cause actual plans or results to differ materially from those included in any forward-looking statements. These factors include those described above under this "Risk Factors" heading, or as may be identified in our other SEC filings from time to time. These uncertainties are beyond our ability to control, and in many cases, it is not possible to foresee or identify all the factors that may affect our future performance or any forward-looking information, and new risk factors can emerge from time to time. Given these risks and uncertainties, undue reliance should not be placed on forward-looking statements as a prediction of actual results.

All forward-looking statements included in this Annual Report are based on information available to us on the date of this Annual Report and the risk that actual results will differ materially from expectations expressed in this report will increase with the passage of time. We undertake no obligation, and disclaim any duty, to publicly update or revise any forward-looking statement or disclose any facts, events or circumstances that occur after the date hereof that may affect the accuracy of any forward-looking statement, whether as a result of new information, future events, changes in our expectations or otherwise. This discussion is provided as permitted by the Private Securities Litigation Reform Act of 1995 and all of our forward-looking statements are expressly qualified in their entirety by the cautionary statements contained or referenced in this section.

ITEM 6. SELECTED FINANCIAL DATA

Year Ended December 31, 2015(b)(g)(h) 2014(g)(h)2016(a)(h) 2013(c)(g)(h) 2012(g)(h)(Amounts in thousands, except per share data and ratios) **RESULTS OF OPERATIONS** Sales \$3,990,487 \$4,557,791 \$4,877,885 \$4,954,619 \$4,751,339 1,231,233 Gross profit 1,477,537 1,710,171 1,686,379 1,580,951 Selling, general and administrative expense (976,194) (972,733)(936,900 (966,830) (922, 125)Operating income 267,965 785,386 758,566 514,665 675,778 Interest expense (60,137 ) (65,270 ) (60,322 ) (54,413 (43,520 Provision for income taxes (77,380 (148,351 ) (209,311 ) (204,862 ) (160,766 ) Net earnings attributable to Flowserve 132,455 258,411 513,372 483,652 448,339 Corporation Net earnings per share of Flowserve 1.02 1.94 3.75 3.42 2.86 Corporation common shareholders (basic)(d) Net earnings per share of Flowserve Corporation common shareholders 1.93 3.72 3.40 2.84 1.01 (diluted)(d) Cash flows from operating activities (i) 240,476 440,759 594,481 515,724 546,029 Cash dividends declared per share(d) 0.76 0.72 0.64 0.56 0.48 FINANCIAL CONDITION Working capital \$1,119,251 \$1,106,946 \$1,164,381 \$1,136,317 \$1,006,152 Total assets 4,708,923 4,963,106 4,844,667 4,921,829 4,737,477 Total debt 1,570,623 1,620,996 1,145,658 1,190,231 919,398 Retirement obligations and other liabilities 407,839 387,786 362,970 387,823 406,231 1,637,388 1,664,382 1,930,246 1,870,669 1,889,905 Total equity FINANCIAL RATIOS % 9.4 % 16.5 Return on average net assets(e) 5.2 % 17.9 % 16.9 % Net debt to net capital ratio(f) 42.4 % 43.0 % 26.4 % 30.6 % 24.5 %

Calculated as adjusted net income divided by adjusted net assets, where adjusted net income is the sum of earnings

- (f) Calculated as total debt minus cash and cash equivalents divided by the sum of total debt and shareholders' equity minus cash and cash equivalents.
  - Financial condition and financial ratios have been retrospectively adjusted to reflect the adoption of ASU No.
- (g) 2015-03, "Interest Imputation of Interest (Subtopic 835-30) and ASU No. 2015-17, Balance Sheet Classification of Deferred Taxes." These adjustments are more fully described in Note 1 to our consolidated financial statements included in Item 8 of this Annual Report.
- (h) All periods have been revised for the errors described in Note 2 to our consolidated financial statements included in Item 8 of this Annual Report.
- (i) Other information for cash flows from operating activities have been retrospectively adjusted to reflect the adoption of ASU No. 2016-09, "Compensation Stock Compensation (Topic 718), Improvements to Employee

<sup>(</sup>a) Results of operations in 2016 include costs of \$94.8 million resulting from realignment initiatives, resulting in a reduction of after tax net earnings of \$75.8 million.

<sup>(</sup>b) Results of operations in 2015 include costs of \$108.1 million resulting from realignment initiatives, resulting in a reduction of after tax net earnings of \$85.0 million.

<sup>(</sup>c) Results of operations in 2014 include costs of \$10.7 million resulting from realignment initiatives, resulting in a reduction of after tax net earnings of \$7.6 million.

<sup>(</sup>d) Periods prior to 2013 have been retrospectively adjusted for a three-for-one stock split.

<sup>(</sup>e) before income taxes plus interest expense multiplied by one minus our effective tax rate and adjusted net assets is the average of beginning of year and end of year net assets, excluding cash and cash equivalents and debt due in one year.

Accounting." These adjustments are more fully described in Note 1 to our consolidated financial statements included in Item 8 of this Annual Report.

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

The following discussion and analysis is provided to increase the understanding of, and should be read in conjunction with, the accompanying consolidated financial statements and notes. See "Item 1A. Risk Factors" and the "Forward-Looking Statements" included in this Annual Report on Form 10-K for the year ended December 31, 2016 ("Annual Report") for a discussion of the risks, uncertainties and assumptions associated with these statements. Unless otherwise noted, all amounts discussed herein are consolidated.

#### **EXECUTIVE OVERVIEW**

Our Company

We believe that we are a world-leading manufacturer and aftermarket service provider of comprehensive flow control systems. We develop and manufacture precision-engineered flow control equipment integral to the movement, control and protection of the flow of materials in our customers' critical processes. Our product portfolio of pumps, valves, seals, automation and aftermarket services supports global infrastructure industries, including oil and gas, chemical, power generation and water management, as well as general industrial markets where our products and services add value. Through our manufacturing platform and global network of Quick Response Centers ("QRCs"), we offer a broad array of aftermarket equipment services, such as installation, advanced diagnostics, repair and retrofitting. We currently employ approximately 18,000 employees in more than 50 countries.

Our business model is significantly influenced by the capital spending of global infrastructure industries for the placement of new products into service and maintenance spending for aftermarket services for existing operations. The worldwide installed base of our products is an important source of aftermarket revenue, where products are expected to ensure the maximum operating time of many key industrial processes. Over the past several years, we have significantly invested in our aftermarket strategy to provide local support to drive customer investments in our offerings and use of our services to replace or repair installed products. The aftermarket portion of our business also helps provide business stability during various economic periods. The aftermarket business, which is primarily served by our network of 183 QRCs located around the globe, provides a variety of service offerings for our customers including spare parts, service solutions, product life cycle solutions and other value-added services. It is generally a higher margin business compared to our original equipment business and a key component of our profitable growth strategy.

Our operations are conducted through three business segments that are referenced throughout this Management's Discussion and Analysis of Financial Condition and Results of Operations ("MD&A"):

Engineered Product Division for long lead time, custom and other highly-engineered pumps and pump systems, mechanical seals, auxiliary systems and replacement parts and related services;

Industrial Product Division for pre-configured engineered pumps and pump systems and related products and services; and

Flow Control Division for engineered and industrial valves, control valves, actuators and controls and related services.

Our business segments share a focus on industrial flow control technology and have a high number of common customers. These segments also have complementary product offerings and technologies that are often combined in applications that provide us a net competitive advantage. Our segments also benefit from our global footprint and our economies of scale in reducing administrative and overhead costs to serve customers more cost effectively. For example, our segment leadership reports to our Chief Operating Officer ("COO") and the segments share leadership for operational support functions, such as research and development, marketing and supply chain.

The reputation of our product portfolio is built on more than 50 well-respected brand names such as Worthington, IDP, Valtek, Limitorque, Durco, Edward, Anchor/Darling and Durametallic, which we believe to be one of the most comprehensive in the industry. Our products and services are sold either directly or through designated channels to more than 10,000 companies, including some of the world's leading engineering, procurement and construction ("EPC") firms, original equipment manufacturers, distributors and end users.

We continue to leverage our QRC network to be positioned as near to customers as possible for service and support in order to capture valuable aftermarket business. Along with ensuring that we have the local capability to sell, install

and service our equipment in remote regions, it is equally imperative to continuously improve our global operations. We continue to expand our global supply chain capability to meet global customer demands and ensure the quality and timely delivery of our

products. Additionally, we continue to devote resources to improving the supply chain processes across our business segments to find areas of synergy and cost reduction and to improve our supply chain management capability to ensure it can meet global customer demands. We also remain focused on improving on-time delivery and quality, while managing warranty costs as a percentage of sales across our global operations, through the assistance of a focused Continuous Improvement Process ("CIP") initiative. The goal of the CIP initiative, which includes lean manufacturing, six sigma business management strategy and value engineering, is to maximize service fulfillment to customers through on-time delivery, reduced cycle time and quality at the highest internal productivity. During 2015, 2016 and in early 2017, we have been challenged by broad-based capital spending declines, originating in the oil and gas industry, heightened pricing pressures and negative currency impacts caused by a stronger U.S.

in the oil and gas industry, heightened pricing pressures and negative currency impacts caused by a stronger U.S. dollar. This has been further compounded by economic and geo-political conditions in Latin America, the Middle East and China. In addition, we experienced lower than expected activity levels in our aftermarket business due to deferred spending of our customers' repair and maintenance budgets. We expect that the current environment will persist into 2017, with potential improvement in the second half of the year.

We have experienced a deterioration from plan in the operating results of our Engineered Product Operations ("EPO") and IPD reporting units which we believe was both operationally and market driven. We have concluded that there is no impairment of the goodwill associated with EPO and IPD as of December 31, 2016. Conditions are uncertain and can quickly change in the markets in which we operate which could result in sustained or further deterioration and could impact the recoverability of certain of our long-lived assets, including goodwill. We will continue to closely monitor their performance and related market conditions.

To better align costs and improve long-term efficiency, we initiated Realignment Programs to accelerate both short-and long-term strategic plans, including targeted manufacturing optimization through the consolidation of facilities, SG&A efficiency initiatives, transfer of activities from high-cost regions to lower-cost facilities and the divestiture of certain non-strategic assets. At the completion of the programs, we expect a 15% to 20% reduction in our global workforce, relative to early 2015 workforce levels. With an expected near-term investment of approximately \$400 million, including projects still under final evaluation, we expect the results of our Realignment Programs will deliver annualized run-rate savings of approximately \$230 million. Since inception of the Realignment Programs in 2015, we have incurred charges of \$222.6 million and we expect to incur most remaining charges in 2017.

In addition, we are focusing on our ongoing low-cost sourcing, including greater use of third-party suppliers and increasing our lower-cost, emerging market capabilities.

Our Markets

The following discussion should be read in conjunction with the "Outlook for 2017" section included below in this MD&A.

Our products and services are used in several distinct industries: oil and gas, chemical, power generation, water management, and a number of other industries that are collectively referred to as "general industries."

Demand for most of our products depends on the level of new capital investment and planned and unplanned maintenance expenditures by our customers. The level of new capital investment depends, in turn, on capital infrastructure projects driven by the need for oil and gas, chemicals, power generation and water management, as well as general economic conditions. These drivers are generally related to the phase of the business cycle in their

respective industries and the expectations of future market behavior. The levels of maintenance expenditures are additionally driven by the reliability of equipment, planned and unplanned downtime for maintenance and the required capacity utilization of the process.

Sales to EPC firms and original equipment manufacturers are typically for large project orders and critical applications, as are certain sales to distributors. Project orders are typically procured for customers either directly from us or indirectly through contractors for new construction projects or facility enhancement projects.

The quick turnaround business, which we also refer to as "short-cycle," is defined as orders that are received from the customer (booked) and shipped generally within six months of receipt. These orders are typically for more standardized, general purpose products, parts or services. Each of our three business segments generate certain levels of this type of business.

In the sale of aftermarket products and services, we benefit from a large installed base of our original equipment, which requires periodic maintenance, repair and replacement parts. We use our manufacturing platform and global

network of QRCs to offer a broad array of aftermarket equipment services, such as installation, advanced diagnostics, repair and retrofitting. In

geographic regions where we are positioned to provide quick response, we believe customers have traditionally relied on us, rather than our competitors, for aftermarket products due to our highly engineered and customized products. However, the aftermarket for standard products is competitive, as the existence of common standards allows for easier replacement of the installed products. As proximity of service centers, timeliness of delivery and quality are important considerations for all aftermarket products and services, we continue to selectively expand our global QRC capabilities to improve our ability to capture this important aftermarket business.

The oil and gas industry represented approximately 36% of our bookings in both 2016 and 2015. Capital spending in the oil and gas industry decreased in 2016 compared to the previous year due to continued broad-based capital spending declines, heightened pricing pressures and negative currency impacts caused by a stronger U.S. dollar. Aftermarket opportunities in this industry decreased in 2016 due to deferred spending on our customers' repair and maintenance budgets and the impact of end-user union strikes in North America.

The outlook for the oil and gas industry is heavily dependent on the demand growth from both mature markets and developing geographies. We believe lower oil prices that began in the fourth quarter of 2014 will continue to negatively impact oil and gas upstream investment most acutely and impact mid-stream and downstream investment to a lesser extent. In addition, a reduction in the overall level of spending by oil and gas companies could continue to decrease demand for our products and services. However, we believe the long-term fundamentals for this industry remain solid in spite of the current down cycle as the industry works through current excess supply with projected depletion rates of existing fields and forecasted long-term demand growth. With our long-standing reputation in providing successful solutions for upstream, mid-stream and downstream applications, along with the advancements in our portfolio of offerings, we believe that we continue to be well-positioned to assist our customers in this challenging environment.

# Chemical

Oil and Gas

The chemical industry, which represented approximately 21% and 22% of our bookings in 2016 and 2015, respectively, experienced a decreased level of capital spending in 2016 due to broad-based capital spending declines, heightened pricing pressures and negative currency impacts caused by a stronger U.S. dollar. The aftermarket opportunities decreased in 2016 due to deferred spending of our customers' repair and maintenance budgets. The outlook for the chemical industry remains heavily dependent on global economic conditions. As global economies stabilize and unemployment conditions improve, a rise in consumer spending should follow. An increase in spending would drive greater demand for chemical-based products supporting improved levels of capital investment. We believe the chemical industry in the near-term will continue to invest in North America and Middle East capacity additions, maintenance and upgrades for optimization of existing assets and that developing regions will selectively invest in capital infrastructure to meet current and future indigenous demand. We believe our global presence and our localized aftermarket capabilities are well-positioned to serve the potential growth opportunities in this industry.

# Power Generation The power generat

The power generation industry represented approximately 14% of our bookings in both 2016 and 2015. In 2016, the power generation industry continued to experience some softness in capital spending in the mature regions driven by the uncertainty related to environmental regulations, as well as potential regulatory impacts to the overall civilian nuclear market. In the developing regions, capital investment remained in place driven by increased demand forecasts for electricity in countries such as China and India. Global concerns about the environment continue to support an increase in desired future capacity from renewable energy sources. The majority of the active and planned construction throughout 2016 continued to utilize designs based on fossil fuels. Natural gas increased its percentage of utilization driven by market prices for gas remaining low and relatively stable. With the potential of unconventional sources of gas, such as shale gas, the power generation industry is forecasting an increased use of this form of fuel for power generation plants.

We believe the outlook for the power generation industry remains favorable. Current legislative efforts to limit the emissions of carbon dioxide may have an adverse effect on investment plans depending on the potential requirements imposed and the timing of compliance by country. However, we believe that proposed methods of limiting carbon dioxide emissions offer business opportunities for our products and services. We believe the long-term fundamentals for the power generation industry remain solid based on projected increases in demand for electricity driven by global

population growth, advancements of industrialization and growth of urbanization in developing markets. We also believe that our long-standing reputation in the power generation industry, our portfolio of offerings for the various generating methods, our advancements in serving the

renewable energy market and carbon capture methodologies, as well as our global service and support structure, position us well for the future opportunities in this important industry.

#### Water Management

The water management industry represented approximately 4% our bookings in both 2016 and 2015. Water management industry activity level experienced some softness in 2016 despite worldwide demand for fresh water and water treatment continuing to create requirements for new facilities or for upgrades of existing systems, many of which require products that we offer, particularly pumps. The proportion of people living in regions that find it difficult to meet water requirements is expected to double by 2025. We believe that the persistent demand for fresh water during all economic cycles supports continued investments, especially in North America and developing regions.

#### General Industries

General industries represented, in the aggregate, approximately 25% and 24% of our bookings in 2016 and 2015, respectively. General industries comprises a variety of different businesses, including mining and ore processing, pharmaceuticals, pulp and paper, food and beverage and other smaller applications, none of which individually represented more than 5% of total bookings in 2016 and 2015. General industries also includes sales to distributors, whose end customers operate in the industries we primarily serve.

The outlook for this group of industries is heavily dependent upon the condition of global economies and consumer confidence levels. The long-term fundamentals of many of these industries remain sound, as many of the products produced by these industries are common staples of industrialized and urbanized economies. We believe that our specialty product offerings designed for these industries and our aftermarket service capabilities will provide continued business opportunities.

#### **OUR RESULTS OF OPERATIONS**

Throughout this discussion of our results of operations, we discuss the impact of fluctuations in foreign currency exchange rates. We have calculated currency effects on operations by translating current year results on a monthly basis at prior year exchange rates for the same periods.

In the second quarter of 2017, we identified accounting errors focused mainly at two of our non-U.S. sites in the inventory, accounts receivable, cost of sales and selling, general and administrative expense balances for prior periods through the first quarter of 2017. We have assessed these errors, individually and in the aggregate, and concluded that they are not material to any prior annual or interim period. However, to facilitate comparisons among periods we have revised our previously issued audited consolidated financial information for the fiscal years ended December 31, 2014, 2015 and 2016 and unaudited condensed consolidated financial information for the interim periods of 2016 and the three months ended March 31, 2017. We also corrected the timing of immaterial previously recorded out-of-period adjustments and reflected them in the revised prior period financial statements, where applicable. Prior periods not presented herein will be revised, as applicable, in future filings. Refer to Note 2 to our consolidated financial statements included in this Annual Report for more information.

In the first and second quarters of 2015, we initiated realignment programs that consist of both restructuring and non-restructuring charges ("Realignment Programs") that are further discussed in Note 19 of our consolidated financial statements included in Item 8 of this Annual Report. The Realignment Programs have continued throughout 2016 and the total charges for the Realignment Programs by segment are detailed below for the years ended December 31, 2016 and 2015:

	Decembe	er 31, 2016	)					
	Engineerdddustrial Flow			Subtotal–Reportabl		Eliminations	Consolidated	
(Amounts in thousands)	Product	Product	Control	Segments		and All	Total	
	Division	Division	Division			Other		
Total Realignment Program Charges								
COS	\$30,642	\$ 26,224	\$8,038	\$	64,904	\$ 8	\$ 64,912	
SG&A	13,804	8,400	3,367	25	,571	4,450	30,021	
Income tax expense	6,000	2,800	600	9,4	100	_	9,400	
Total	\$50,446	\$37,424	\$12,005	\$	99,875	\$ 4,458	\$ 104,333	

		er 31, 2015 <b>dd</b> dustrial			Eliminations	~
(Amounts in thousands)	Product			Subtotal-Reportabl Segments	e and All Other	Consolidated Total
Total Realignment Program Charges						
COS	\$20,229	\$28,607	\$17,884	\$ 66,720	\$ _	-\$ 66,720
SG&A	14,006	15,407	11,024	40,437		40,437
Income tax expense	3,400	6,500	1,200	11,100		11,100
Total	\$37,635	\$50,514	\$30,108	\$ 118,257	\$	-\$ 118,257

We anticipate a total investment in these Realignment Programs of approximately \$400 million, including projects still under final evaluation. Since inception of the Realignment Programs in 2015, we have incurred charges of \$222.6 million and we expect to incur most remaining charges in 2017.

Based on actions under our Realignment Programs, we estimate that we have achieved annual cost savings of approximately \$120 million as of December 31, 2016, of which approximately \$75 million was in COS with the remainder in SG&A. Upon completion of the Realignment Programs, we expect annual run-rate cost savings of approximately \$230 million. Actual savings could vary from expected savings, which represent management's best estimate to date.

Effective January 7, 2015, we acquired for inclusion in IPD, 100% of SIHI Group B.V. ("SIHI"), a global provider of engineered vacuum and fluid pumps and related services.

Effective March 31, 2014, we sold our FCD Naval OY ("Naval") business to a Finnish valve manufacturer. The sale included Naval's manufacturing facility located in Laitila, Finland and a service and support center located in St. Petersburg, Russia.

Note 2 to our consolidated financial statements included in Item 8 of this Annual Report discusses the details of the above acquisition and disposition.

Bookings and Backlog

2016 2015 2014 (Amounts in millions) Bookings \$3,760.4 \$4,176.8 \$5,161.0 Backlog (at period end) 1,901.8 2,176.4 2,704.2

We define a booking as the receipt of a customer order that contractually engages us to perform activities on behalf of our customer in regards to the manufacture, delivery, and/or support of products or the delivery of service. Bookings recorded and subsequently canceled within the same fiscal period are excluded from bookings. Bookings of \$3.8 billion in 2016 decrease d by \$416.4 million , or 10.0% , as compared with 2015 . The decrease included negative currency effects of approximately \$108 million . The decrease was primarily driven by the oil and gas industry, and to a lesser extent, the chemical and general industries. The decrease was primarily due to customer original equipment bookings.

Bookings in 2015 decrease d by \$984.2 million, or 19.1%, as compared with 2014. The decrease included negative currency effects of approximately \$377 million. The decrease was primarily driven by the oil and gas industry, and to a lesser extent, the general and chemical industries. The decrease was more heavily weighted toward customer original equipment bookings.

Backlog represents the aggregate value of booked but uncompleted customer orders and is influenced primarily by bookings, sales, cancellations and currency effects. Backlog of \$1.9 billion at December 31, 2016 decrease d by \$274.6 million , or 12.6% , as compared with December 31, 2015 . The decrease included negative currency effects of approximately \$18 million (currency effects on backlog are calculated using the change in period end exchange rates). Backlog related to aftermarket orders was approximately 30% and 26% of the backlog at December 31, 2016 and 2015 , respectively. We expect to ship approximately 88% of December 31, 2016 backlog during 2017 . Backlog of \$2.2 billion at December 31, 2015 decrease d by \$527.8 million , or 19.5% , as compared with December 31, 2014. The decrease included negative currency effects of approximately \$145 million and the impact

of cancellations of

\$118.4 million of orders booked during prior years. Order cancellations do not typically result in material negative impacts to our financial results due to the cancellation provisions of our long lead time contracts. Sales

```
2016
              2015
                        2014
     (Amounts in millions)
Sales $3,990.5 $4,557.8 $4,877.9
```

Sales in 2016 decrease d by \$567.3 million, or 12.4%, as compared with 2015. The decrease included negative currency effects of approximately \$115 million. The decrease was more heavily weighted toward original equipment sales. Sales decreased into every region except for sales into the Middle East.

Sales in 2015 decrease d by \$320.1 million, or 6.6%, as compared with 2014. The decrease included negative currency effects of approximately \$431 million. The decrease was more heavily weighted towards original equipment sales. Sales decreased into every region except for sales into Europe, primarily due to the favorable impact of SIHI sales into the region. Sales in 2015 include \$294.2 million sales from SIHI which do not compare to 2014. Sales to international customers, including export sales from the U.S., were approximately 64% of total sales in 2016 , 66% in 2015 and 68% in 2014. Sales into Europe, the Middle East and Africa ("EMA") were approximately 35%, 34% and 32% of total sales in 2016, 2015 and 2014, respectively. Sales into Asia Pacific were approximately 18% of total sales for 2016, 18% for 2015 and 20% for 2014. Sales into Latin America were approximately 7% of total sales in 2016, 9% for 2015 and 11% for 2014.

Gross Profit and Gross Profit Margin

SG&A

2016 2015 2014 (Amounts in millions, except percentages)

Gross profit \$1,231.2 \$1,477.5 \$1,710.2 Gross profit margin 30.9 % 32.4 % 35.1

Gross profit in 2016 decrease d by \$246.3 million, or 16.7%, as compared with 2015. Gross profit margin in 2016 of 30.9% decrease d from 32.4% in 2015. The decrease in gross profit and gross profit margin was primarily attributed to the negative impact of decreased sales on our absorption of fixed manufacturing costs, unfavorable impacts of short-term operational inefficiencies related to the initial execution of certain Realignment Programs, lower margin projects that shipped from backlog and a charge to write down inventory in Brazil, partially offset by realignment savings achieved related to our Realignment Programs and a mix shift to higher margin aftermarket sales. Aftermarket sales increased to approximately 45% of total sales, as compared with approximately 43% of total sales for the same period in 2015.

Gross profit in 2015 decrease d by \$232.7 million, or 13.6%, as compared with 2014. Gross profit margin in 2015 of 32.4% decreased from 35.1% in 2014. The decrease in gross profit and gross profit margin was primarily attributed to the negative impact resulting from purchase accounting adjustments on acquired SIHI backlog and inventory of \$18.1 million, charges related to our Realignment Programs of \$66.7 million, and to a lesser extent, certain lower margin projects that shipped from backlog and the negative impact of decreased sales on our absorption of fixed manufacturing costs, as compared with the same period in 2014. The decrease was partially offset by a decrease in compensation, which included a decrease in broad-based annual incentive program compensation, and a mix shift to higher margin aftermarket sales. Aftermarket sales increased to approximately 43% of total sales, as compared with approximately 42% of total sales for the same period in 2014. SG&A

```
2015
                            2016
                                              2014
                            (Amounts in millions, except
                            percentages)
                            $976.2
                                     $972.7
                                              $936.9
SG&A as a percentage of sales 24.5 % 21.3
                                            % 19.2 %
```

SG&A in 2016 increase d by \$3.5 million, or 0.4%, as compared with 2015. Currency effects yielded a decrease of approximately \$28 million. SG&A as a percentage of sales in 2016 increase d 320 basis points as compared with the same period in 2015 due primarily to increased bad debt expense as a result of the \$73.5 million reserve established for our primary Venezuelan customer in the third quarter of 2016 and lower sales leverage, partially offset by decreased charges and savings achieved related to our Realignment Programs and lower SIHI integration costs.

SG&A in 2015 increase d by \$35.8 million , or 3.8% , as compared with 2014. Currency effects yielded a decrease of approximately \$81 million . SG&A as a percentage of sales in 2015 increase d 210 basis points as compared with the same period in 2014 due in part to \$41.2 million of charges related to our Realignment Programs, \$11.6 million of SIHI acquisition-related costs, lower sales leverage, a \$11.9 million increase in bad debt expense and the \$13.4 million gain from the sale of the Naval business in the first quarter of 2014, partially offset by a decrease in compensation, which included a decrease in broad-based annual incentive program compensation, and a \$6.8 million gain from the reversal of contingent consideration on our purchase of Innovative Mag-Drive, LLC ("Innomag"). Net Earnings from Affiliates

2016 2015 2014 (Amounts in millions)

Net earnings from affiliates \$12.9 \$9.9 \$12.1

Net earnings from affiliates represents our net income from investments in eight joint ventures (one located in each of Chile, Japan, Saudi Arabia, South Korea, the United Arab Emirates, and India and two in China) that are accounted for using the equity method of accounting. Net earnings from affiliates in 2016 increased by \$3.0 million primarily as a result of increased earnings of our EPD joint venture in South Korea and IPD joint venture in Chile. Net earnings from affiliates in 2015 decreased by \$2.2 million primarily as a result of decreased earnings of our EPD joint venture in South Korea.

Operating Income

2016 2015 2014 (Amounts in millions, except percentages) \$268.0 \$514.7 \$785.4

Operating income \$268.0 \$514.7 \$785.4 Operating income as a percentage of sales 6.7 % 11.3 % 16.1

Operating income in 2016 decrease d by \$246.7 million, or 47.9%, as compared with 2015. The decrease was primarily a result of the \$246.3 million decrease in gross profit, partially offset by the \$3.5 million increase in SG&A discussed above. The decrease included negative currency effects of approximately \$12 million.

Operating income in 2015 decrease d by \$270.7 million, or 34.5%, as compared with 2014. The decrease was primarily a result of the \$232.7 million decrease in gross profit and the \$35.8 million increase in SG&A discussed above. The decrease included negative currency effects of approximately \$42 million and \$108.1 million of realignment expense.

Interest Expense and Interest Income

2016 2015 2014 (Amounts in millions)

Interest expense (60.1) (65.3)

Interest income 2.8 2.1 1.7

Interest expense in 2016 decrease d by \$5.2 million as compared with 2015. The decrease was primarily attributable to decreased commitments and borrowings under our Revolving Credit Facility (as such term is defined in Note 11 to our consolidated financial statements in Item 8 of this Annual Report) in 2016, as compared to the same period in 2015. Interest expense in 2015 increase d by \$5.0 million as compared with 2014. The increase was primarily attributable to interest expense associated with increased borrowings in 2015 related to our public offering

of €500.0 million of Euro senior notes in aggregate principal amount due March 17, 2022 (the "2022 EUR Senior Notes") issued on March 17, 2015.

Interest income in 2016 increase d by \$0.7 million as compared with 2015. Interest income in 2015 increase d by \$0.4 million as compared with 2014.

Other Income (Expense), net

2016 2015 2014 (Amounts in millions)

Other income (expense), net \$2.3 \$(39.1) \$2.0

Other income, net increased \$41.4 million from expense of \$39.1 million in 2015 to income of \$2.3 million in 2016. The increase was primarily due to a \$58.7 million decrease in losses arising from transactions in currencies other than our sites' functional currencies, partially offset by a \$18.2 million decrease in gains from foreign exchange contracts. The net change was primarily due to the foreign currency exchange rate movements in the Brazilian real, Canadian dollar and British pound in relation to the U.S. dollar during the year ended December 31, 2016, as compared with the same period in 2015, and the \$18.5 million loss as a result of the remeasurement of our Venezuelan bolivar-denominated net monetary assets in the first quarter of 2015 that did not recur.

Other expense, net increased \$41.1 million from income of \$2.0 million in 2014 to a loss of \$39.1 million in 2015. The increase was primarily due to a \$55.9 million increase in losses arising from transactions in currencies other than our sites' functional currencies, including the impact of the \$18.5 million loss as a result of the first quarter of 2015 remeasurement of our bolivar-denominated Venezuelan net monetary assets, partially offset by a \$15.4 million increase in gains from foreign exchange contracts. The changes are primarily due to the foreign currency exchange rate movements of the Brazilian real, Mexican peso and Euro in relation to the U.S. dollar as compared with the same period in 2014.

Tax Expense and Tax Rate

2016 2015 2014 (Amounts in millions, except percentages)

Provision for income taxes \$77.4 \$148.4 \$209.3 Effective tax rate 36.3 % 36.0 % 28.7 %

The 2016 tax rate differed from the federal statutory rate of 35% primarily due to the net impact of foreign operations, tax impacts from our Realignment Programs and losses in certain foreign jurisdictions for which no tax benefit was provided. Our effective tax rate of 36.3% for the year ended December 31, 2016 increased from 36.0% in 2015 due primarily to the tax impacts described above. The 2015 tax rate differed from the federal statutory rate of 35% primarily due to tax impacts of the realignment programs, the non-deductible Venezuelan exchange rate remeasurement loss, and the establishment of a valuation allowance against our deferred tax assets in Brazil in the amount of \$12.6 million, partially offset by the net impact of foreign operations, which included the impacts of lower foreign tax rates and changes in our reserves established for uncertain tax positions. The 2014 tax rate differed from the federal statutory rate of 35% primarily due to the net impact of foreign operations, which included the impacts of lower foreign tax rates and changes in our reserves established for uncertain tax positions.

On May 17, 2006, the Tax Increase Prevention and Reconciliation Act of 2005 was signed into law, creating an exclusion from U.S. taxable income for certain types of foreign related party payments of dividends, interest, rents and royalties that, prior to 2006, had been subject to U.S. taxation. On December 18, 2015, this exclusion was further extended for five additional years. This exclusion is effective for the years 2006 through 2019, and applies to certain of our related party payments.

Our effective tax rate is based upon current earnings and estimates of future taxable earnings for each domestic and international location. Changes in any of these and other factors, including our ability to utilize foreign tax credits and net operating losses or results from tax audits, could impact the tax rate in future periods. As of December 31, 2016, we have foreign tax credits of \$60.0 million, expiring in 2020 through 2026 against which we recorded a valuation allowance of \$0.6 million. Additionally, we have recorded other net deferred tax assets of \$84.3 million, which relate to net operating losses, tax credits and other deductible temporary differences that are available to reduce taxable income in future periods, most of which do not have a definite expiration. Should we not be able to utilize all or a portion of these credits and losses, our effective tax rate would increase.

Net Earnings and Earnings Per Share

2016 2015 2014 (Amounts in millions, except per share amounts)

Net earnings attributable to Flowserve Corporation \$132.5 \$258.4 \$513.4

Net earnings per share — diluted \$1.01 \$1.93 \$3.72 Average diluted shares 131.0 133.8 137.8

Net earnings in 2016 decrease d by \$125.9 million million to \$132.5 million, or to \$1.01 per diluted share, as compared with 2015. The decrease was primarily attributable to a \$246.7 million decrease in operating income, partially offset by a \$41.4 million increase in other income, net, a \$5.2 million decrease in interest expense and a \$71.0 million decrease in tax expense.

Net earnings in 2015 decrease d by \$255.0 million to \$258.4 million, or to \$1.93 per diluted share, as compared with 2014. The decrease was primarily attributable to a \$270.7 million decrease in operating income, a \$41.1 million increase in other expense, net and a \$5.0 million increase in interest expense, partially offset by a \$60.9 million decrease in tax expense.

Other Comprehensive Loss

2016 2015 2014 (Amounts in millions)

Other comprehensive loss \$(85.8) \$(156.7) \$(158.5)

Other comprehensive loss in 2016 decrease d by \$70.9 million to \$85.8 million as compared to \$156.7 million in 2015. The loss was primarily due to foreign currency translation adjustments resulting primarily from exchange rate movements of the British pound, Euro and Mexican peso versus the U.S. dollar at December 31, 2016 as compared with 2015.

Other comprehensive loss in 2015 decreased by \$1.8 million to \$156.7 million as compared to \$158.5 million in 2014. The loss was primarily due to foreign currency translation adjustments resulting primarily from exchange rate movements of the Euro, Brazilian real and Argentine peso versus the U.S. dollar at December 31, 2015 as compared with 2014.

**Business Segments** 

We conduct our operations through three business segments based on type of product and how we manage the business. We evaluate segment performance and allocate resources based on each segment's operating income. See Note 16 to our consolidated financial statements included in Item 8 of this Annual Report for further discussion of our segments. The key operating results for our three business segments, EPD, IPD and FCD, are discussed below. Engineered Product Division Segment Results

Our largest business segment is EPD, through which we design, manufacture, distribute and service custom and other highly-engineered pumps and pump systems, mechanical seals and auxiliary systems (collectively referred to as "original equipment"). EPD includes longer lead time, highly-engineered pump products, and shorter cycle engineered pumps and mechanical seals that are generally manufactured within shorter lead times. EPD also manufactures replacement parts and related equipment and provides aftermarket services. EPD primarily operates in the oil and gas, power generation, chemical, and general industries. EPD operates in 47 countries with 32 manufacturing facilities worldwide, 10 of which are located in Europe, 10 in North America, seven in Asia and five in Latin America, and it has 123 QRCs, including those co-located in manufacturing facilities and/or shared with FCD.

	EPD					
	2016		2015		2014	
	(Amounts in millions, except					
	percentages)					
Bookings	\$1,823.8	3	\$2,065.6	5	\$2,832.8	3
Sales	1,996.0		2,256.8		2,564.6	
Gross profit	621.6		738.3		891.5	
Gross profit margin	31.1	%	32.7	%	34.8	%
Segment operating income	167.4		320.0		446.2	
Segment operating income as a percentage of sales	8.4	%	14.2	%	17.4	%
Backlog (at period end)	968.8		1,160.5		1,573.3	

Bookings in 2016 decrease d by \$241.8 million , or 11.7% , as compared with 2015 . The decrease included negative currency effects of approximately \$76 million . The decrease in customer bookings was primarily driven by the oil and gas and general industries, and to a lesser extent, the chemical industry. Customer bookings decreased \$87.0 million into Europe, \$52.0 million into Latin America, \$38.0 million into North America, \$36.4 million into the Middle East, \$26.2 million into Asia Pacific and \$2.6 million into Africa. The decrease was primarily driven by decreased customer original equipment bookings. Of the \$1.8 billion of bookings in 2016 , approximately 48% were from oil and gas, 17% from general industries, 18% from chemical, and 17% from power generation. Interdivision bookings (which are eliminated and are not included in consolidated bookings as disclosed above) decreased \$8.4 million .

Bookings in 2015 decrease d by \$767.2 million, or 27.1%, as compared with 2014. The decrease included negative currency effects of approximately \$228 million. The decrease in customer bookings was primarily driven by the oil and gas industry, and to a lesser extent, the chemical and general industries. Customer bookings decreased \$267.5 million into North America, \$226.0 million into Latin America, \$149.1 million into Europe, and \$92.4 million into Asia Pacific. The decrease was more heavily weighted toward customer original equipment bookings. Of the \$2.1 billion of bookings in 2015, approximately 47% were from oil and gas, 19% from general industries, 17% from chemical, 15% from power generation and 2% from water management. Interdivision bookings (which are eliminated and are not included in consolidated bookings as disclosed above) decreased \$18.9 million.

Sales in 2016 decrease d \$260.8 million, or 11.6%, as compared with 2015. The decrease included negative

currency effects of approximately \$88 million. The decrease was proportionally driven by decreased original equipment and aftermarket sales, resulting from decreased customer sales of \$110.2 million into Latin America, \$84.3 million into North America, \$27.7 million into Europe, \$19.3 million into Africa, \$13.5 million into Asia Pacific and \$2.0 million into the Middle East. Interdivision sales (which are eliminated and are not included in consolidated sales as disclosed above) decrease d \$14.0 million.

Sales in 2015 decrease d \$307.8 million , or 12.0% , as compared with 2014. The decrease included negative currency effects of approximately \$257 million . The decrease was primarily driven by decreased original equipment sales, resulting from decreased customer sales of \$127.4 million into Asia Pacific, \$71.4 million into Latin America, \$39.9 million into the Middle East, \$27.8 million into Europe and \$11.3 million into North America. Interdivision sales (which are eliminated and are not included in consolidated sales as disclosed above) decreased \$10.0 million.

Gross profit in 2016 decrease d by \$116.7 million , or 15.8% , as compared with 2015 . G ross profit margin in 2016 of 31.1% decrease d from 32.7% in 2015 . The decrease in gross profit margin was primarily attributable to the negative impact of decreased sales on our absorption of fixed manufacturing costs, a charge to write down inventory in Brazil and increased charges related to our Realignment Programs, partially offset by realignment savings achieved. Gross profit in 2015 decrease d by \$153.2 million , or 17.2% , as compared with 2014. G ross profit margin in 2015 of 32.7% decreased from 34.8% in 2014. The decrease in gross profit margin was primarily attributable to the charges related to our Realignment Programs and the negative impact of decreased sales on our absorption of fixed manufacturing costs, partially offset by a decrease in broad-based annual incentive program compensation.

Operating income in 2016 decrease d by \$152.6 million , or 47.7% , as compared with 2015 . The decrease included negative currency effects of approximately \$10 million . The decrease was due to a \$116.7 million decrease in

gross profit, and a \$39.1 million increase in SG&A (including a decrease due to currency effects of approximately 22 million). The increase in SG&A is primarily due to increased bad debt expense as a result of EPD's 1.2 million portion of the 3.5

million reserve established for our primary Venezuelan customer in the third quarter of 2016, partially offset by savings achieved related to our Realignment Programs and lower selling-related expenses.

Operating income in 2015 decrease d by \$126.2 million , or 28.3% , as compared with 2014. The decrease included negative currency effects of approximately \$28 million . The decrease was due to a \$153.2 million decrease in gross profit, partially offset by a \$30.1 million decrease in SG&A (including a decrease due to currency effects of approximately \$49 million ). The decrease in SG&A was due primarily to decreased selling and marketing-related expenses resulting from lower sales, savings associated with strategic cost reduction programs and a decrease in broad-based annual incentive program compensation, partially offset by charges related to our Realignment Programs and increased bad debt expenses.

Backlog of \$1.0 billion at December 31, 2016 decrease d by \$191.7 million, or 16.5%, as compared with December 31, 2015. Currency effects provided a decrease of approximately \$2 million. Backlog at December 31, 2016 included \$11.7 million of interdivision backlog (which is eliminated and not included in consolidated backlog as disclosed above). Backlog of \$1.2 billion at December 31, 2015 decreased by \$412.8 million, or 26.2%, as compared with December 31, 2014. Currency effects provided a decrease of approximately \$80 million. The decrease includes the impact of cancellations of orders booked during prior years. Order cancellations do not typically result in material negative impacts to our financial results due to the cancellation provisions of our long lead time contracts. Backlog at December 31, 2015 included \$10.5 million of interdivision backlog (which is eliminated and not included in consolidated backlog as disclosed above).

**Industrial Product Division Segment Results** 

Through IPD we design, manufacture, distribute and service engineered, pre-configured industrial pumps and pump systems, including submersible motors and specialty products, collectively referred to as "original equipment." Additionally, IPD manufactures replacement parts and related equipment, and provides a full array of support services, collectively referred to as "aftermarket". IPD primarily operates in the oil and gas, chemical, water management, power generation and general industries. IPD operates 20 manufacturing facilities, five of which are located in the U.S and 10 in Europe, four in Asia, one in Latin America and it operates 32 QRCs worldwide, including 20 sites in Europe and six in the U.S. three in Latin America and three in Asia, including those co-located in manufacturing facilities.

$\mathcal{E}$						
	IPD					
	2016	2015	2014			
	(Amounts in millions, except					
	percentages)					
Bookings	\$797.7	\$887.2	\$781.0			
Sales	835.1	981.9	805.9			
Gross profit	182.5	238.7	217.6			
Gross profit margin	21.9 %	24.3 %	27.0 %			
Segment operating (loss) income	(6.4					