EMERSON ELECTRIC CO
Form 10-K
November 20, 2017

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

FORM 10-K

ý ANNUAL REPORT PURSUANT TO SECTION 13 OR 15(d) OF THE SECURITIES EXCHANGE ACT OF 1934
For the fiscal year ended September 30, 2017

OR

¨ TRANSITION REPORT PURSUANT TO SECTION 13 OR 15(d) OF THE SECURITIES EXCHANGE ACT OF 1934
For the transition period from ____________________ to __________________
Commission file number 1-278

EMERSON ELECTRIC CO.
(Exact name of registrant as specified in its charter)

Missouri	43-0259330
(State or other jurisdiction of incorporation or organization)	(I.R.S. Employer Identification No.)
8000 W. Florissant Ave. P.O. Box 4100 St. Louis, Missouri	63136
(Address of principal executive offices)	(Zip Code)

Registrant's telephone number, including area code: (314) 553-2000

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

Title of each class	Name of each exchange on which registered
Common Stock of $0.50 par value per share	New York Stock Exchange Chicago 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 ý No ¨

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

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 ý No ¨

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 ý No ¨

Indicate by check mark if disclosure of delinquent filers pursuant to Item 405 of Regulation S-K (§229.405 of this chapter) 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. ý

Indicate by check mark whether the registrant is a large accelerated filer, an accelerated filer, a non-accelerated filer, a smaller reporting company, or an emerging growth company. See the definitions of “large accelerated filer,” “accelerated filer,” “smaller reporting company,” and "emerging growth company" in Rule 12b-2 of the Exchange Act. Large accelerated filer ý Accelerated filer ¨ Non-accelerated filer ¨ (Do not check if a smaller reporting company) Smaller reporting company ¨ Emerging growth company ¨

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

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

Aggregate market value of the voting stock held by nonaffiliates of the registrant as of close of business on March 31, 2017: $38.4 billion.

Common stock outstanding at October 31, 2017: 641,819,838 shares.

Documents Incorporated by Reference

1. Portions of Emerson Electric Co. Notice of 2018 Annual Meeting of Shareholders and Proxy Statement incorporated by reference into Part III hereof.

PART I

ITEM 1 - BUSINESS

Emerson ("the Company") was incorporated in Missouri in 1890, and has evolved through internal growth and strategic acquisitions and divestitures from a regional manufacturer of electric motors and fans into a diversified global leader that brings technology and engineering together to provide innovative solutions for customers in a wide range of industrial, commercial and consumer markets around the world.

In connection with the strategic portfolio repositioning actions undertaken to transform the Company into a more focused enterprise, its businesses and organization were realigned. In fiscal 2017, the Company began reporting three segments: Automation Solutions, and Climate Technologies and Tools & Home Products which together comprise the Commercial & Residential Solutions business. The Automation Solutions segment includes the former Process Management segment and the remaining businesses in the former Industrial Automation segment, except for the hermetic motors business, which is now included in the Climate Technologies segment. The new Tools & Home Products segment consists of the businesses previously reported in the Commercial & Residential Solutions segment in fiscal 2016. See Note 18. This reference and all other Note references in this document refer to Notes to Consolidated Financial Statements set forth in Item 8 of this Annual Report on Form 10-K, which notes are hereby incorporated by reference. A summary of the Company's businesses is described below.

- Automation Solutions - enables process, hybrid and discrete manufacturers to maximize production, protect personnel and the environment, and optimize their energy efficiency and operating costs through a broad offering of integrated solutions and products, including measurement and analytical instrumentation, industrial valves and equipment, and process control systems.

- Commercial & Residential Solutions - provides products and solutions that promote energy efficiency, enhance household and commercial comfort, and protect food quality and sustainability through heating, air conditioning and refrigeration technology, as well as a broad range of tools and appliance solutions.

Sales, earnings before interest and income taxes, and total assets attributable to each business segment for the three years ended September 30, 2017 are set forth in Note 18. Sales by business in 2017, as a percentage of the total Company, were: Automation Solutions, 62 percent and Commercial & Residential Solutions, 38 percent. Total Emerson sales by geographic destination in 2017 were: the United States and Canada, 52 percent; Asia, 21 percent; Europe, 16 percent; Latin America, 5 percent; and Middle East/Africa, 6 percent.

The Company's strategic repositioning actions resulted in the sale of the network power systems business which closed in the first quarter of 2017, and the sale of the power generation, motors and drives business which closed in the second quarter of 2017. These businesses have been reported in discontinued operations for all periods presented. Additionally, on April 28, 2017, the Company completed the acquisition of Pentair's valves & controls business, which is reported in the Automation Solutions segment and complements the Valves, Actuators and Regulators product offering. Information with respect to acquisition and divestiture activity, including the discontinued businesses, and restructuring costs is set forth in Notes 3, 4 and 6. See also Item 1A - "Risk Factors" and Item 7 - "Management's Discussion and Analysis of Financial Condition and Results of Operations."

AUTOMATION SOLUTIONS

The Automation Solutions segment offers customers products, software and technology, and engineering, project management, consulting services and integrated manufacturing solutions for precision measurement, control, monitoring, asset optimization, and safety and reliability of oil and gas reservoirs, manufacturing operations and plants that process or treat various items. The Company's array of products and services enables customers to optimize their plant capabilities in the areas of plant safety and reliability, product quality, energy and emissions, and output efficiency. Significant end markets served include oil and gas, refining, chemicals and power generation, as well as pharmaceuticals, food and beverage, automotive, pulp and paper, metals and mining, and municipal water supplies. Sales by geographic destination in 2017 for Automation Solutions were: the United States and Canada, 44 percent; Asia, 23 percent; Europe, 20 percent; Latin America, 5 percent; and Middle East/Africa, 8 percent.

Measurement & Analytical Instrumentation

Measurement instrumentation measures the physical properties of liquids or gases in a process stream, such as pressure, temperature, level, rate and amount of flow, and communicates this information to a process control system or other software applications. Measurement technologies provided by the Company include Coriolis direct mass flow, magnetic flow, vortex flow, ultrasonic flow, differential pressure, ultra-low flow fluid measurement, temperature sensors, radar-based tank gauging and magnetic level gauging. The Company's measurement products are also often used in custody transfer applications, such as the transfer of gasoline from a storage tank to a tanker truck, where precise metering of the amount of fluid transferred helps ensure accurate asset management. Complementary products include onshore and subsea multi-phase meters, wet gas meters, downhole gauges and corrosion/erosion measuring instruments.

Analytical instrumentation analyzes the chemical composition of process fluids and emissions to enhance quality and efficiency, as well as environmental compliance. The Company's analytical technologies include process gas chromatographs, in-situ oxygen analyzers, infrared gas and process fluid analyzers, combustion analyzers and systems, and analyzers that measure pH, conductivity and water quality. The Company provides sensors to detect combustible and toxic gases, and flames. These devices support the safety of both people and process plant assets.

Measurement and analytical instrumentation technologies are also available with highly secure and reliable wireless communication capability, allowing customers to monitor processes or equipment that were previously not measurable (remote, moving/rotating) or not economical to measure due to the high cost and difficulty of running wires in industrial process plants.

Valves, Actuators & Regulators

The primary role of an industrial valve is to control, isolate, or regulate the flow of liquids or gases to achieve safe operation along with reliability and optimized performance.

Control, isolation and pressure relief valves respond to commands from a control system to continuously and precisely modulate the flow of process fluids. Engineered on/off valves are typically used to achieve tight shutoff, even in high pressure and temperature processes. The Company designs, engineers and manufactures ball, gate, globe, check, sliding stem, rotary, high performance butterfly, triple offset, and severe services valves for critical applications. The Company also designs and manufactures sophisticated smart actuation and control technologies that continuously monitor valve health and remotely control valve positions to foster proactive and predictive maintenance as well as decrease the risk of unplanned shutdowns.

The Company provides pressure management products, including pressure relief, vacuum relief, and gauge valves designed to control fugitive emissions. The Company also supplies a line of industrial and residential regulators, whose function is to reduce the pressure of fluids moving from high-pressure supply lines into lower pressure systems, and also manufactures tank and terminal safety equipment, including hatches, vent pressure and vacuum relief valves, and flame arrestors for storage tanks in the oil and gas, petrochemical, refining and other process industries.

Industrial Solutions

Industrial Solutions include fluid power and control mechanisms, electrical distribution equipment, and materials joining and precision cleaning products which are used in a variety of manufacturing operations to provide integrated solutions to customers. Fluid power products control and power the flow of liquids and gases in manufacturing operations such as automobile assembly, food processing, textile manufacturing and petrochemical processing, and include products such as solenoid and pneumatic valves, valve position indicators, pneumatic cylinders, air preparation equipment, and pressure, vacuum and temperature switches. Electrical distribution consists of a broad line of components for current- and noncurrent-carrying electrical distribution devices, including conduit and cable fittings, plugs and other receptacles, industrial lighting, enclosures and controls. Electrical distribution products are used in hazardous, industrial, commercial and construction environments, such as oil and gas drilling and production sites, pulp and paper mills and petrochemical plants. Plastic and metal joining technologies and equipment are supplied to a diversified manufacturing customer base, including automotive, medical devices, business and consumer electronics, and toys. The Company also provides precision cleaning and liquid processing solutions to industrial and commercial manufacturers. Products include ultrasonic joining and cleaning equipment; linear and orbital vibration welding equipment; systems for hot plate, spin and laser welding equipment; and aqueous, semi-aqueous and vapor cleaning systems.

Process Control Systems & Solutions

Process control systems and software control plant processes by collecting and analyzing information from measurement devices in the plant, and then use that information to adjust valves, pumps, motors, drives and other control hardware for maximum product quality and process efficiency and safety. Software capabilities also include life sciences operations management, upstream oil and gas reservoir simulation and production optimization modeling, pipeline and terminal management, operations management simulation, and training systems. The Company's process control systems can be extended wirelessly to support a mobile workforce with handheld tools/communicators, provide site-wide location tracking of people and assets, and enable video monitoring and communication with wireless field devices, thereby increasing the information available to operators.

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Plantweb Digital Ecosystem

The Plantweb Digital Ecosystem combines the Company's intelligent field sensors, communication gateways and controllers, software, and complementary partner technologies to create a comprehensive Industrial Internet of Things (IIoT) architecture to improve customer operational performance. Newly developed sensors (usually wireless) monitor variables such as equipment health and energy consumption, providing data to software applications. Existing sensor information from control systems is also incorporated using secure communication designs. These applications contain analytic capabilities that provide insights into production performance, energy consumption, reliability of specific equipment or process units, and safety. Alerts are generated in areas such as impending equipment failure or excessive energy consumption. Complete solutions range from covering a few assets, such as pumps or steam traps with small applications, to complete facility monitoring using more sophisticated modeling.

Customers may also subscribe to IIoT "connected services" to improve the performance of their facilities. In this model, Company personnel who are experts in specific applications or asset classes monitor and analyze customer data that is supplied on a periodic basis and generate reports that provide specific information on actions to take to improve plant operational performance.

Industry Services

Automation Solutions provides a broad portfolio of services to improve automation project implementation time and costs, increase process availability and productivity, and reduce the total cost of ownership in industries such as oil and gas, chemicals, power generation, food and beverage, and life sciences. Consulting services help plant owners and operators improve plant safety, reliability, availability, cybersecurity, and operational performance through implementation of on-site and corporate-wide programs. Global industry centers offer engineering and project management services to help customers optimize cost and schedule on large capital projects. Lifecycle service centers provide maintenance, engineering, process, quality, and troubleshooting expertise to aid in process optimization for efficient and consistent operations, regulatory compliance, asset repair, asset replacement, shutdown/outage management and employee training. These offerings are available on demand or through long-term service agreements.

Distribution

The principal worldwide distribution channel for Automation Solutions is a direct sales force, although a network of independent sales representatives, and to a lesser extent independent distributors purchasing products for resale, are also utilized. Approximately half of the sales in the United States are made through a direct sales force with the remainder primarily through independent sales representatives and distributors. In Europe and Asia, sales are primarily made through a direct sales force with the remainder split evenly between independent sales representatives and distributors.

Brands

Service/trademarks and trade names within Automation Solutions include Emerson Automation Solutions, AMS, Anderson Greenwood, Appleton, ASCO, ASCO Numatics, Baumann, Bettis, Biffi, Branson, Bristol, Crosby, CSI, Damcos, Daniel, DeltaV, EIM, El-O-Matic, Fisher, Go Switch, Guardian, Keystone, KTM, Micro Motion, Net Safety, Ovation, O-Z/Gedney, Plantweb, ROC, Rosemount, Roxar, Smart Process, SureService, TESCOM, TopWorx, Vanessa and Virgo.

COMMERCIAL & RESIDENTIAL SOLUTIONS

The Commercial & Residential Solutions business consists of the Climate Technologies and Tools & Home Products segments, and provides products and solutions that promote energy efficiency, enhance household and commercial comfort, and protect food quality and sustainability through heating, air conditioning and refrigeration technology, as well as a broad range of tools and appliance solutions. Sales by geographic destination in 2017 for Commercial & Residential Solutions were: the United States and Canada, 64 percent; Asia, 18 percent; Europe, 9 percent; Latin America, 5 percent; and Middle East/Africa, 4 percent.

CLIMATE TECHNOLOGIES

The Climate Technologies segment provides products and services for many areas of the climate control industry, including residential heating and cooling, commercial air conditioning, and commercial and industrial refrigeration. The Company's technologies enable homeowners and businesses to better manage their heating, air conditioning and refrigeration systems for improved control and comfort, and lower energy costs. Climate Technologies also provides services that digitally control and remotely monitor refrigeration units in grocery stores and other food distribution outlets to enhance food freshness and safety, as well as cargo and transportation monitoring solutions. Sales by geographic destination in 2017 for Climate Technologies were: the United States and Canada, 55 percent; Asia, 24 percent; Europe, 10 percent; Latin America, 7 percent; and Middle East/Africa, 4 percent.

Residential and Commercial Heating and Air Conditioning

This business provides a full range of heating and air conditioning products that help reduce operational and energy costs and create comfortable environments in all types of buildings. These products include reciprocating and scroll compressors, including ultra-efficient residential scroll compressors with two stages of cooling capacity, as well as variable speed scroll compressors; system protector and flow control devices; standard, programmable and Wi-Fi thermostats; monitoring equipment and electronic controls for gas and electric heating systems; gas valves for furnaces and water heaters; ignition systems for furnaces; sensors and thermistors for home appliances; and temperature sensors and controls.

Commercial and Industrial Refrigeration

Commercial and industrial refrigeration technologies are incorporated into equipment to refrigerate food and beverages in supermarkets, convenience stores, food service operations, refrigerated trucks and refrigerated marine transport containers. Climate Technologies refrigeration products are also used in a wide variety of industrial applications, including medical applications, food processing and cold storage. Products include reciprocating, scroll and screw compressors; precision flow controls; system diagnostics and controls that provide precise temperature management; and environmental control systems. Transport and cargo monitoring solutions are also offered, which extend throughout the cold chain to ensure quality and safety as food travels from growers to processing and distribution facilities and finally to retail points of sale.

Services and Solutions

Services and solutions enable global customers to optimize the performance of facilities including large-scale retailers, supermarkets, convenience stores and food service operations. By providing expertise in air conditioning, refrigeration and lighting control, Climate Technologies performs as a complete facility manager for its customers. The Company’s expertise allows customers to reduce energy and maintenance costs, thereby improving overall facility efficiency and uptime. In addition to industry-leading controls, services include facility design and product management, site commissioning, facility monitoring and energy modeling.

Distribution

Climate Technologies' sales, primarily to original equipment manufacturers and end users, are made predominately through worldwide direct sales forces. Remaining sales are primarily through independent distributor networks throughout the world.

Brands

Service/trademarks and trade names within the Climate Technologies segment include Emerson Climate Technologies, Control Products, Computer Process Controls, Copeland, Design Services Network, Dixell, Emerson Climate Technologies Distribution Services, Emerson Climate Technologies Educational Services, Emerson Climate Technologies Retail Services, Fusite, ProAct, Sensi, Therm-O-Disc, Vilter, and White-Rodgers.

TOOLS & HOME PRODUCTS

The Company’s Tools & Home Products segment offers tools for professionals and homeowners and appliance solutions. Sales by geographic destination in 2017 for this segment were: the United States and Canada, 86 percent; Asia, 4 percent; Europe, 7 percent; Latin America, 2 percent; and Middle East/Africa, 1 percent.

Professional and Do-It-Yourself Tools

Pipe-working tools are used by plumbing and mechanical professionals to install and repair piping systems. Products include pipe wrenches, pipe cutters, pipe threading and roll grooving equipment, mechanical crimping tube joining systems, drain cleaners, tubing tools, and diagnostic systems, including closed-circuit television pipe inspection and locating equipment. Other professional tools include water jetters, wet-dry vacuums, commercial vacuums and bolt cutters. Do-it-yourself tools, available at retail home improvement outlets, include drain cleaning equipment, pipe and tube working tools, and wet-dry vacuums.

Appliance Solutions

This business provides a number of appliance solutions, including residential and commercial food waste disposers, ceiling fans, instant hot water dispensers and compact electric water heaters.

Distribution

The principal worldwide distribution channels for Tools & Home Products are distributors and direct sales forces. Professional tools are sold worldwide almost exclusively through distributors. Independent sales representatives are utilized to a lesser extent. Appliance solutions are sold through direct sales force networks and distributors. Approximately one-third of this segment's sales are made to a small number of big box outlets, as well as through online retailers.

Brands

Service/trademarks and trade names within the Tools & Home Products segment include Emerson, Grind2Energy, InSinkErator, Badger, ProTeam, RIDGID and WORKSHOP.

On October 2, 2017, the Company sold its residential storage solutions business. This business provides products for the home including shelving systems, cabinet and closet organizers, home office storage, and drawer systems and containers, available in wire, stainless steel and laminate. See Note 3.

DISCONTINUED OPERATIONS

The network power systems business and the power generation, motors and drives business were sold in 2017 and are reported as discontinued operations in the Consolidated Financial Statements for all years presented. See Note 4.

The network power systems business supplies electric power conditioning, power reliability and environmental control products for telecommunications networks, data centers and other critical applications, and also provides comprehensive data center infrastructure management solutions. The power generation, motors and drives business supplies alternators, AC motor/generator sets, traction generators, wind power generators, wind turbine pitch control systems and solar photovoltaic converters, as well as a broad line of drives and electric motors for use in a wide variety of manufacturing operations and products.

PRODUCTION

The Company utilizes various production operations and methods. The principal production operations are electronics assembly, metal stamping, forming, casting, machining, welding, plating, heat treating, painting and assembly. In addition, the Company uses specialized production operations, including automatic and semiautomatic testing, automated material handling and storage, ferrous and nonferrous machining, and special furnaces for heat treating and foundry applications. Management believes the equipment, machinery and tooling used in these processes are of modern design and well maintained.

RAW MATERIALS

The Company's major requirements for basic raw materials include steel, copper, cast iron, electronics, rare earth metals, aluminum and brass; and to a lesser extent, plastics and petroleum-based chemicals. The Company seeks to have many sources of supply for each of its major requirements in order to avoid significant dependence on any one or a few suppliers. However, the supply of materials or other items could be disrupted by natural disasters or other events. Despite market price volatility for certain requirements and materials pricing pressures at some of our businesses, the raw materials and various purchased components needed for the Company’s products have generally been available in sufficient quantities.

PATENTS, TRADEMARKS AND LICENSES

The Company maintains an intellectual property portfolio it has developed or acquired over a number of years, including patents, trademarks and licenses. The Company also continues to develop or acquire new intellectual property on an ongoing basis. New patent applications are continuously filed to protect the Company’s ongoing research and development activities. The Company’s trademark registrations may be renewed and their duration is dependent upon national laws and trademark use. While this proprietary intellectual property portfolio is important to the Company in the aggregate, management does not regard any of its segments as being dependent on any single patent, trademark registration or license.

BACKLOG

The Company’s estimated consolidated order backlog was $4,894 million and $3,925 million at September 30, 2017 and 2016, respectively. A large majority of the consolidated backlog as of September 30, 2017 is expected to be shipped within one year. Backlog by business at September 30, 2017 and 2016 follows (dollars in millions).

	2016	2017
Automation Solutions	$3,464	4,414
Commercial & Residential Solutions	461	480
Total Backlog	$3,925	4,894

The increase in Automation Solutions primarily reflects the acquisition of the valves & controls business.

COMPETITION

The Company's businesses operate in end markets that are highly competitive. The Company competes based on product performance, quality, branding, service and/or price across the industries and markets served. A significant element of the Company's competitive strategy is to deliver solutions to our customers by manufacturing high-quality products at the best relevant global cost. Although no single company competes directly with Emerson in all of the Company's product lines, various companies compete in one or more product lines with the number of competitors varying by product line. Some competitors have substantially greater sales, assets and financial resources than

Emerson and the Company also competes with many smaller companies. Management believes Emerson has a market leadership position in many of its product lines.

RESEARCH AND DEVELOPMENT

Costs associated with Company-sponsored research and development activities for continuing operations were $340 million, $320 million and $336 million in 2017, 2016 and 2015, respectively.

ENVIRONMENT

The Company's manufacturing locations generate waste, of which treatment, storage, transportation and disposal are subject to federal, state, foreign and/or local laws and regulations relating to protection of the environment. Compliance with laws regulating the discharge of materials into the environment or otherwise relating to protection of the environment has not had a material effect on the Company's capital expenditures, earnings or competitive position. The Company does not anticipate having material capital expenditures for environmental control facilities during the next fiscal year.

EMPLOYEES

The Company and its subsidiaries had an average of approximately 76,500 employees during 2017. Management believes that the Company's employee relations are favorable. Some of the Company's employees are represented under collective bargaining agreements, but none of these agreements are considered significant.

DOMESTIC AND FOREIGN OPERATIONS

International sales from continuing operations were $7,991 million in 2017, $7,582 million in 2016 and $8,641 million in 2015, including U.S. exports of $927 million, $888 million and $1,187 million in 2017, 2016 and 2015, respectively. There are additional risks attendant to foreign operations, such as possible nationalization of facilities, currency fluctuations and potential restrictions on the movement of funds. See Note 18 for further information with respect to foreign operations.

INTERNET ACCESS

Emerson's reports on Forms 10-K, 10-Q, 8-K and all amendments to those reports are available without charge through the Company’s website on the internet as soon as reasonably practicable after they are electronically filed with, or furnished to, the U.S. Securities and Exchange Commission (SEC). They may be accessed as follows: www.Emerson.com, Investors, SEC Filings. Information on the Company’s website does not constitute part of this Form 10-K.

The information set forth under Item 1A - "Risk Factors” is hereby incorporated by reference.

ITEM 1A - RISK FACTORS

Investing in our securities involves risks. We may amend or supplement the risk factors described below from time to time by other reports we file with the SEC.

Our Proposed Acquisition of Rockwell Automation, Inc. May Not Be Completed or Completed On the Terms and Conditions Contemplated, or With the Expected Benefits

We are currently pursuing a potential acquisition of Rockwell Automation, Inc. Rockwell has not engaged with the Company on this or previous proposals. If the proposed transaction were to proceed, we can make no assurance as to the completion, terms, timing, costs or benefits anticipated from any such acquisition. The acquisition would involve increases in the Company's debt levels and outstanding shares. Unforeseen developments, including delays in obtaining various tax, regulatory and other approvals, could delay any acquisition, or cause it to occur on terms and conditions that are less favorable, or at a higher cost, than expected. In addition, the Company may encounter difficulties in integration and may not realize the degree or timing of the anticipated benefits of the acquisition.

We Operate in Businesses That Are Subject to Competitive Pressures That Could Affect Prices or Demand for Our Products

Our businesses operate in markets that are highly competitive and potentially volatile, and we compete on the basis of product performance, quality, service and/or price across the industries and markets served. Our businesses are largely dependent on the current and future business environment, including capital and consumer spending. A significant element of our competitive strategy is to deliver solutions to our customers by manufacturing high-quality products at the best relevant global cost. Various companies compete with us in one or more product lines and the number of competitors varies by product line. Some of our competitors have substantially greater sales, assets and financial resources than our Company and we also compete with many smaller companies. Competitive pressures could adversely affect prices or customer demand for our products, impacting our sales or profit margins, and/or resulting in a loss of market share.

Our Operating Results Depend in Part on Continued Successful Research, Development and Marketing of New and/or Improved Products and Services, and There Can Be No Assurance That We Will Continue to Successfully Introduce New Products and Services

The success of new and improved products and services depends on their initial and continued acceptance by our customers. Our businesses are affected by varying degrees of technological change and corresponding shifts in customer demand, which result in unpredictable product transitions, shortened life cycles and increased importance of being first to market with new products and services. We may experience difficulties or delays in the research, development, production and/or marketing of new products and services which may negatively impact our operating results and prevent us from recouping or realizing a return on the investments required to continue to bring new products and services to market.

If We Are Unable to Defend or Protect Our Intellectual Property Rights the Company's Competitive Position Could Be Adversely Affected

The Company's intellectual property rights are important to its business and include numerous patents, trademarks, copyrights, trade secrets and other confidential information. This intellectual property may be subject to challenge, infringement, invalidation or circumvention by third parties. Despite extensive security measures, our intellectual property may be subject to misappropriation through unauthorized access of our information technology systems, employee theft, or other acts of industrial espionage. Should the Company be unable to adequately defend or protect its intellectual property, it may suffer competitive harm.

We Engage in Acquisitions and Divestitures, Which Are Subject to Domestic and Foreign Regulatory Requirements, and May Encounter Difficulties in Integrating and Separating These Businesses and Therefore We May Not Realize the Anticipated Benefits

We regularly seek growth through strategic acquisitions as well as evaluate our portfolio for potential divestitures. These activities require favorable environments to execute these transactions, and we may encounter difficulties in obtaining the necessary regulatory approvals in both domestic and foreign jurisdictions. In 2017 and in past years, we have made various acquisitions, including the valves & controls business, and entered into joint venture arrangements intended to complement or expand our business, and may continue to do so in the future. The success of these transactions will depend on our ability to integrate assets and personnel acquired in these transactions and to cooperate with our strategic partners. We may encounter difficulties in integrating acquisitions with our operations as well as separating divested businesses, and in managing strategic investments. Furthermore, we may not realize the degree, or timing, of benefits we anticipate when we first enter into a transaction. Any of the foregoing could adversely affect our business and results of operations.

We Use a Variety of Raw Materials and Components in Our Businesses, and Significant Shortages or Price Increases Could Increase Our Operating Costs and Adversely Impact the Competitive Positions of Our Products

Our major requirements for raw materials include steel, copper, cast iron, electronics, rare earth metals, aluminum, brass and, to a lesser extent, plastics and petroleum-based chemicals. The Company seeks multiple sources of supply for each of its major requirements in order to avoid significant dependence on any one or a few suppliers. However, the supply of materials or other items could be disrupted by natural disasters or other events. Significant shortages or price increases could impact the prices our affected businesses charge, their operating costs and the competitive position of their products and services, which could adversely affect our results of operations. While we

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monitor market prices of the commodities we require and attempt to mitigate price exposure through hedging activities, this risk could adversely affect our operating results.

Our Operations Depend on Production Facilities Throughout the World, a Majority of Which Are Located Outside the United States and Subject to Increased Risks of Disrupted Production Causing Delays in Shipments and Loss of Customers and Revenue

We manage businesses with manufacturing facilities worldwide, a majority of which are located outside the United States, and also source certain materials internationally. Emerging market sales represent over one-third of total sales and serving a global customer base requires that we place more materials sourcing and production in emerging markets to capitalize on market opportunities and maintain our best-cost position. Our and our suppliers' international production facilities and operations could be disrupted by a natural disaster, labor strife, war, political unrest, terrorist activity or public health concerns, particularly in emerging countries that are not well-equipped to handle such occurrences.

Our manufacturing facilities abroad are dependent on the stability of governments and business conditions and may be more susceptible to changes in laws, policies and regulation in host countries, as well as economic and political upheaval, than our domestic facilities. These facilities face increased risks of nationalization as well as operational disruptions which could cause delays in shipments of products and the loss of sales and customers, and insurance proceeds may not adequately compensate us.

Our Substantial Sales Both in the U.S. and Abroad Subject Us to Economic Risk as Our Results of Operations May Be Adversely Affected by Changes in Local Government Regulations and Policies and Foreign Currency Fluctuations

We sell, manufacture, engineer and purchase products globally, with significant sales in both mature and emerging markets. We expect sales in non-U.S. markets to continue to represent a significant portion of our total sales. Our U.S. and international operations are subject to changes in local government regulations and policies, including those related to tariffs and trade barriers, investments, taxation, exchange controls and repatriation of earnings, which could adversely affect our results. In addition, changes in the relative values of currencies occur from time to time and have affected our operating results and could do so in the future. While we monitor our exchange rate exposures and attempt to mitigate this exposure through hedging activities, this risk could adversely affect our operating results.

Recessions, Adverse Market Conditions or Downturns in End Markets We Serve May Negatively Affect Our Operations

In the past, our operations have been exposed to significant volatility due to changes in general economic conditions, recessions or adverse conditions in the end markets we serve. In the future, similar changes could adversely impact overall sales, operating results and cash flows. Moreover, during economic downturns we may undertake more extensive restructuring actions and incur higher costs. If our restructuring actions are not sufficiently effective, we may not be able to achieve our anticipated operating results. In addition, these factors could lead to impairment charges for goodwill or other long-lived assets.

Access to Funding Through the Capital Markets Is Essential to the Execution of Our Business Plan and if We Are Unable to Maintain Such Access We Could Experience a Material Adverse Effect on Our Business and Financial Results

Our ability to invest in our businesses, make strategic acquisitions and refinance maturing debt obligations requires access to the capital markets and sufficient bank credit lines to support short-term borrowings. Volatility in the capital markets may increase costs associated with issuing commercial paper or other debt instruments, or affect the Company's ability to access those markets. If we are unable to continue to access the capital markets, we could experience a material adverse effect on our business and financial results. Additionally, if our customers, suppliers or financial institutions are unable to access the capital markets to meet their commitments to the Company, our business could be adversely impacted.

Our Business Success Depends on the Ability to Attract, Develop and Retain Key Personnel

Our success depends in part on the efforts and abilities of our management and key employees. Their skills, experience and industry knowledge significantly benefit our operations and performance. The failure to attract, develop and retain highly qualified personnel could adversely affect our business and operating results.

Security Breaches or Disruptions of Our Information Technology Systems Could Adversely Affect Our Business

The Company utilizes a variety of information technology systems to manage and operate its businesses. Despite the implementation of extensive security measures (including access controls, data encryption, vulnerability assessments, continuous monitoring, and maintenance of backup and protective systems), the Company's information technology systems are potentially vulnerable to unauthorized access, computer viruses, cyberattack and other events, ranging from individual attempts to advanced persistent threats. Although considered unlikely, it is possible a security breach could result in theft of trade secrets or other intellectual property or disclosure of confidential customer, supplier or employee information. Should the Company be unable to prevent security breaches, disruptions could have an adverse effect on our operations, as well as expose the Company to litigation, increased cybersecurity protection costs and reputational damage.

We Are Subject to Litigation and Environmental Regulations That Could Adversely Impact Our Operating Results

We are, and may in the future be, a party to a number of legal proceedings and claims, including those involving intellectual property, product liability and environmental matters, several of which claim, or may in the future claim, significant damages. Given the inherent uncertainty of litigation, we can offer no assurance that existing litigation or a future adverse development will not have a material adverse impact. We also are subject to various laws and regulations relating to environmental protection and the discharge of materials into the environment, and we could incur substantial costs as a result of the noncompliance with or liability for cleanup or other costs or damages under environmental laws.

ITEM 1B - UNRESOLVED STAFF COMMENTS

None.

ITEM 2 - PROPERTIES

At September 30, 2017, the Company had approximately 200 manufacturing locations worldwide, of which approximately 130 were located outside the United States, primarily in Europe and Asia, and to a lesser extent in Canada and Latin America. Manufacturing locations by business are: Automation Solutions, 150, and Commercial & Residential Solutions, 50, including 40 in the Climate Technologies segment and 10 in the Tools & Home Products segment. The majority of the locations are owned, with the remainder occupied under lease. The Company considers its facilities suitable and adequate for the purposes for which they are used.

ITEM 3 - LEGAL PROCEEDINGS

The Company and its subsidiaries are party to various legal proceedings, some of which claim substantial amounts of damages. It is not possible to predict the outcome of these matters, but historically the Company has been largely successful in both prosecuting and defending claims and lawsuits.

The Company believes a material adverse impact of any pending litigation is unlikely. Nevertheless, given the uncertainties of litigation, a remote possibility exists that litigation could have a material adverse impact on the Company.

Information regarding legal proceedings is set forth in Note 13.

ITEM 4 - MINE SAFETY DISCLOSURES

Not applicable.

EXECUTIVE OFFICERS OF THE REGISTRANT

The following sets forth certain information as of November 20, 2017 with respect to the Company's executive officers. The Fiscal Year column indicates the first year the executive served as an officer of the Company. These officers have been elected or appointed to terms which expire February 6, 2018:

Name	Position	Age	Fiscal Year
D. N. Farr	Chairman of the Board and Chief Executive Officer*	62	1985
F. J. Dellaquila	Senior Executive Vice President and Chief Financial Officer	60	1991
E. L. Monser	President	67	2002
E. M. Purvis	Executive Vice President and Chief Operating Officer	60	2003
S. J. Pelch	Executive Vice President - Organization Planning and Development	53	2005
R. T. Sharp	Executive President - Commercial & Residential Solutions	50	2012
M. H. Train	Executive President - Automation Solutions	55	1994
S. Y. Bosco	Senior Vice President, Secretary and General Counsel	59	2005
M. J. Bulanda	Senior Vice President - Acquisition Planning and Development	51	2002
K. Button Bell	Senior Vice President and Chief Marketing Officer	59	1999
R. J. Schlueter	Vice President, Controller and Chief Accounting Officer	63	1992

*Also chairman of the Executive Committee of the Board of Directors.

There are no family relationships among any of the executive officers and directors.

David N. Farr has been Chief Executive Officer since October 2000, was appointed Chairman of the Board in September 2004, and also served as President from November 2005 to October 2010.

Frank J. Dellaquila was appointed Senior Executive Vice President in November 2016, Executive Vice President in November 2012 and Senior Vice President and Chief Financial Officer in February 2010.

Edward L. Monser was appointed President in October 2010 and was Chief Operating Officer from November 2001 to January 2015.

Edgar M. Purvis was appointed Chief Operating Officer in January 2015. Prior to his current position, Mr. Purvis was Executive Vice President responsible for the Climate Technologies business segment from 2008 to January 2015.

Steven J. Pelch was appointed Executive Vice President in November 2016, Senior Vice President in November 2015 and Vice President - Organization Planning and Development in November 2014. Prior to that, Mr. Pelch was Vice President - Organization Planning from October 2012 to November 2014 and Vice President - Planning from October 2005 to October 2012.

Robert T. Sharp was appointed Executive President - Commercial & Residential Solutions in October 2016. Prior to his current position, Mr. Sharp was Executive Vice President - Commercial & Residential Solutions from February 2016 through October 2016, Executive Vice President - Climate Technologies from February 2015 through February 2016, Vice President - Profit Planning from 2013 through January 2015 and President - Emerson Process Management Europe from 2009 through 2013.

Michael H. Train was appointed Executive President - Automation Solutions in October 2016. Prior to his current position, Mr. Train was Executive Vice President - Automation Solutions from May 2016 through October 2016 and President of Global Sales for Emerson Process Management from 2010 through May 2016.

Sara Y. Bosco was appointed to the position of Senior Vice President, Secretary and General Counsel in May 2016. Prior to her current position, Ms. Bosco was President, Emerson Asia-Pacific from 2008 through May 2016.

Mark J. Bulanda was appointed Senior Vice President in November 2016 and Vice President - Acquisition Planning and Development in May 2016. Prior to his current position, Mr. Bulanda was Executive Vice President - Emerson Industrial Automation from 2012 through May 2016 and President of Control Techniques from 2010 through 2012.

Katherine Button Bell was appointed Senior Vice President in November 2016 and Vice President and Chief Marketing Officer in 1999.

Richard J. Schlueter was appointed Controller in October 2011. He has been Vice President Accounting since 1999 and was appointed Chief Accounting Officer in February 2003.

On November 9, 2017, the Company announced that Mr. Purvis will retire as Executive Vice President and Chief Operating Officer on December 31, 2017, and that Mr. Pelch will be appointed as the Company's Chief Operating Officer and Executive Vice President Organizational Development as of that same date.

PART II

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

Information regarding the market for the Company's common stock, quarterly market price ranges and dividend payments is set forth in Note 20. There were approximately 19,066 stockholders of record at September 30, 2017.

In November 2015, the Board of Directors authorized the purchase of up to 70 million shares, and 56.9 million shares remain available. No shares were purchased in the fourth quarter of 2017.

ITEM 6 - SELECTED FINANCIAL DATA

Years ended September 30
(dollars in millions, except per share amounts)

	2013 (a)	2014	2015 (b)	2016	2017
Net sales	$17,935	17,733	16,249	14,522	15,264
Earnings from continuing operations – common stockholders	$1,506	2,201	2,517	1,590	1,643
Basic earnings per common share from continuing operations	$2.09	3.13	3.72	2.46	2.54
Diluted earnings per common share from continuing operations	$2.08	3.11	3.71	2.45	2.54
Cash dividends per common share	$1.64	1.72	1.88	1.90	1.92
Long-term debt	$4,055	3,559	4,289	4,051	3,794
Total assets	$24,711	24,177	22,088	21,732	19,589

(a) Includes goodwill impairment and income tax charges of $566 million and $0.78 per share.

(b) Includes gains from divestitures of businesses of $611 million and $0.90 per share.

See Notes 3 and 4 for information regarding the Company's acquisition and divestiture activities for the last three years.

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

Safe Harbor Statement

This Annual Report on Form 10-K contains various forward-looking statements and includes assumptions concerning Emerson's operations, future results and prospects. These forward-looking statements are based on current expectations and are subject to risks and uncertainties. Emerson undertakes no obligation to update any such statements to reflect later developments. In connection with the “safe harbor” provisions of the Private Securities Litigation Reform Act of 1995, Emerson provides the cautionary statements set forth under Item 1A - “Risk Factors,” which are hereby incorporated by reference and identify important economic, political and technological factors, among others, changes in which could cause the actual results or events to differ materially from those set forth in or implied by the forward-looking statements and related assumptions.

Non-GAAP Financial Measures

To supplement the Company’s financial information presented in accordance with U.S. generally accepted accounting principles (U.S. GAAP), management periodically uses certain “non-GAAP financial measures,” as such term is defined in Regulation G under SEC rules, to clarify and enhance understanding of past performance and prospects for the future. Generally, a non-GAAP financial measure is a numerical measure of a company’s operating performance, financial position or cash flows that excludes or includes amounts that are included in or excluded from the most directly comparable measure calculated and presented in accordance with U.S. GAAP. For example, non-GAAP measures may exclude the impact of certain items such as our strategic repositioning actions, other acquisitions or divestitures, changes in reporting segments, gains, losses and impairments, or items outside of management’s control, such as foreign currency exchange rate fluctuations. Management believes that the following non-GAAP financial measures provide investors and analysts useful insight into the Company’s financial position and operating performance. Any non-GAAP measure provided should be viewed in addition to, and not as an alternative to, the most directly comparable measure determined in accordance with U.S. GAAP, as identified in italics below. Further, the calculation of these non-GAAP financial measures may differ from the calculation of similarly titled financial measures presented by other companies and therefore may not be comparable among companies.

Underlying sales, which exclude the impact of acquisitions, divestitures and fluctuations in foreign currency exchange rates during the periods presented, are provided to facilitate relevant period-to-period comparisons of sales growth by excluding those items that impact overall comparability (U.S. GAAP measure: net sales).

Operating profit (defined as net sales less cost of sales and selling, general and administrative expenses) and operating profit margin (defined as operating profit divided by net sales) are indicative of short-term operational performance and ongoing profitability. Management closely monitors operating profit and operating profit margin of each business to evaluate past performance and actions required to improve profitability. EBIT (defined as earnings before deductions for interest expense, net and income taxes) and total segment EBIT, and EBIT margin (defined as EBIT divided by net sales) and total segment EBIT margin, are commonly used financial measures that exclude the impact of financing on the capital structure and income taxes. All these measures are utilized by management to evaluate performance (U.S. GAAP measures: pretax earnings or pretax profit margin).

Earnings, earnings per share, return on common stockholders’ equity and return on total capital excluding certain gains and losses, impairments, costs, impacts of the strategic portfolio repositioning actions, or other items provide additional insight into the underlying, ongoing operating performance of the Company and facilitate period-to-period comparisons by excluding the earnings impact of these items. Management believes that presenting earnings, earnings per share, return on common stockholders' equity and return on total capital excluding these items is more representative of the Company’s operational performance and may be more useful for investors (U.S. GAAP measures: earnings, earnings per share, return on common stockholders’ equity, return on total capital).

Free cash flow (operating cash flow less capital expenditures) and free cash flow as a percent of net sales are indicators of the Company’s cash generating capabilities, and dividends as a percent of free cash flow is an indicator of the Company's ability to support its dividend, after considering investments in capital assets which are necessary to maintain and enhance existing operations. The determination of operating cash flow adds back noncash depreciation expense to earnings and thereby does not reflect a charge for necessary capital expenditures. Management believes that free cash flow, free cash flow as a percent of net sales and dividends as a percent of free cash flow are useful to both management and investors as measures of the Company’s ability to generate cash and support its dividend (U.S. GAAP measure: operating cash flow, operating cash flow as a percent of net sales, dividends as a percent of operating cash flow).

FINANCIAL REVIEW

Report of Management

The Company's management is responsible for the integrity and accuracy of the financial statements. Management believes that the financial statements for the three years ended September 30, 2017 have been prepared in conformity with U.S. generally accepted accounting principles appropriate in the circumstances. In preparing the financial statements, management makes informed judgments and estimates where necessary to reflect the expected effects of events and transactions that have not been completed. The Company's disclosure controls and procedures ensure that material information required to be disclosed is recorded, processed, summarized and communicated to management and reported within the required time periods.

In meeting its responsibility for the reliability of the financial statements, management relies on a system of internal accounting control. This system is designed to provide reasonable assurance that assets are safeguarded and transactions are executed in accordance with management's authorization and recorded properly to permit the preparation of financial statements in accordance with U.S. generally accepted accounting principles. The design of this system recognizes that errors or irregularities may occur and that estimates and judgments are required to assess the relative cost and expected benefits of the controls. Management believes that the Company's internal accounting controls provide reasonable assurance that errors or irregularities that could be material to the financial statements are prevented or would be detected within a timely period.

The Audit Committee of the Board of Directors, which is composed solely of independent directors, is responsible for overseeing the Company's financial reporting process. The Audit Committee meets with management and the Company's internal auditors periodically to review the work of each and to monitor the discharge by each of its responsibilities. The Audit Committee also meets periodically with the independent auditors, who have free access to the Audit Committee and the Board of Directors, to discuss the quality and acceptability of the Company's financial reporting and internal controls, as well as nonaudit-related services.

The independent auditors are engaged to express an opinion on the Company's consolidated financial statements and on the Company's internal control over financial reporting. Their opinions are based on procedures that they believe to be sufficient to provide reasonable assurance that the financial statements contain no material errors and that the Company's internal controls are effective.

Management's Report on Internal Control Over Financial Reporting

The Company's management is responsible for establishing and maintaining adequate internal control over financial reporting for the Company. With the participation of the Chief Executive Officer and the Chief Financial Officer, management conducted an evaluation of the effectiveness of internal control over financial reporting based on the framework and the criteria established in Internal Control - Integrated Framework (2013), issued by the Committee of Sponsoring Organizations of the Treadway Commission. Based on this evaluation, management has concluded that internal control over financial reporting was effective as of September 30, 2017.

The valves & controls business was acquired on April 28, 2017. Management has excluded this business from its assessment of internal control over financial reporting as of September 30, 2017. Valves & controls' total assets and revenues excluded from the assessment represented approximately 20 percent and 4 percent, respectively, of the Company's related consolidated financial statement amounts as of and for the year ended September 30, 2017.

The Company's auditor, KPMG LLP, an independent registered public accounting firm, has issued an audit report on the effectiveness of the Company's internal control over financial reporting.

/s/ David N. Farr	/s/ Frank J. Dellaquila
David N. Farr	Frank J. Dellaquila
Chairman of the Board	Senior Executive Vice President
and Chief Executive Officer	and Chief Financial Officer

Results of Operations
Years ended September 30
(Dollars in millions, except per share amounts)

	2015	2016	2017	16 vs. 15	17 vs. 16
Net sales	$16,249	14,522	15,264	(11)%	5 %
Gross profit	$7,008	6,262	6,404	(11)%	2 %
Percent of sales	43.1 %	43.1 %	42.0 %		
SG&A	$3,735	3,464	3,618		
Percent of sales	23.0 %	23.8 %	23.7 %		
Gains on divestitures of businesses	$1,039	—	—		
Other deductions, net	$330	294	286		
Interest expense, net	$175	188	165		
Earnings from continuing operations before income taxes	$3,807	2,316	2,335	(39)%	1 %
Percent of sales	23.4 %	16.0 %	15.3 %		
Earnings from continuing operations common stockholders	$2,517	1,590	1,643	(37)%	3 %
Net earnings common stockholders	$2,710	1,635	1,518	(40)%	(7)%
Percent of sales	16.7 %	11.3 %	9.9 %		
Diluted EPS – Earnings from continuing operations	$3.71	2.45	2.54	(34)%	4 %
Diluted EPS – Net earnings	$3.99	2.52	2.35	(37)%	(7)%
Return on common stockholders' equity	29.8 %	20.9 %	18.6 %		
Return on total capital	22.8 %	15.5 %	15.3 %		

OVERVIEW

In 2017, Emerson successfully completed the previously announced strategic actions to streamline its portfolio and drive growth in its core businesses. These actions resulted in the divestiture of the network power systems, and power generation, motors and drives businesses, which are reported in discontinued operations for all years presented. Additionally, on April 28, 2017, the Company completed the acquisition of Pentair's valves & controls business.

Sales from continuing operations for 2017 were $15.3 billion, an increase of $742 million, or 5 percent, supported by the acquisition of the valves & controls business, which added 4 percent. Underlying sales were up 1 percent compared with the prior year reflecting improving economic conditions and industrial end markets.

Earnings from continuing operations common stockholders were $1,643 million in 2017, up 3 percent compared with prior year earnings of $1,590 million. Diluted earnings per share from continuing operations were $2.54, up 4 percent versus $2.45 per share in 2016. Earnings per share from continuing operations were $2.64, up 8 percent, excluding first year acquisition accounting charges of $0.10 per share related to the valves & controls business which deducted 4 percentage points.

Discontinued operations in 2017 was a net loss of $125 million, $0.19 per share, reflecting the impact of completing the divestitures. Discontinued operations income in 2016 was $45 million, $0.07 per share. See Note 4 for further information.

Net earnings common stockholders, which includes the impact of discontinued operations, were $1,518 million in 2017, down 7 percent compared with prior year earnings of $1,635 million. Diluted earnings per share were $2.35, down 7 percent versus $2.52 per share in 2016.

Sales increased in both businesses. Automation Solutions sales increased 5 percent due to the acquisition of the valves & controls business, while underlying sales decreased slightly, reflecting weakness in energy-related markets which began to improve in the second half of the year. Commercial & Residential Solutions sales increased 5 percent reflecting favorable conditions in HVAC, refrigeration and construction related markets.

The Company generated operating cash flow from continuing operations of $2.7 billion in 2017, an increase of $191 million, or 8 percent. Total operating cash flow of $1.9 billion was reduced by cash used for discontinued operations of $778 million to execute the repositioning, primarily for income taxes on completion of the divestitures and repatriation of cash.

NET SALES

Net sales for 2017 were $15.3 billion, an increase of $742 million, or 5 percent compared with 2016. Underlying sales, which exclude foreign currency translation, acquisitions and divestitures, increased 1 percent ($168 million) on higher volume and slightly lower price. Acquisitions added 4 percent ($628 million) while foreign currency translation subtracted $54 million. Underlying sales increased 2 percent in the U.S. and were flat internationally. Sales increased $441 million in Automation Solutions and $302 million in Commercial & Residential Solutions.

Net sales for 2016 were $14.5 billion, a decrease of $1,727 million, or 11 percent compared with 2015. Underlying sales decreased 7 percent ($1,046 million) on 6 percent lower volume and 1 percent lower price. Foreign currency translation subtracted 2 percent ($266 million) and divestitures, net of acquisitions subtracted 2 percent ($415 million). Underlying sales decreased 5 percent in the U.S. and 8 percent internationally. Sales in Automation Solutions decreased $1,176 million and Commercial & Residential solutions decreased $76 million.

INTERNATIONAL SALES

Emerson is a global business with international sales representing 52 percent of total sales, including U.S. exports. Although economic conditions are currently soft worldwide, the Company generally expects faster economic growth in emerging markets in Asia, Latin America, Eastern Europe and Middle East/Africa in the future.

International destination sales, including U.S. exports, increased 5 percent, to $8.0 billion in 2017, reflecting increases in both the Automation Solutions and Commercial & Residential Solutions businesses. U.S. exports of $927 million were up 4 percent compared with 2016, reflecting increases in both Automation Solutions, which benefited from the valves & controls acquisition, and Commercial & Residential Solutions. Underlying international destination sales were flat, as foreign currency translation had a 1 percent unfavorable impact, while acquisitions had a 6 percent favorable impact on the comparison. Underlying sales were down 1 percent in Europe and up 6 percent in Asia (China up 15 percent). Underlying sales decreased 12 percent in Latin America, 3 percent in Canada and 6 percent in Middle East/Africa. Origin sales by international subsidiaries, including shipments to the U.S., totaled $7.2 billion in 2017, up 6 percent compared with 2016, primarily reflecting the valves & controls acquisition.

International destination sales, including U.S. exports, decreased 12 percent, to $7.6 billion in 2016, reflecting decreases in all segments, partially due to divestitures. U.S. exports of $888 million were down 25 percent compared with 2015, reflecting reduced spending by global oil and gas customers, weakness in industrial spending and the stronger U.S. dollar. Underlying international destination sales declined 8 percent, as foreign currency translation and divestitures had a 3 percent and a 1 percent unfavorable impact, respectively, on the comparison. Underlying sales were up 2 percent in Europe and decreased 10 percent in both Asia and Latin America. Sales decreased 21 percent in Canada and 15 percent in Middle East/Africa. Weakness in energy-related and industrial end markets and global economic uncertainty challenged growth in these areas. Origin sales by international subsidiaries, including shipments to the U.S., totaled $6.8 billion in 2016, down 10 percent compared with 2015, reflecting the weakness in industrial capital spending, unfavorable foreign currency translation and divestitures.

ACQUISITIONS AND DIVESTITURES

The Company is currently pursuing a potential acquisition of Rockwell Automation, Inc. On November 16, 2017, the Company announced that it proposed to acquire Rockwell for $29 billion, or $225 per share, consisting of $135 per share in cash, financed primarily with newly issued debt, and $90 per share in Emerson stock, which would result in Rockwell shareholders owning approximately 22 percent of the combined company. Rockwell has not engaged with the Company on this or previous proposals. Rockwell had fiscal 2017 sales of approximately $6.3 billion. See Item 1A - "Risk Factors" for additional information.

See information under “Discontinued Operations” for a discussion of the Company’s divestitures related to its portfolio repositioning actions.

On April 28, 2017, the Company completed the acquisition of Pentair's valves & controls business for $2.960 billion, net of cash acquired of $207 million, subject to certain post-closing adjustments. This business, with annualized sales of approximately $1.4 billion, is a manufacturer of control, isolation and pressure relief valves and actuators, and complements the Valves, Actuators & Regulators product offering within Automation Solutions. The Company also acquired two smaller businesses in the Automation Solutions segment. Total cash paid for all businesses was $3.0 billion, net of cash acquired. See Note 3.

On October 2, 2017, the Company sold its residential storage business for $200 million in cash, subject to post-closing adjustments, and expects to recognize a loss of approximately $40 million in 2018 due to income taxes resulting from nondeductible goodwill. The Company expects to realize approximately $140 million in after-tax cash proceeds from the sale. This business, with sales of $298 million and pretax earnings of $15 million in 2017, is a leader in home organization and storage systems, and was reported within the Tools & Home Products segment.

The Company acquired six businesses in 2016, four in Automation Solutions and two in Climate Technologies. Total cash paid for these businesses was $132 million, net of cash acquired. Annualized sales for these businesses were approximately $51 million in 2016. The Company completed eight acquisitions in 2015, seven in Automation Solutions and one in Tools & Home Products, which had combined annualized sales of approximately $115 million. Total cash paid for all businesses was $324 million, net of cash acquired.

In January 2015, the Company completed the sale of its mechanical power transmission solutions business for $1.4 billion, and recognized a pretax gain from the transaction of $939 million ($532 million after-tax, $0.78 per share). Proceeds from the divestiture were used for share repurchase. This business was previously reported in the former Industrial Automation segment, and had partial year sales of $189 million in 2015 and related pretax earnings of $21 million. Power transmission solutions designs and manufactures market-leading couplings, bearings, conveying components and gearing and drive components, and provides supporting services and solutions.

On September 30, 2015, the Company sold its InterMetro commercial storage business for $411 million in cash and recognized a pretax gain from the transaction of $100 million ($79 million after-tax, $0.12 per share). This business was previously reported in the former Commercial & Residential Solutions segment, and had annual sales of $288 million and pretax earnings of $42 million in 2015. InterMetro is a leading manufacturer and supplier of storage and transport products in the food service, commercial products and health care industries.

COST OF SALES

Cost of sales for 2017 were $8.9 billion, an increase of $600 million compared with $8.3 billion in 2016. The increase reflects the acquisition of the valves & controls business and higher volume, partially offset by cost reduction actions and the impact of foreign currency translation. Gross profit was $6.4 billion in 2017 compared to $6.3 billion in 2016. Gross margin of 42.0 percent reflected dilution of 1.2 percentage points due to the valves & controls operations and first year acquisition accounting charges of $74 million related to inventory. Slightly lower price also contributed to the decline, while savings from cost reduction actions partially offset these decreases. Gross profit margin was 43.1 percent in 2016.

Cost of sales for 2016 were $8.3 billion, a decrease of $981 million compared with $9.2 billion in 2015, primarily due to reduced sales volume, the impact of foreign currency translation ($186 million) and prior year divestitures ($273 million). Gross profit was $6.3 billion in 2016 compared with $7.0 billion in 2015. Gross margin of 43.1 percent was flat compared with 2015, as savings from cost reduction and containment actions were offset by deleverage on lower volume and unfavorable mix.

SELLING, GENERAL AND ADMINISTRATIVE EXPENSES

Selling, general and administrative (SG&A) expenses of $3.6 billion in 2017 increased $154 million compared with 2016, primarily due to the valves & controls acquisition. Savings from cost reduction actions and lower incentive stock compensation of $35 million, reflecting the impact of changes in the stock price, were partially offset by higher other costs. SG&A as a percent of sales of 23.7 percent decreased 0.1 percentage points compared with 2016.

SG&A expenses of $3.5 billion in 2016 decreased $271 million compared with 2015. The decrease reflects savings from cost reduction actions, reduced costs from lower sales volume, and prior year divestitures ($137 million), partially offset by higher incentive stock compensation of $121 million. SG&A as a percent of sales of 23.8 percent increased 0.8 percent in 2016, reflecting deleverage on lower sales volume and higher incentive stock compensation, primarily due to changes in the stock price and overlap of awards, partially offset by savings from restructuring actions.

GAINS ON DIVESTITURES OF BUSINESSES

In 2015, the Company sold its power transmission solutions and commercial storage businesses and recorded pretax gains of $939 million ($532 million after-tax, $0.78 per share) and $100 million ($79 million after-tax, $0.12 per share), respectively. See Note 3.

OTHER DEDUCTIONS, NET

Other deductions, net were $286 million in 2017, a decrease of $8 million compared with 2016. The decrease primarily reflects favorable foreign currency transactions comparisons of $78 million (unfavorable in the prior year) and lower restructuring expense of $18 million. These decreases were substantially offset by intangibles and backlog amortization related to the valves & controls acquisition of $29 million and $19 million, respectively, and higher acquisition/divestiture costs of $24 million. Additionally, 2016 results included a $21 million gain from payments received related to dumping duties. See Note 5.

Other deductions, net were $294 million in 2016, a $36 million decrease from 2015 primarily due to lower restructuring costs of $42 million, decreased litigation costs of $30 million and a $21 million gain on payments received related to dumping duties. The decrease in other deductions was partially offset by unfavorable foreign currency transactions of $67 million.

INTEREST EXPENSE, NET

Interest expense, net was $165 million, $188 million and $175 million in 2017, 2016 and 2015, respectively. The decrease of $23 million in 2017 reflects the maturity of long-term debt with relatively higher interest rates and higher interest income.

INCOME TAXES

Income taxes were $660 million, $697 million and $1,267 million for 2017, 2016 and 2015, respectively, resulting in effective tax rates of 28 percent, 30 percent and 33 percent in 2017, 2016 and 2015, respectively. The 2 percentage point decrease versus the prior year is largely due to tax benefits from restructuring a foreign subsidiary. The 3 percentage point higher rate in 2015 was due to taxes on the gains from the divestitures of the power transmission solutions and commercial storage businesses.

EARNINGS FROM CONTINUING OPERATIONS

Earnings from continuing operations attributable to common stockholders in 2017 were $1,643 million, up 3 percent compared with 2016, and diluted earnings per share were $2.54 in 2017, up 4 percent. Valves & controls reduced both comparisons by 6 percentage points, or $97 million, $0.15 per share, including restructuring expense, intangibles amortization, and first year pretax acquisition accounting charges related to inventory and backlog of $93 million ($65 million after-tax, $0.10 per share) which are reported in Corporate and other. Earnings increased $66 million in the Automation Solutions segment in 2017 and $72 million in Commercial & Residential Solutions. See the Business discussion that follows and Note 18.

Earnings from continuing operations attributable to common stockholders in 2016 were $1,590 million, down 37 percent compared with 2015, and diluted earnings per share were $2.45, down 34 percent. Divestiture gains in the prior year negatively impacted earnings from continuing operations and earnings per share comparisons by 20 and 21 percentage points, respectively. In 2016, earnings decreased $390 million in the Automation Solutions segment and increased $87 million in Commercial & Residential Solutions.

DISCONTINUED OPERATIONS

On November 30, 2016, the Company completed the sale of its network power systems business for $4.0 billion in cash and retained a subordinated interest in distributions, contingent upon the equity holders first receiving a threshold return on their initial investment. This business comprised the former Network Power segment. Additionally, on

January 31, 2017, the Company completed the sale of its power generation, motors and drives business for approximately $1.2 billion, subject to post-closing adjustments. This business was previously reported in the former Industrial Automation segment. The results of operations for these businesses were reported in discontinued operations for all years presented, and the assets and liabilities were reflected as held-for-sale. See Note 4 and Item 1A - "Risk Factors."

Discontinued operations was a net loss of $125 million in 2017, and income of $45 million and $193 million for 2016 and 2015, respectively. In 2017, the net loss of $125 million, $0.19 per share, included an after-tax gain on the divestiture of the network power systems business of $125 million, a $173 million after-tax loss on the divestiture of the power generation, motors and drives business, income tax expense of $109 million for repatriation of sales proceeds, and lower expense of $32 million primarily due to ceasing depreciation and amortization for the discontinued businesses held-for-sale. Operating cash flow used by discontinued operations was $778 million for 2017, which primarily included payments of approximately $700 million for income taxes on completion of the divestitures and repatriation of cash, cash used by operations and other costs. Capital expenditures were $20 million.

Discontinued operations income of $45 million, $0.07 per share, in 2016 included earnings from operations of $344 million and costs to execute the portfolio repositioning of $299 million. These costs are comprised of income tax expense of $143 million for repatriation of cash from these businesses, reorganization of their legal structures prior to sale, and basis differences for book and tax, as well as costs for legal, consulting, investment banking and other expenses of $77 million. In addition, net earnings for 2016 included a loss of $103 million to write down the power generation, motors and drives business to the sales price less costs to sell, and lower expense of $24 million due to ceasing depreciation and amortization for the discontinued businesses held-for-sale. Discontinued operations income of $193 million, $0.28 per share, in 2015 included earnings from operations of $245 million and separation costs of $52 million, comprised of income tax expense of $42 million and fees of $10 million. Operating cash flow from discontinued operations was $382 million (net of payments of $179 million for separation costs) and $489 million for 2016 and 2015, respectively. Capital expenditures were $76 million for 2016 and $97 million for 2015.

NET EARNINGS AND EARNINGS PER SHARE; RETURNS ON EQUITY AND TOTAL CAPITAL
Net earnings attributable to common stockholders in 2017 were $1,518 million, down 7 percent compared with 2016, and diluted earnings per share were $2.35, down 7 percent. These results include the impact of discontinued operations discussed above which negatively impacted net earnings and earnings per share comparisons 10 and 11 percentage points, respectively.

Net earnings attributable to common stockholders in 2016 were $1,635 million, down 40 percent compared with 2015, and diluted earnings per share were $2.52, down 37 percent. Net earnings and earnings per share comparisons were negatively impacted approximately 24 percentage points due to divestiture gains of $611 million ($0.90 per share) in 2015 and discontinued operations in both years.

Return on common stockholders' equity (net earnings attributable to common stockholders divided by average common stockholders' equity) was 18.6 percent in 2017 compared with 20.9 percent in 2016 and 29.8 percent in 2015. Return on total capital was 15.3 percent in 2017 compared with 15.5 percent in 2016 and 22.8 percent in 2015 (computed as net earnings attributable to common stockholders excluding after-tax net interest expense, divided by average common stockholders' equity plus short- and long-term debt less cash and short-term investments). Discontinued operations and the acquisition of the valves & controls business reduced the 2017 return on common stockholders' equity approximately 19 percentage points and return on total capital 11 percentage points. Discontinued operations reduced the 2016 return on common stockholders' equity approximately 23 percentage points and return on total capital 9 percentage points. For 2015, the combined impact of the divestiture gains and discontinued operations reduced the return on common stockholders' equity approximately 12 percentage points and return on total capital 3 percentage points.

Business Segments
Following is an analysis of segment results for 2017 compared with 2016, and 2016 compared with 2015. The Company defines segment earnings as earnings before interest and income taxes. In connection with the strategic portfolio repositioning actions completed in fiscal 2017, the Company began reporting three segments: Automation Solutions, and Climate Technologies and Tools & Home Products which together comprise the Commercial & Residential Solutions business. See Note 18.

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AUTOMATION SOLUTIONS

(dollars in millions)	2015	2016	2017	16 vs. 15	17 vs. 16
Sales	$10,153	8,977	9,418	(12)%	5%
Earnings	$1,846	1,456	1,522	(21)%	5%
Margin	18.2 %	16.2 %	16.2 %		

Sales by Major Product Offering	2015	2016	2017	16 vs. 15	17 vs. 16
Measurement & Analytical Instrumentation	$3,619	3,137	3,070	(13)%	(2)%
Valves, Actuators & Regulators	2,559	2,137	2,668	(16)%	25 %
Industrial Solutions	1,779	1,621	1,680	(9)%	4 %
Process Control Systems & Solutions	2,196	2,082	2,000	(5)%	(4)%
Total	$10,153	8,977	9,418	(12)%	5 %

2017 vs. 2016 - Automation Solutions reported sales of $9.4 billion in 2017, an increase of $441 million, or 5 percent. Underlying sales decreased 1 percent ($128 million) on lower volume and slightly lower price. The valves & controls acquisition added 7 percent ($603 million), while foreign currency translation subtracted 1 percent ($34 million). Sales for Measurement & Analytical Instrumentation decreased 2 percent and Process Control Systems & Solutions decreased 4 percent due to weakness in energy-related markets, but began to improve in the second half of the year as oil prices stabilized. Valves, Actuators & Regulators increased $531 million, or 25 percent, due to the valves & controls acquisition. Industrial Solutions sales increased $59 million, or 4 percent, on improving economic conditions and industrial end markets, especially automotive. Chemical, power and life sciences were favorable. Underlying sales increased 1 percent in the U.S., were down 2 percent in Europe and increased 1 percent in Asia (China up 9 percent). Latin America decreased 20 percent, Canada decreased 6 percent and Middle East/Africa was down 6 percent. Earnings of $1.5 billion increased $66 million from the prior year. Savings from cost reduction actions and favorable foreign currency transactions comparisons of $64 million (unfavorable in the prior year) were partially offset by lower volume, and $25 million of restructuring expense and $29 million of intangibles amortization related to the valves & controls acquisition. Materials cost containment offset lower price. Margin was flat, primarily reflecting the benefit from cost reduction actions offset by dilution from the valves & controls acquisition of 1.5 percentage points. Strong order rates in the second half of the year were supported by broad-based momentum across end markets and regions. Going forward, strong demand for MRO and mid-sized projects together with increasing momentum in international markets supports the outlook for solid underlying growth in fiscal 2018.

2016 vs. 2015 - Automation Solutions reported sales of $9.0 billion in 2016, a decrease of $1.2 billion or 12 percent. Underlying sales decreased 10 percent ($1,027 million) on 9 percent lower volume and 1 percent lower price as global oil and gas customers continued to curtail spending levels in a difficult environment. Foreign currency translation had a 2 percent ($206 million) unfavorable impact, while acquisitions added $57 million. Sales for Measurement & Analytical Instrumentation, Valves, Actuators & Regulators, and Process Control Systems & Solutions decreased 13 percent, 16 percent and 5 percent, respectively, compared with the prior year. These decreases reflect lower capital and operational spending by global oil and gas customers, particularly in upstream markets, while sales growth was positive in life sciences and power. Industrial Solutions sales decreased 9 percent on weakness in industrial spending and upstream oil and gas markets. Underlying sales decreased 10 percent in the U.S., were up 2 percent in Europe and decreased 13 percent in Asia (China down 16 percent). Latin America decreased 13 percent, Canada was down 26 percent and Middle East/Africa decreased 18 percent. Earnings of $1.5 billion decreased $390 million and margin was down 2.0 percentage points due to sharply lower volume, deleverage and unfavorable mix, partially offset by savings from cost reduction actions and lower restructuring costs of $22 million. Materials cost containment offset lower pricing. Results also reflect unfavorable foreign currency transactions of $65 million, partially offset by a favorable comparison from litigation costs of $20 million in 2015.

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COMMERCIAL & RESIDENTIAL SOLUTIONS

(dollars in millions)	2015	2016	2017	16 vs. 15	17 vs. 16
Sales:					
Climate Technologies	$4,006	3,944	4,212	(2)%	7 %
Tools & Home Products	1,625	1,611	1,645	(1)%	2 %
Total	$5,631	5,555	5,857	(1)%	5 %

Earnings: