ANNUAL REPORT



Building Long-Term Value

that Transcends Multiple Industries

Digital Transformation

Organizations that successfully implement automation technologies see game-changing returns, but knowing where to start is key to success. Emerson understands that customers aren't looking for a one-size-fits-all approach.

That's why we help create customizable, scalable solutions that deliver a meaningful return on investment.

Industry Stewardship

The industries we serve are facing changing regulations, shifting economic landscapes and a widening skilled trades gap – a trifecta of challenges. With our breadth of industry experience and depth of domain expertise, we are uniquely qualified and highly motivated to help our customers succeed.

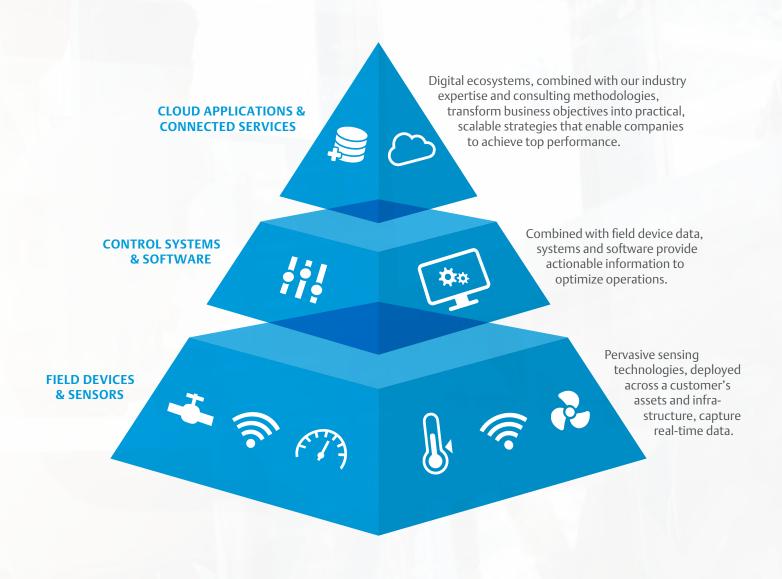
Performance Culture

A disciplined management style and drive to execute to the highest of our abilities are ingrained in Emerson's DNA. We are developing our workforce and our organization in strategic areas to ensure our continued success.



Digital Transformation

At Emerson, we leverage our domain expertise and broad foundation of devices and software to help customers digitally transform their operations to boost production, improve reliability, enhance safety and minimize energy usage.





David N. FarrChairman and Chief Executive Officer

Dear Shareholders.

As Emerson prepares to celebrate 130 years since its founding, we are looking back on a year full of opportunities and unique challenges. Despite shifting global market conditions, we performed well in 2019 and drove key initiatives that will put us in a position of even greater strength going into 2020 and beyond.

We delivered a solid year in 2019: 6% sales growth, or 3% on an underlying basis, and 7% earnings per share growth. With 43% gross margin and 21% EBITDA margin, our profitability remains among the highest of our peers. We continue to create value with our investments, delivering a 19.5% return on total capital in 2019. Our operating cash flow of \$3 billion was up 4%, and free cash flow was up 6% to \$2.4 billion. At the same time, our dividends as a percent of free cash flow improved by 4 points to 50% in 2019 - a critical milestone that supports continued dividend per share increases in the future.

Our disciplined management process has helped to create a culture dedicated to strong and consistent performance: 2019 marked our 63rd consecutive year of increased dividends. This same rigorous process – and deep commitment to our shareholders, customers, partners, employees and their families, and communities – is the foundation of a long history of taking decisive action and executing changes to strengthen our organization for the future. Even as we continue performing well, we recognized early in 2019 that uncertainty was

clouding the macroeconomic picture and that global markets were slowing as we headed into the second half of the fiscal year.

To stay ahead of this global trend and ensure the continued strength of our organization, in mid-2019, the Board of Directors activated a process in which we are very well versed: a comprehensive review of our operational, capital allocation and portfolio initiatives. Our Board is leading this review in collaboration with a leading consulting firm and independent legal and financial advisors to enhance shareholder value and position Emerson for both near- and long-term success. We have met and continue to meet with shareholders throughout this review. As always, we are driven by doing what is right by our many stakeholders.

Our drive to understand and anticipate industry direction is part of our disciplined approach to value creation. As our customers explore ways to digitally transform, we're leading the charge – helping them navigate the latest automation capabilities to realize measurable results and reach high levels of safety, productivity, reliability and reduced emissions and energy use.

In 2019, Emerson's Automation Solutions platform launched a dedicated digital transformation business that combines our unique sensing technology, operational analytics and broad services footprint to deliver targeted digital solutions to real customer problems. This unique approach of focusing on measurable results is working – the business is greater than a half billion in annual revenue and grew at a mid-teens underlying rate in 2019.

'We're putting data to work across the organization to empower our customers and to help with critical needs like protecting food quality and advancing the industries that are the backbone of daily life.'

> As a technology leader, we are building on our software and analytics capabilities to create high-value solutions and profitable growth. Through strategic, bolt-on acquisitions, we offer the broadest automation portfolio and operational analytics capability to our customers. This year, we welcomed General Electric's Intelligent Platforms business; Zedi's cloud software and automation business; KnowledgeNet™ (KNet) analytics software; Bioproduction Group (Bio-G) modeling

simulation and scheduling software; and iSolutions Inc. data management consulting group. These acquisitions enhance our ability to help customers use data to optimize their operations.

Data is just one piece of the digital transformation process. It's what we help customers do with that data through strong, informative analytics that truly enables the industry to reach its highest potential. We're putting data to work across the organization to empower our customers and to help with critical needs like protecting food quality and advancing the industries that are the backbone of daily life.

As we build on our technology capabilities, we are also making investments to help cultivate our strong and engaged workforce, the most valuable asset to our sustained success. We have proactively advanced our diversity and inclusion efforts, and more than 9,000 of our employees have gone through unconscious bias awareness training to date. Our employee resource groups - including Women in STEM, Blacks Reinforcing Diversity, Veterans and LBGTQ+ Allies – have also played an integral role in building a strong support network for our inclusive workforce.

We rely on employee feedback to ensure we are providing the tools that our nearly 90,000 employees need to grow their careers, share ideas, deliver excellent work and maintain a high quality of life. In fact, Supporting Our People is one of Emerson's core values. This year, employees were invited to participate in a workplace culture survey, and we were grateful to receive thoughtful perspectives from more than 19,500 employees. We learned that 8 out of 10 people are proud to work at Emerson, and 3 out of 4 say their job gives them a sense of accomplishment. While we strive to improve these numbers further, the positive results coming from a vast majority are encouraging.

ONE-YEAR PERFORMANCE

Years ended September 30 Dollars in millions, except per share amounts	2018	2019	PERCENT CHANGE
Sales	\$ 17,408	\$ 18,372	6%
Gross profit	\$ 7,432	\$ 7,815	5%
EBIT	\$ 2,826	\$ 3,033	7%
EBITDA	\$ 3,584	\$ 3,855	8%
Net earnings	\$ 2,203	\$ 2,306	5%
Earnings per share	\$ 3.46	\$ 3.71	7%
Dividends per share	\$ 1.94	\$ 1.96	1%
Operating cash flow	\$ 2,892	\$ 3,006	4%
Free cash flow	\$ 2,275	\$ 2,412	6%
Dividends as a percent of free cash flow	54%	50%	

6%

Sales Growth

7%

Earnings Per Share Growth

16.4%

Operating Cash Flow as a Percent of Sales

THREE-YEAR PERFORMANCE

Years ended September 30 Dollars in millions, except per share amounts	2016*	2019	PERCENT CHANGE
Sales	\$ 14,522	\$ 18,372	8%
Gross profit	\$ 6,262	\$ 7,815	8%
EBIT	\$ 2,504	\$ 3,033	7%
EBITDA	\$ 3,072	\$ 3,855	8%
Net earnings	\$ 1,590	\$ 2,306	13%
Earnings per share	\$ 2.45	\$ 3.71	15%
Dividends per share	\$ 1.90	\$ 1.96	1%
Operating cash flow	\$ 2,499	\$ 3,006	6%
Free cash flow	\$ 2,052	\$ 2,412	6%
Dividends as a percent of free cash flow	60%	50%	

^{*2016} results are presented on a continuing operations basis

'Employee engagement is a critical building block to delivering best-in-class solutions to customers.'

I firmly believe employee engagement is a critical building block to creating a destination workplace and, by extension, delivering best-inclass solutions to customers.

We've prioritized partnerships with public organizations and academia to help prepare the workforce of the future. The new Performance Learning Platform at Ranken Technical College in St. Louis, Mo., and the Energy and Chemicals Training Centre built in partnership with Singapore Polytechnic are just two of many investments made in 2019 that reinforce our commitment to infuse digitally powered skillsets into classroom curriculum. And to show my personal passion for this issue, in July, I signed

on as co-chair to the National Association of Manufacturers "Creators Wanted" campaign to inspire and drive more Americans to pursue careers in modern manufacturing.

We're also leading enhanced sustainability efforts to better care for our world. Emerson has a role to play in the global effort to reduce greenhouse gas (GHG) emissions and to manage energy effectively. Since 2006, we've reported our GHG emissions for our manufacturing facilities as part of the Carbon Disclosure Project, and recently expanded our reporting to include all Emerson facilities. This year, we actively engaged environmental experts to evaluate the leading GHG reporting protocols, industry best





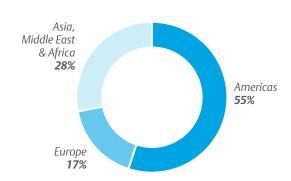
Top: Robert T. Sharp, S. Lal Karsanbhai, Katherine Button Bell, Michael H. Train Middle: Mark J. Bulanda, Sara Yang Bosco, Steven J. Pelch **Bottom:** Frank J. Dellaquila, David N. Farr

Return on Total Capital

(After Tax)



Sales by Geographic Destination



practices and our current global operations to develop a long-term strategy with goals to reduce greenhouse gas emissions from our operations. We announced a new goal to reduce our GHG emissions by 20%, normalized to sales, across our global manufacturing facilities by the year 2028. This target was developed alongside leading environmental experts to demonstrate our progress toward reducing emissions, while accounting for growth across our dynamic global business.

None of this would be possible without the work and quidance of our exceptional Board, which has welcomed four new Directors in the last three years. I want to extend a special welcome to our newest Board members: Martin S. Craighead, former chairman, president and chief executive officer of Baker Hughes, who was elected in June; and Mark A. Blinn, former president and chief executive officer of Flowserve Corporation, who was recently

elected in November. Together, these key additions bring to our Board a breadth of executive and board leadership experience and expertise in energy and automation end markets.

On behalf of the Board of Directors and the full team at Emerson, we thank our shareholders for your continued support and trust. We are achieving incredible things together – and you have a role in helping us leave the world in a better place than we found it.

Thank you, and all the best for a safe and healthy 2020.

David N. Farr

Chairman and Chief Executive Officer

Independent Board Guidance

Evaluating Strategy and Identifying Risks

Emerson Lead Independent Director Dr. Clemens A.H. Boersig provides insight and perspective on the Company's commitment to bring value to shareholders.

Q: What is the role of the Board in helping Emerson balance its responsibility to shareholders, employees and the communities it serves?

A: Emerson is known for its disciplined management process and forward-looking focus on recognizing and executing changes to ensure the continued strength of the business. An engaged, effective Board of Directors is key to providing inputs and guiding decisions around strategy to help drive both near- and long-term success.

As an organization, Emerson feels a strong responsibility to all stakeholders: investors, employees and their families, customers, partners and communities. The Board views every decision through this critical lens to ensure our actions align with our constituencies.

Q: How does the Board complement Emerson's leadership?

A: Emerson's Board is comprised of individuals with deep expertise in their respective industries and extensive business leadership. Emerson's management team, including Chairman and



CEO David Farr, has a thorough understanding of the day-to-day business of the organization. The collective knowledge of the Board helps Emerson determine and align on strategic priorities. The Board's wealth of insight can help navigate the organization through changing global trends, while providing strategic direction that will enable the Company to continue delivering value into the future.

Q: How does Emerson's Board help inform strategy and evaluate risks?

A: We lead a thorough planning cycle each year in June to set strategy and identify and evaluate risk. Our comprehensive process includes a multi-day strategy workshop to determine and prioritize the top financial and operational threats and opportunities facing the Company and evaluate key investments and potential acquisition and divestiture targets. This approach enables the Board to respond to new information and quide the Company to success. This year, our process included a discussion of slowing macroeconomic trends, and we directed the organization to begin planning for alternative scenarios in 2020 that had consequences for our near-term plans.

Q: The Board has welcomed four new Directors over the last three years, including most recently Martin Craighead in June and Mark Blinn in November 2019. What is your process for refreshing the Board?

A: Board refreshment is vital to ensuring we maintain fresh perspectives. Our Board has carefully identified the core competencies needed to provide the strongest governance and strategic direction to the organization. We have a robust process to identify candidates, and we initiate discussions well in advance of Board retirements to ensure continuity. I meet personally with candidates, as does Josh Bolten, chairman of the Governance and Nominating Committee, as well as other committee members, to ensure that candidates not only possess the requisite skills and characteristics, but also the personality, leadership traits, work ethic and independence of thought to effectively contribute as a member of the Board.

Dr. Clemens A. H. Boersig Lead Independent Director

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Board of Directors

Standing: Mark A. Blinn, Lori M. Lee, Arthur F. Golden, Gloria A. Flach, Clemens A.H. Boersig, Joshua B. Bolten, James S. Turley, Martin S. Craighead, **Seated:** Matthew S. Levatich, David N. Farr, Candace Kendle

Empowering Digital Transformation

for Scalable Customer Solutions

Every industry has an eye toward unlocking the power of digital transformation, but for most, success has been elusive. Technology hype, uncertainty and a lack of clear business objectives have naturally led to confusion and skepticism.

At Emerson, we're working to make digital transformation real for our customers. That means helping them use technology to rethink business processes and performance. The true benefit of digital transformation is that it empowers people with real-time data and actionable analytics to deliver business value.

Companies that successfully introduce digital transformation strategies experience meaningful improvement in project and operational performance – but knowing where and how to start is a challenge.

Emerson experts are helping customers introduce game-changing technologies, data analytics and new approaches at all levels, from smart sensors in industrial facilities and temperature sensors in freezer cases, to cloud applications and connected services.

To do this, we're making organizational changes to address customer needs. Within our Automation Solutions business, our new dedicated digital transformation group combines the latest in connected technologies with our deep industry expertise and services. This new business partners with customers to make digital transformation a reality in process, hybrid and discrete industries. Starting with a clear vision and business case, we help companies develop a customized roadmap and implement scalable solutions that deliver measurable results at each step. Leveraging our \$120 billion installed base, Emerson is well positioned to make a significant global impact.

> Emerson and the National Renewable Energy Laboratory (NREL) are partnering on a project to develop advanced controls to improve the operational efficiency of commercial buildings, often with air conditioning and refrigeration equipment. This project will help support NREL efforts to strengthen grid-interactive efficient buildings that are powered by smart technologies, optimize energy use, empower more renewables and ensure comfort.







Strengthening Industry Stewardship

and Helping our Customers Succeed

The industries we serve are facing significant challenges: ever-evolving regulations, shifting economic landscapes and a widening skills gap. With our breadth of industry experience and depth of domain expertise, Emerson is positioned to help customers succeed by serving as an advocate and partner in solving critical business challenges.

As a longtime leader in heating, ventilation, air conditioning and refrigeration, Emerson helps HVAC companies prepare for ongoing changes in environmental regulation that will drastically change the industry's approach and technologies – and reduce the use of refrigerants that potentially impact global warming. We're taking the lead on advancing energy-efficient compressors that provide responsible air-conditioning solutions. Our role as a steward of the industry is to work collaboratively with trade groups, regulatory bodies, customers and suppliers to create next-generation, sustainable solutions that don't compromise comfort - a crucial element of health and well-being.

Emerson also provides solutions that support a global shift to cleaner energy sources. For example, we play an important role in the global transition to liquefied natural gas (LNG) as an alternative to traditional hydrocarbons. We have a robust solutions portfolio – including control systems and software, advanced sensor technologies and the industry's most comprehensive valves offering – to enable new liquefaction and regassification facilities that will support the maturing global LNG trade in the coming years.

> Emerson's monitoring devices and cloud-based Oversight portal enables companies like Naturipe to maintain food quality across an optimized cold chain – from harvest to storage to store shelves. Our anytime/anywhere visibility, analytics-driven insights, and advanced loggers and trackers offer greater traceability to ensure sensitive food is held at the right temperature, and enhanced transparency to tell the complete story of a food's life cycle.



Strengthening Industry Stewardship

(continued)

We're helping create a sustainable workforce as well. As skilled trades face an unprecedented talent gap, Emerson is providing solutions to both grow the pipeline of workers and help protect the current workforce. Building on our acquisition of Klauke and Greenlee into our professional tools business, Emerson collaborates with skilled tradespeople to learn about their needs - and help them do their jobs more efficiently and safely.

These efforts inform our innovations. For example, we have developed tools to alert first responders to electrical issues and other dangers, and we recently introduced ergonomic crimpers to help avoid repetitive injuries.

Working hand in hand with academia is important to the continued strength of the skilled trades workforce. Through our Greenlee business, Emerson has 35 Green Apple Labs in technical colleges across the United States that provide hands-on experience with real-world tools and certifications for trade professionals. In addition, our Automation Solutions business works with more than 350 educational institutions worldwide, from engineering colleges to trade schools.

Emerson takes seriously our responsibility to support skilled trades and is committed to continuing and growing our collaboration with customers, regulators, trade groups and schools.

> Emerson partners with many universities and colleges to help develop the next generation of innovators. By providing training tools to learning institutions like San Jacinto College's new Center for Petrochemical, Energy and Technology (CPET) and others, we are driving a shared vision to train and attract more people to the industry. These efforts are designed to empower students of all levels with the skills and training needed to support careers and workforce development goals.



Delivering Top Results

Through a Culture of Performance

An empowered workforce is the cornerstone of our culture and success – and ongoing ability to help customers reach for the highest performance levels. We are growing our organization in strategic areas to help ensure our continued strength and sustained financial performance. We invest in the people and technology that will enable us to maintain our competitive edge and continue attracting the best and brightest employees to carry out our vision.

Employees, and prospective employees, are inspired by our purpose-driven culture, built on a foundation of unified core values that inform every decision we make as an organization. We are bringing Emerson's Support Our People value to life by investing in our next generation of leaders. By focusing on initiatives like our Rising Leaders Program, we're helping employees boost their skillsets, cultivate management capabilities and take on innovative projects to change the future of our industries.

We seek to continuously improve our culture and, in 2019, facilitated a survey of nearly 20,000 employees to gauge progress. Employees shared valuable feedback and, unprompted, insights about the power of Emerson's values and how much they resonate across the organization. We were pleased to see this momentum in driving engagement, satisfaction and performance across the board.

Our rigorous management process ensures thoughtful, informed decision making. Emerson's values of discipline, which values measured counsel from our Board, fortifies a foundation that has led to steady financial performance, careful succession planning and 63 years of increasing dividends.

We are building on this foundation in strategic ways, enhancing technology and analytics capabilities through smart acquisitions and successful integrations that enable us to stay ahead of customer needs and trends.

As we plan for the future of our industries, we are securing our own future as well – building on a legacy of success and strength that will carry us through the next 130 years.



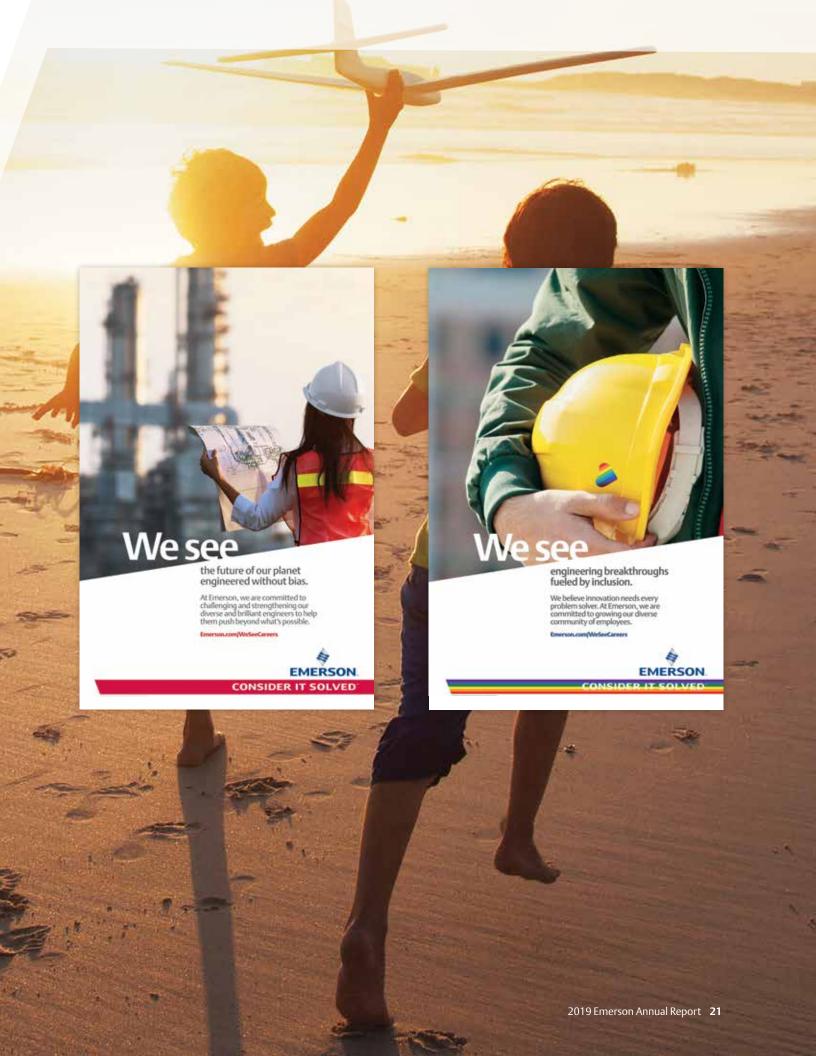
Nurturing Our Culture

of Respect and Inclusion





Our latest "We See" campaign embodies our fundamental philosophy: that a diverse and inclusive work environment contributes to the rich exchange of ideas that inspires innovation and creates the best solutions for our customers. Across the organization, our active and robust Employee Resource Groups bring this belief to life every day.



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 each of the years in the threeyear period ended September 30, 2019 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, 2019.

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.

David N. Farr

Chairman of the Board and Chief Executive Officer Frank J. Dellaquila

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Senior Executive Vice President and Chief Financial Officer

Results of Operations

Years ended September 30 | Dollars in millions, except per share amounts

	2017	2018	2019	18 vs. 17	19 vs. 18
Net sales	\$15,264	17,408	18,372	14%	6%
Gross profit	\$ 6,431	7,432	7,815	16%	5%
Percent of sales	42.1%	42.7%	42.5%		
SG&A	\$ 3,607	4,269	4,457		
Percent of sales	23.6%	24.5%	24.2%		
Other deductions, net	\$ 324	337	325		
Interest expense, net	\$ 165	159	174		
Earnings from continuing operations before income taxes	\$ 2,335	2,667	2,859	14%	7%
Percent of sales	15.3%	15.3%	15.6%		
Earnings from continuing operations common stockholders	\$ 1,643	2,203	2,306	34%	5%
Percent of sales	10.8%	12.7%	12.6%		
Diluted EPS – Earnings from continuing operations	\$ 2.54	3.46	3.71	36%	7%
Return on common stockholders' equity	18.6%	24.9%	26.8%		
Return on total capital	15.3%	20.6%	19.5%		

OVERVIEW

Emerson's sales for 2019 were \$18.4 billion, an increase of \$1.0 billion, or 6 percent, supported by acquisitions, which added 5 percent. Underlying sales, which exclude acquisitions and a negative impact from foreign currency translation of 2 percent, were up 3 percent compared with the prior year.

Net earnings common stockholders were \$2.3 billion in 2019, up 5 percent compared with prior year earnings of \$2.2 billion. Diluted earnings per share were \$3.71, up 7 percent versus \$3.46 per share in 2018, due to modest sales growth and lower corporate expenses.

The Company generated operating cash flow of \$3.0 billion in 2019, an increase of \$114 million, or 4 percent.

NET SALES

Net sales for 2019 were \$18.4 billion, an increase of \$1.0 billion, or 6 percent compared with 2018. Sales increased \$761 million in Automation Solutions and \$187 million in Commercial & Residential Solutions. Underlying sales, which exclude foreign currency translation, acquisitions and divestitures, increased 3 percent (\$526 million) on higher volume and slightly higher price. Acquisitions added 5 percent (\$759 million) while foreign currency translation subtracted 2 percent (\$321 million). Underlying sales increased 2 percent in the U.S. and 4 percent internationally.

Net sales for 2018 were \$17.4 billion, an increase of \$2.1 billion, or 14 percent compared with 2017. Sales increased \$2.0 billion

in Automation Solutions and \$125 million in Commercial & Residential Solutions. Underlying sales increased 8 percent (\$1.1 billion) on higher volume. Acquisitions, net of the divestiture of the residential storage business, added 5 percent (\$819 million) and foreign currency translation added 1 percent (\$181 million). Underlying sales increased 9 percent in the U.S. and 7 percent internationally.

INTERNATIONAL SALES

Emerson is a global business with international sales representing 54 percent of total sales, including U.S. exports. The Company generally expects faster economic growth in emerging markets in Asia, Latin America, Eastern Europe and Middle East/Africa.

International destination sales, including U.S. exports, increased 5 percent, to \$10.0 billion in 2019, reflecting increases in both the Automation Solutions and Commercial & Residential Solutions businesses. U.S. exports of \$1.1 billion were up 2 percent compared with 2018. Underlying international destination sales were up 4 percent, as acquisitions had a 5 percent favorable impact, while foreign currency translation had a 4 percent unfavorable impact on the comparison. Underlying sales increased 3 percent in Europe, 2 percent in Asia, Middle East & Africa (China up 3 percent), 17 percent in Latin America and 4 percent in Canada. Origin sales by international subsidiaries, including shipments to the U.S., totaled \$9.0 billion in 2019, up 5 percent compared with 2018.

International destination sales, including U.S. exports, increased 18 percent, to \$9.5 billion in 2018, reflecting increases in both the Automation Solutions and Commercial & Residential Solutions businesses. U.S. exports of \$1.1 billion were up 19 percent compared with 2017, reflecting increases in both Automation Solutions and Commercial & Residential Solutions which benefited from acquisitions. Underlying international destination sales were up 7 percent, as foreign currency translation had a 2 percent favorable impact, while acquisitions, net of the divestiture of the residential storage business, had a 9 percent favorable impact on the comparison. Underlying sales increased 2 percent in Europe, 9 percent in Asia, Middle East & Africa (China up 17 percent), 4 percent in Latin America and 12 percent in Canada. Origin sales by international subsidiaries, including shipments to the U.S., totaled \$8.5 billion in 2018, up 19 percent compared with 2017, primarily reflecting acquisitions.

ACQUISITIONS AND DIVESTITURES

The Company acquired eight businesses in 2019, all in the Automation Solutions segment, for \$469 million, net of cash acquired. These eight businesses had combined annual sales of approximately \$300 million.

On July 17, 2018, the Company completed the acquisition of Aventics, a global provider of smart pneumatics technologies that power machine and factory automation applications, for \$622 million, net of cash acquired. This business, which has annual sales of approximately \$425 million, is included in the Industrial Solutions product offering within the Automation Solutions segment.

On July 2, 2018, the Company completed the acquisition of Textron's tools and test equipment business for \$810 million, net of cash acquired. This business, with annual sales of approximately \$470 million, is a manufacturer of electrical and utility tools, diagnostics, and test and measurement instruments, and is reported in the Tools & Home products segment.

On December 1, 2017, the Company acquired Paradigm, a provider of software solutions for the oil and gas industry, for \$505 million, net of cash acquired. This business had annual sales of approximately \$140 million and is included in the Measurement & Analytical Instrumentation product offering within Automation Solutions.

In fiscal 2018, the Company also acquired four smaller businesses, two in the Automation Solutions segment and two in the Climate Technologies segment.

On October 2, 2017, the Company sold its residential storage business for \$200 million in cash, and recognized a small pretax gain and an after-tax loss of \$24 million (\$0.04 per share) in 2018 due to income taxes resulting from nondeductible goodwill. The Company realized approximately \$150 million in after-tax cash proceeds from the sale. This business had

sales of \$298 million and pretax earnings of \$15 million in 2017, and was previously reported within the Tools & Home Products segment.

On April 28, 2017, the Company completed the acquisition of Pentair's valves & controls business for \$2.96 billion, net of cash acquired of \$207 million, subject to certain postclosing 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 in 2017 was \$3.0 billion, net of cash acquired.

See Note 4 for further information on acquisitions and divestitures, including pro forma financial information. See information under "Discontinued Operations" for a discussion of the Company's divestitures related to its portfolio repositioning actions.

COST OF SALES

Cost of sales for 2019 were \$10.6 billion, an increase of \$581 million compared with \$10.0 billion in 2018. The increase is primarily due to acquisitions and higher volume, partially offset by the impact of foreign currency translation. Gross profit was \$7.8 billion in 2019 compared to \$7.4 billion in 2018. Gross margin decreased 0.2 percentage points to 42.5 percent, reflecting unfavorable mix and the impact of acquisitions, partially offset by savings from cost reduction actions. Gross margin was 42.7 percent in 2018.

Cost of sales for 2018 were \$10.0 billion, an increase of \$1.1 billion compared with \$8.8 billion in 2017. The increase is primarily due to acquisitions, higher volume and the impact of foreign currency translation. Gross profit was \$7.4 billion in 2018 compared with \$6.4 billion in 2017. Gross margin increased 0.6 percentage points to 42.7 percent reflecting leverage on higher volume and savings from cost reduction actions, partially offset by the impact of acquisitions. Gross margin was 42.1 percent in 2017.

SELLING, GENERAL AND **ADMINISTRATIVE EXPENSES**

Selling, general and administrative (SG&A) expenses of \$4.5 billion in 2019 increased \$188 million compared with 2018 due to acquisitions and higher volume. SG&A as a percent of sales of 24.2 percent decreased 0.3 percentage points due to leverage on higher volume and lower incentive stock compensation of \$96 million, reflecting a decreasing stock price in the current year compared to an increasing stock price in the prior year, partially offset by a negative impact from acquisitions of 0.4 percentage points and higher investment spending.

SG&A expenses of \$4.3 billion in 2018 increased \$662 million compared with 2017, due to acquisitions and an increase in volume. SG&A as a percent of sales of 24.5 percent increased 0.9 percentage points due to higher incentive stock compensation of \$106 million, reflecting an increase in the Company's stock price and progress toward achieving its performance objectives, the impact of acquisitions, and higher investment spending in Automation Solutions, partially offset by leverage on higher volume.

OTHER DEDUCTIONS, NET

Other deductions, net were \$325 million in 2019, a decrease of \$12 million compared with 2018. The decrease primarily reflects lower acquisition/divestiture costs of \$29 million, pension expenses of \$42 million and foreign currency transactions of \$13 million, partially offset by higher intangibles amortization and restructuring expense of \$27 million and \$30 million, respectively. See Note 5.

Other deductions, net were \$337 million in 2018, an increase of \$13 million compared with 2017. The increase primarily reflects higher intangibles amortization of \$75 million due to acquisitions and higher acquisition/divestiture costs of \$18 million, partially offset by lower pension and restructuring expenses of \$78 million and \$13 million, respectively.

INTEREST EXPENSE, NET

Interest expense, net was \$174 million, \$159 million and \$165 million in 2019, 2018 and 2017, respectively. The increase in 2019 was due to lower interest income, while the decrease in 2018 reflects the maturity of long-term debt with relatively higher interest rates and higher interest income.

EARNINGS FROM CONTINUING OPERATIONS BEFORE INCOME TAXES

Pretax earnings of \$2.9 billion increased \$192 million in 2019, up 7 percent compared with 2018. Earnings increased \$61 million in Automation Solutions and decreased \$81 million in Commercial & Residential Solutions, while costs reported at corporate decreased \$227 million. See the Business discussion that follows and Note 18.

Pretax earnings of \$2.7 billion increased \$332 million in 2018, up 14 percent compared with 2017. Earnings increased \$364 million in Automation Solutions and decreased \$6 million in Commercial & Residential Solutions, while costs reported at corporate increased \$32 million.

INCOME TAXES

On December 22, 2017, the U.S. government enacted tax reform, the Tax Cuts and Jobs Act (the "Act"), which made comprehensive changes to U.S. federal income tax laws by moving from a global to a modified territorial tax regime. The Act includes a reduction of the U.S. corporate income tax rate from 35 percent to 21 percent in calendar year 2018 along

with the elimination of certain deductions and credits, and a one-time "deemed repatriation" of accumulated non-U.S. earnings. During 2018, the Company recognized a net tax benefit of \$189 million (\$0.30 per share) due to impacts of the Act, consisting of a \$94 million benefit on revaluation of net deferred income tax liabilities to the lower tax rate, \$35 million of expense for the tax on deemed repatriation of accumulated non-U.S. earnings and withholding taxes, and the reversal of \$130 million accrued in previous periods for the planned repatriation of non-U.S. cash. The Company completed its accounting for the Act in the first quarter of fiscal 2019.

Effective in fiscal 2019, the Act also subjects the Company to U.S. tax on global intangible low-taxed income earned by certain of its non-U.S. subsidiaries. The Company has elected to recognize this tax as a period expense when it is incurred.

In the second quarter of fiscal 2019, the Company recorded a \$13 million (\$0.02 per share) tax benefit due to the issuance of final regulations related to the one-time tax on deemed repatriation.

Income taxes were \$531 million, \$443 million and \$660 million for 2019, 2018 and 2017, respectively, resulting in effective tax rates of 19 percent, 17 percent and 28 percent in 2019, 2018 and 2017, respectively. The lower rates in 2019 and 2018 reflect the lower tax rate on earnings and discrete tax benefits due to the impacts of the Act described above. The effective tax rates in 2019, 2018 and 2017 also include benefits from restructuring subsidiaries of \$74 million (\$0.12 per share), \$53 million (\$0.08 per share) and \$47 million (\$0.07 per share), respectively.

NET EARNINGS AND EARNINGS PER SHARE; RETURNS ON EQUITY AND TOTAL CAPITAL

Net earnings attributable to common stockholders in 2019 were \$2.3 billion, up 5 percent compared with 2018, and diluted earnings per share were \$3.71, up 7 percent, due to modest sales growth and lower corporate expenses. Earnings per share comparisons were also impacted by the prior year net tax benefit due to impacts of the Act of \$0.30 per share discussed above, which was partially offset by 2018 first year acquisition accounting charges of \$0.09 per share and a \$0.04 per share loss on the residential storage business.

Net earnings attributable to common stockholders in 2018 were \$2.2 billion, up 45 percent compared with 2017, and diluted earnings per share were \$3.46, up 47 percent. Earnings per share for 2018 included the net tax benefit due to impacts of the Act of \$0.30 per share. Results also included an \$0.18 per share benefit from the lower tax rate on 2018 earnings, partially offset by a \$0.04 per share loss on the residential storage business. The 2017 results included a net loss from discontinued operations of \$125 million which benefited net earnings and earnings per share comparisons 11 percentage points. Discontinued operations included the network power systems business, which was sold on November 30, 2016

for \$4.0 billion in cash, and the power generation, motors and drives business, which was sold on January 31, 2017 for approximately \$1.2 billion. See Note 4.

Return on common stockholders' equity (net earnings attributable to common stockholders divided by average common stockholders' equity) was 26.8 percent in 2019 compared with 24.9 percent in 2018 and 18.6 percent in 2017. Return on total capital was 19.5 percent in 2019 compared with 20.6 percent in 2018 and 15.3 percent in 2017 (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). Higher net earnings benefited the 2019 returns, while an increase in long-term debt negatively impacted the return on total capital. The impacts of U.S. tax reform discussed above benefited the 2018 return on common stockholders' equity and return on total capital, while the acquisition of the valves & controls business and discontinued operations reduced the 2017 returns.

Business Segments

Following is an analysis of segment results for 2019 compared with 2018, and 2018 compared with 2017. 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.

AUTOMATION SOLUTIONS

(DOLLARS IN MILLIONS)	2017	2018	2019	18 vs. 17	19 vs. 18
Sales	\$9,418	11,441	12,202	21%	7%
Earnings	\$1,522	1,886	1,947	24%	3%
Margin	16.2%	16.5%	16.0%		
Sales by Major Product Offering					
Measurement & Analytical					
Instrumentation	\$3,070	3,604	3,807	17%	6 %
Valves, Actuators & Regulators	2,659	3,749	3,794	41%	1%
Industrial Solutions	1,689	1,967	2,232	16%	14%
Process Control					
Systems & Solutions	2,000	2,121	2,369	6%	12%
Total	\$9,418	11,441	12,202	21%	7%

2019 vs. 2018 – Automation Solutions sales were \$12.2 billion in 2019, an increase of \$761 million, or 7 percent. Underlying sales increased 5 percent (\$582 million) on higher volume and slightly higher price. Acquisitions added 4 percent (\$426 million) and foreign currency translation had a 2 percent (\$247 million) unfavorable impact. Sales for Measurement & Analytical Instrumentation increased \$203 million, or 6 percent, reflecting broad-based strength across process and hybrid end markets. Valves, Actuators & Regulators increased \$45 million, or 1 percent, on favorable global oil and gas demand. Industrial Solutions sales increased \$265 million, or 14 percent, due to the Aventics acquisition (\$292 million), while discrete manufacturing end markets were slow in the U.S. and Europe. Process Control Systems & Solutions increased \$248 million, or 12 percent, driven by greenfield investment and modernization activity, while acquisitions added \$134 million. Underlying sales increased 4 percent in the Americas (U.S. up 2 percent), 4 percent in Europe, and 8 percent in Asia, Middle East & Africa (China up 13 percent), supported by infrastructure investment across the region. Earnings of \$1.9 billion increased \$61 million from the prior year driven by higher volume and price. Margin decreased 0.5 percentage points to 16.0 percent, reflecting a dilutive impact from acquisitions of 0.7 percentage points and increased restructuring expense of \$24 million. Excluding these items, margin increased due to leverage on the higher volume.

2018 vs. 2017 – Automation Solutions reported sales of \$11.4 billion in 2018, an increase of \$2.0 billion or 21 percent. Underlying sales increased 10 percent (\$922 million) on higher volume. Acquisitions added 10 percent (\$978 million) and foreign currency translation added 1 percent (\$123 million). Sales for Measurement & Analytical Instrumentation increased \$534 million, or 17 percent, and Process Control Systems & Solutions increased \$121 million, or 6 percent, due to increased spending by global oil and gas customers, strong MRO demand and growth of small and mid-sized projects focused on facility expansion and optimization. The acquisition of Paradigm (\$113 million) also supported Measurement & Analytical Instrumentation sales. Valves, Actuators & Regulators increased \$1.1 billion, or 41 percent, led by the valves & controls acquisition (\$771 million) and broad-based demand across end markets, including energy, power and life sciences. Industrial Solutions sales increased \$278 million, or 16 percent, driven by favorable global trends in general industrial end markets. Underlying sales increased 13 percent in the Americas (U.S. up 14 percent), 1 percent in Europe and 11 percent in Asia, Middle East & Africa (China up 21 percent). Earnings of \$1.9 billion increased \$364 million from the prior year on higher volume and leverage, cost reduction savings and lower restructuring expense of \$22 million, partially offset by higher investment spending. Margin increased 0.3 percentage points to 16.5 percent. These results reflect a dilutive impact on comparisons from the valves & controls acquisition of 1.2 percentage points, which included an impact from higher intangibles amortization of 0.4 percentage points, or \$45 million.

COMMERCIAL & RESIDENTIAL SOLUTIONS

(DOLLARS IN MILLIONS)	2017	2018	2019	18 vs. 17	19 vs. 18
Sales:					
Climate Technologies	\$4,212	4,454	4,313	6 %	(3)%
Tools & Home Products	1,645	1,528	1,856	(7)%	22 %
Total	\$5,857	5,982	6,169	2 %	3 %
Earnings:					
Climate Technologies	\$ 975	972	883	-%	(9)%
Tools & Home Products	383	380	388	(1)%	2 %
Total	\$1,358	1,352	1,271	-%	(6)%
Margin	23.2%	22.6%	20.6%		

2019 vs. 2018 - Commercial & Residential Solutions sales were \$6.2 billion in 2019, an increase of \$187 million, or 3 percent. Underlying sales decreased 1 percent (\$59 million) on lower volume partially offset by higher price. Acquisitions added 5 percent (\$320 million) while foreign currency translation subtracted 1 percent (\$74 million). Climate Technologies sales were \$4.3 billion in 2019, a decrease of \$141 million, or 3 percent. HVAC sales were down sharply in Asia, Middle East & Africa, particularly in China air conditioning and heating markets, while growth in the U.S. was modest. Global cold chain sales were down slightly, as modest growth in the U.S. was more than offset by slower demand in Asia and Europe. Tools & Home Products sales were \$1.9 billion in 2019, up \$328 million or 22 percent compared to the prior year, reflecting the tools and test acquisition and modest growth for professional tools. Sales for wet/dry vacuums were up moderately due to higher price, while food waste disposers were flat. Overall, underlying sales increased 3 percent in the Americas (U.S. up 2 percent) and 1 percent in Europe, while Asia, Middle East & Africa decreased 12 percent (China down 15 percent). Earnings were \$1.3 billion, a decrease of \$81 million and margin was down 2.0 percentage points, primarily due to a dilutive impact from the tools and test acquisition of 0.8 percentage points, deleverage on lower volume in the Climate Technologies segment and unfavorable mix.

2018 vs. 2017 – Commercial & Residential Solutions sales were \$6.0 billion in 2018, an increase of \$125 million, or 2 percent. Underlying sales increased 4 percent (\$226 million) on higher volume and slightly higher price. Foreign currency translation added 1 percent (\$58 million) while the divestiture of the residential storage business, net of acquisitions, subtracted 3 percent (\$159 million). Climate Technologies sales were \$4.5 billion in 2018, an increase of \$242 million, or 6 percent. Global HVAC sales were up moderately, reflecting robust growth in China, while sales were up moderately in Europe and modestly in the U.S. Cold chain sales were strong, led by robust growth in China and solid growth in Europe, while sales in the U.S. were up slightly. Sensors had strong growth, while temperature controls was flat. Tools & Home

Products sales were \$1.5 billion in 2018, down \$117 million or 7 percent compared to the prior year, reflecting the impact of the residential storage divestiture (\$298 million). Sales for professional tools were strong on favorable demand in oil and gas and construction-related markets, and the tools and test acquisition added \$106 million. Wet/dry vacuums had solid growth and food waste disposers were up slightly. Overall, underlying sales increased 3 percent in the Americas (U.S. up 3 percent), 4 percent in Europe and 6 percent in Asia, Middle East & Africa (China up 11 percent). Earnings were \$1.4 billion, a decrease of \$6 million and margin was down 0.6 percentage points. Higher materials costs, the impact of acquisitions, unfavorable mix and increased restructuring expense of \$11 million were partially offset by leverage on higher volume, favorable price and savings from cost reduction actions. In addition, the residential storage divestiture reduced earnings by \$16 million, but benefited margin comparisons 1.0 percentage points, while higher warranty costs of \$10 million associated with a specific product issue in Climate Technologies partially offset this benefit.

Financial Position, Capital Resources and Liquidity

The Company continues to generate substantial cash from operations and has the resources available to reinvest for growth in existing businesses, pursue strategic acquisitions and manage its capital structure on a short- and long-term basis.

CASH FLOW FROM CONTINUING OPERATIONS

(DOLLARS IN MILLIONS)	2017	2018	2019
Operating Cash Flow	\$2,690	2,892	3,006
Percent of sales	17.6%	16.6%	16.4%
Capital Expenditures	\$ 476	617	594
Percent of sales	3.1%	3.5%	3.2 %
Free Cash Flow (Operating Cash Flow less Capital Expenditures)	\$2,214	2,275	2,412
Percent of sales	14.5%	13.1%	13.1%
Operating Working Capital	\$1,007	985	1,113
Percent of sales	6.6%	5.7%	6.1%

Operating cash flow for 2019 was \$3.0 billion, a \$114 million, or 4 percent increase compared with 2018, due to higher earnings, partially offset by higher operating working capital. Operating cash flow from continuing operations of \$2.9 billion in 2018 increased 8 percent compared to \$2.7 billion in 2017, primarily due to higher earnings, partially offset by an increase in working capital investment to support higher levels of sales activity and income taxes paid on the residential storage divestiture. At September 30, 2019, operating working capital as a percent of sales was 6.1 percent compared with 5.7 percent in 2018 and 6.6 percent in 2017. Contributions to pension plans were \$60 million in 2019, \$61 million in 2018 and \$45 million in 2017. Capital expenditures were \$594 million, \$617 million and \$476 million in 2019, 2018 and 2017, respectively. Free cash flow (operating cash flow less capital expenditures) was \$2.4 billion in 2019, up 6 percent. Free cash flow from continuing operations was \$2.3 billion in 2018, compared with \$2.2 billion in 2017. The Company is targeting capital spending of approximately \$600 million in 2020. Net cash paid in connection with acquisitions was \$469 million, \$2.2 billion and \$3.0 billion in 2019, 2018 and 2017, respectively. Proceeds from divestitures not classified as discontinued operations were \$14 million, \$201 million and \$39 million in 2019, 2018 and 2017, respectively.

Dividends were \$1.2 billion (\$1.96 per share) in 2019, compared with \$1.2 billion (\$1.94 per share) in 2018 and \$1.2 billion (\$1.92 per share) in 2017. In November 2019, the Board of Directors voted to increase the quarterly cash dividend 2 percent, to an annualized rate of \$2.00 per share.

Purchases of Emerson common stock totaled \$1.25 billion, \$1.0 billion and \$400 million in 2019, 2018 and 2017, respectively, at average per share prices of \$62.83, \$66.25 and \$60.51.

The Board of Directors authorized the purchase of up to 70 million common shares in November 2015, and 21.9 million shares remain available for purchase under this authorization. The Company purchased 19.9 million shares in 2019, 15.1 million shares in 2018, and 6.6 million shares in 2017 under this authorization.

LEVERAGE/CAPITALIZATION

(DOLLARS IN MILLIONS)	2017	2018	2019
Total Assets	\$19,589	20,390	20,497
Long-term Debt	\$ 3,794	3,137	4,277
Common Stockholders' Equity	\$ 8,718	8,947	8,233
Total Debt-to-Total Capital Ratio	34.8%	34.7%	41.0%
Net Debt-to-Net Capital Ratio	15.4%	29.1%	33.9%
Operating Cash Flow-to-Debt Ratio	57.8%	60.7%	52.5 %
Interest Coverage Ratio	12.6X	14.2X	15.2X

Total debt, which includes long-term debt, current maturities of long-term debt, commercial paper and other short-term borrowings, was \$5.7 billion, \$4.8 billion and \$4.7 billion for 2019, 2018 and 2017, respectively. During the year, the Company repaid \$400 million of 5.25% notes that matured in October 2018 and \$250 million of 5.0% notes that matured in April 2019. In January 2019, the Company issued €500 million of 1.25% notes due October 2025 and €500 million of 2.0% notes due October 2029. In May 2019, the Company issued €500 million of 0.375% notes due May 2024. The net proceeds from the sale of the notes were used to reduce commercial paper borrowings and for general corporate purposes. In 2018 and 2017, respectively, the Company repaid \$250 million of 5.375%

notes that matured in October 2017 and \$250 million of 5.125% notes that matured in December 2016.

The total debt-to-capital ratio and the net debt-to-net capital ratio (less cash and short-term investments) increased in 2019 due to increased borrowings. In 2018 the net debt-to-net capital ratio increased due to a decrease in cash which was used for acquisitions during the year. The operating cash flow-to-debt ratio decreased in 2019 primarily due to the increased borrowings in the current year, partially offset by a modest increase in operating cash flows. The increase in 2018 was primarily due to higher operating cash flows. The interest coverage ratio is computed as earnings from continuing operations before income taxes plus interest expense, divided by interest expense. The increase in interest coverage in 2018 and 2019 reflects higher earnings in the respective years.

In May 2018, the Company entered into a \$3.5 billion fiveyear revolving backup credit facility with various banks, which replaced the April 2014 \$3.5 billion facility. The credit facility is maintained to support general corporate purposes, including commercial paper borrowings. The Company has not incurred any borrowings under this or previous facilities. The credit facility contains no financial covenants and is not subject to termination based on a change of credit rating or material adverse changes. The facility is unsecured and may be accessed under various interest rate and currency denomination alternatives at the Company's option. Fees to maintain the facility are immaterial. The Company also maintains a universal shelf registration statement on file with the SEC under which it can issue debt securities, preferred stock, common stock, warrants, share purchase contracts or share purchase units without a predetermined limit. Securities can be sold in one or more separate offerings with the size, price and terms to be determined at the time of sale.

Emerson's financial structure provides the flexibility necessary to achieve its strategic objectives. The Company has been successful in efficiently deploying cash where needed worldwide to fund operations, complete acquisitions and sustain long-term growth. At September 30, 2019, substantially all of the Company's cash was held outside the U.S. (primarily in Europe and Asia). The Company routinely repatriates a portion of its non-U.S. cash from earnings each year, or otherwise when it can be accomplished tax efficiently, and provides for withholding taxes and any applicable U.S. income taxes as appropriate. The Company has been able to readily meet all its funding requirements and currently believes that sufficient funds will be available to meet the Company's needs in the foreseeable future through operating cash flow, existing resources, short- and long-term debt capacity or backup credit lines.

CONTRACTUAL OBLIGATIONS

At September 30, 2019, the Company's contractual obligations, including estimated payments, are as follows:

	AMOUNTS DUE BY PERIOD					
		LESS			MORE	
		THAN	1 – 3	3 – 5	THAN	
(DOLLARS IN MILLIONS)	TOTAL	1 YEAR	YEARS	YEARS	5 YEARS	
Long-term Debt						
(including Interest)	\$6,163	663	1,080	1,226	3,194	
Operating Leases	511	159	194	95	63	
Purchase Obligations	854	738	94	16	6	
Total	\$7,528	1,560	1,368	1,337	3,263	

Purchase obligations consist primarily of inventory purchases made in the normal course of business to meet operational requirements. The table above does not include \$2.0 billion of other noncurrent liabilities recorded in the balance sheet and summarized in Note 19, which consist primarily of pension and postretirement plan liabilities, asbestos litigation, deferred income taxes and unrecognized tax benefits, because it is not certain when these amounts will become due. See Notes 11 and 12 for estimated future benefit payments and Note 14 for additional information on deferred income taxes.

FINANCIAL INSTRUMENTS

The Company is exposed to market risk related to changes in interest rates, foreign currency exchange rates and commodity prices, and selectively uses derivative financial instruments, including forwards, swaps and purchased options to manage these risks. The Company does not hold derivatives for trading or speculative purposes. The value of derivatives and other financial instruments is subject to change as a result of market movements in rates and prices. Sensitivity analysis is one technique used to forecast the impact of these movements. Based on a hypothetical 10 percent increase in interest rates, a 10 percent decrease in commodity prices or a 10 percent weakening in the U.S. dollar across all currencies, the potential losses in future earnings, fair value or cash flows are not material. Sensitivity analysis has limitations; for example, a weaker U.S. dollar would benefit future earnings through favorable translation of non-U.S. operating results, and lower commodity prices would benefit future earnings through lower cost of sales. See Notes 1, and 8 through 10.

Critical Accounting Policies

Preparation of the Company's financial statements requires management to make judgments, assumptions and estimates regarding uncertainties that could affect reported revenue, expenses, assets, liabilities and equity. Note 1 describes the significant accounting policies used in preparation of the consolidated financial statements. The most significant areas

where management judgments and estimates impact the primary financial statements are described below. Actual results in these areas could differ materially from management's estimates under different assumptions or conditions.

REVENUE RECOGNITION

The Company evaluates its contracts with customers to identify the promised goods or services and recognizes revenue for the identified performance obligations at the amount the Company expects to be entitled to in exchange for those goods or services. A performance obligation is a promise in a contract to transfer a distinct good or service to a customer. Revenue is recognized when, or as, performance obligations are satisfied and control has transferred to the customer, typically when products are shipped or delivered, title and risk of loss pass to the customer, and the Company has a present right to payment. The vast majority of the Company's revenues relate to a broad offering of manufactured products which are recognized at the point in time when control transfers, generally in accordance with shipping terms. A portion of the Company's revenues relate to the sale of software and postcontract customer support, parts and labor for repairs, and engineering services.

In limited circumstances, contracts include multiple performance obligations, where revenue is recognized separately for each good or service, as well as contracts where revenue is recognized over time as control transfers to the customer. Tangible products represent a large majority of the delivered items in contracts with multiple performance obligations or where revenue is recognized over time, while a smaller portion is attributable to installation, service and maintenance. In sales arrangements that involve multiple performance obligations, revenue is allocated based on the relative standalone selling price for each performance obligation. Observable selling prices from actual transactions are used whenever possible. In other instances, the Company determines the standalone selling price based on thirdparty pricing or management's best estimate. For revenues recognized over time, the Company typically uses an input method to determine progress and recognize revenue, based on costs incurred. The Company believes costs incurred closely correspond with its performance under the contract and the transfer of control to the customer.

LONG-LIVED ASSETS

Long-lived assets, which include property, plant and equipment, goodwill and identifiable intangible assets, are reviewed for impairment whenever events or changes in business circumstances indicate impairment may exist. If the Company determines that the carrying value of a long-lived asset may not be recoverable, a permanent impairment charge is recorded for the amount by which the carrying value of the long-lived asset exceeds its estimated fair value. Reporting

units are also reviewed for possible goodwill impairment at least annually, in the fourth quarter. If an initial assessment indicates it is more likely than not an impairment may exist, it is evaluated by comparing the unit's estimated fair value to its carrying value. Fair value is generally estimated using an income approach that discounts estimated future cash flows using discount rates judged by management to be commensurate with the applicable risk. Estimates of future sales, operating results, cash flows and discount rates are subject to changes in the economic environment, including such factors as the general level of market interest rates, expected equity market returns and the volatility of markets served, particularly when recessionary economic circumstances continue for an extended period of time. Management believes the estimates of future cash flows and fair values are reasonable; however, changes in estimates due to variance from assumptions could materially affect the evaluations.

RETIREMENT PLANS

The Company maintains a prudent long-term investment strategy consistent with the duration of pension obligations. The determination of defined benefit plan expense and liabilities is dependent on various assumptions, including the expected annual rate of return on plan assets, the discount rate and the rate of annual compensation increases. Management believes the assumptions used are appropriate; however, actual experience may differ. In accordance with U.S. generally accepted accounting principles, actual results that differ from the Company's assumptions are accumulated as deferred actuarial gains or losses and amortized to expense in future periods. The Company's principal U.S. defined benefit plan is closed to employees hired after January 1, 2016 while shorter-tenured employees ceased accruing benefits effective October 1, 2016.

As of September 30, 2019, the U.S. pension plans were underfunded by \$202 million in total, including unfunded plans totaling \$211 million. The non-U.S. plans were underfunded by \$300 million, including unfunded plans totaling \$311 million. The Company contributed a total of \$60 million to defined benefit plans in 2019 and expects to contribute approximately \$60 million in 2020. At year-end 2019, the discount rate for U.S. plans was 3.22 percent, and was 4.26 percent in 2018. The assumed investment return on plan assets was 7.00 percent in 2019, 7.00 percent in 2018 and 7.25 percent in 2017, and is expected to be 6.75 percent for 2020. Deferred actuarial losses to be amortized to expense in future years were \$1.3 billion (\$1.0 billion after-tax) as of September 30, 2019. See Notes 11 and 12.

CONTINGENT LIABILITIES

The Company is a party to a number of pending legal proceedings and claims, including those involving general and product liability (including asbestos) and other matters, several of which claim substantial amounts of damages. The Company accrues for such liabilities when it is probable that future costs (including legal fees and expenses) will be incurred and such costs can be reasonably estimated. Accruals are based on developments to date; management's estimates of the outcomes of these matters; and the Company's experience in contesting, litigating and settling similar matters. The Company engages an outside expert to develop an actuarial estimate of its expected costs to resolve all pending and future asbestos claims, including defense costs, as well as its related insurance receivables. The reserve for asbestos litigation, which is recorded on an undiscounted basis, is based on projected claims through 2065.

Although it is not possible to predict the ultimate outcome of these matters, the Company historically has been largely successful in defending itself against claims and suits that have been brought against it, and will continue to defend itself vigorously in all such matters. While the Company believes a material adverse impact is unlikely, given the inherent uncertainty of litigation, a remote possibility exists that a future development could have a material adverse impact on the Company. See Note 13.

INCOME TAXES

Income tax expense and tax assets and liabilities reflect management's assessment of taxes paid or expected to be paid (received) on items included in the financial statements. Deferred tax assets and liabilities arise from temporary differences between the consolidated financial statement carrying amounts of existing assets and liabilities and their respective tax bases, and consideration of operating loss and tax credit carryforwards. Deferred income taxes are measured using enacted tax rates in effect for the year in which the temporary differences are expected to be recovered or settled. The impact on deferred tax assets and liabilities of a change in tax rates is recognized in the period that includes the enactment date. Valuation allowances are provided to reduce deferred tax assets to the amount that will more likely than not be realized. This requires management to make judgments and estimates regarding the amount and timing of the reversal of taxable temporary differences, expected future taxable income, and the impact of tax planning strategies.

Uncertainty exists regarding tax positions taken in previously filed tax returns which remain subject to examination, along with positions expected to be taken in future returns. The Company provides for unrecognized tax benefits, based on

the technical merits, when it is more likely than not that an uncertain tax position will not be sustained upon examination. Adjustments are made to the uncertain tax positions when facts and circumstances change, such as the closing of a tax audit; changes in applicable tax laws, including tax case rulings and legislative guidance; or expiration of the applicable statute of limitations.

On December 22, 2017, the U.S. government enacted the Tax Cuts and Jobs Act, which made comprehensive changes to U.S. federal income tax laws by moving from a global to a modified territorial tax regime. As a result, cash repatriated to the U.S. is generally no longer subject to U.S. federal income taxes. No provision is made for withholding taxes and any applicable U.S. income taxes on the undistributed earnings of non-U.S. subsidiaries where these earnings are considered indefinitely invested or otherwise retained for continuing international operations. Determination of the amount of taxes that might be paid on these undistributed earnings if eventually remitted is not practicable. See Notes 1 and 14.

Other Items

LEGAL MATTERS

At September 30, 2019, there were no known contingent liabilities (including quarantees, pending litigation, taxes and other claims) that management believes will be material in relation to the Company's financial statements, nor were there any material commitments outside the normal course of business.

NEW ACCOUNTING PRONOUNCEMENTS

On October 1, 2018, the Company adopted ASC 606, Revenue from Contracts with Customers, which updated and consolidated revenue recognition quidance from multiple sources into a single, comprehensive standard to be applied for all contracts with customers. The fundamental principle of the revised standard is to recognize revenue based on the transfer of goods and services to customers at the amount the Company expects to be entitled to in exchange for those goods and services. The Company adopted the new standard using the modified retrospective approach and applied the guidance to open contracts which were not completed at the date of adoption. The cumulative effect of adoption resulted in a \$30 million increase to beginning retained earnings as of October 1, 2018. This increase primarily related to contracts where a portion of revenue for delivered goods or services was previously deferred due to contingent payment terms. The adoption of ASC 606 did not materially impact the Company's consolidated financial statements as of and for the year ended September 30, 2019.

In the first quarter of fiscal 2019, the Company adopted updates to ASC 715, Compensation - Retirement Benefits, which permit only the service cost component of net periodic pension and postretirement expense to be reported with compensation costs, while all other components are required to be reported separately in other deductions. These updates were adopted retrospectively and resulted in the reclassification of \$40 million of income and \$38 million of expense for 2018 and 2017, respectively, from cost of sales and SG&A to other deductions, net. Segment earnings were not impacted by the updates to ASC 715.

In February 2016, the FASB issued ASC 842, Leases, which requires rights and obligations related to lease arrangements to be recognized on the balance sheet. Also required are additional disclosures regarding the amount, timing and uncertainty of cash flows resulting from lease arrangements. Currently, obligations classified as operating leases are not recorded on the balance sheet but must be disclosed. The Company adopted the new standard on October 1, 2019 using the optional transition method under which prior periods were not adjusted. The adoption of ASC 842 resulted in the recognition of operating lease right-of-use assets and related lease liabilities of approximately \$500 million, but is not expected to materially impact the Company's earnings or cash flows. The Company is in the process of finalizing changes to its business processes, systems, internal controls and accounting policies to support recognition and disclosure under the new guidance.

In August 2017, the FASB issued updates to ASC 815, Derivatives and Hedging, which permit hedging certain contractually specified risk components. Additionally, the updates eliminate the requirement to separately measure and report hedge ineffectiveness and simplify hedge documentation and effectiveness assessment requirements. These updates, which are effective in the first quarter of fiscal 2020 and must be adopted using a modified retrospective approach, are not expected to have a material impact at adoption or on the Company's results of operations.

In January 2017, the FASB issued updates to ASC 350, Intangibles - Goodwill and Other, eliminating the requirement to measure impairment based on the implied fair value of goodwill compared to the carrying amount of a reporting unit's goodwill. Instead, goodwill impairment will be measured as the excess of a reporting unit's carrying amount over its estimated fair value. These updates are effective prospectively for impairment tests beginning in fiscal 2021, with early adoption permitted.

In August 2018, the FASB issued updates to ASC 350, *Intangibles - Goodwill and Other*, which align the requirements for capitalizing implementation costs incurred in a software

hosting arrangement with the requirements for costs incurred to develop or obtain internal-use software. These updates are effective either prospectively or retrospectively in the first quarter of fiscal 2021, with early adoption permitted, and are not expected to materially impact the Company's results of operations.

In June 2016, the FASB issued ASC 326, Financial Instruments -Credit Losses, which amends the impairment model by requiring entities to use a forward-looking approach, based on expected losses, to estimate credit losses on certain types of financial instruments, including trade receivables. The new standard is effective in the first quarter of fiscal 2021. The Company is in the process of evaluating the impact of the new standard on its financial statements.

In August 2018, the FASB issued updates to ASC 715, Compensation - Retirement Benefits, which modify the disclosure requirements for employers that sponsor defined benefit plans or other postretirement plans. These updates are effective in fiscal 2021, with early adoption permitted, and must be adopted on a retrospective basis. The updates change disclosures only and will not impact the Company's results of operations.

Fiscal 2020 Outlook

As previously announced, the Company is conducting a comprehensive review of its operational, capital allocation and portfolio initiatives. The Company's Board is leading the evaluation and an update will be provided when the Board has concluded the review. The outlook discussed below excludes any potential impact from the Board's ongoing review.

The guidance for fiscal 2020 assumes that end market growth is muted, or even slightly negative, with consolidated net sales expected to be down 3 percent to up 1 percent and underlying sales down 2 percent to up 2 percent, excluding unfavorable currency translation of 1 percent. Automation Solutions net sales are expected to be down 2 percent to up 2 percent, with underlying sales down 1 percent to up 3 percent excluding unfavorable foreign currency translation of 1 percent. Commercial & Residential Solutions net sales are expected to be down 5 percent to down 1 percent, with underlying sales down 3 percent to up 1 percent excluding unfavorable foreign currency translation of 1 percent and an impact from divestitures of 1 percent. Earnings per share are expected to be \$3.48 to \$3.72. Operating cash flow is expected to be approximately \$3.1 billion and free cash flow, which excludes targeted capital spending of \$600 million, is expected to be approximately \$2.5 billion. The Company's planned share repurchases are \$1.5 billion for fiscal 2020.

The United Kingdom (UK) continues to negotiate its withdrawal from the European Union (EU), commonly known as "Brexit." The EU agreed to postpone the withdrawal deadline to January 31, 2020. The Company's net sales in the UK are principally in the Automation Solutions segment and represent less than two percent of consolidated sales. Sales of products manufactured in the UK and sold within the EU are immaterial. The Company is evaluating several potential Brexit scenarios and believes the direct cost of incremental tariffs, logistics and other items would be immaterial.

Consolidated Statements of Earnings

EMERSON ELECTRIC CO. & SUBSIDIARIES

Years ended September 30 | Dollars in millions, except per share amounts

	2017	2018	2019
Net sales	\$15,264	17,408	18,372
Costs and expenses:			
Cost of sales	8,833	9,976	10,557
Selling, general and administrative expenses	3,607	4,269	4,457
Other deductions, net	324	337	325
Interest expense, net of interest income of: 2017, \$36; 2018, \$43; 2019, \$27	165	159	174
Earnings from continuing operations before income taxes	2,335	2,667	2,859
Income taxes	660	443	531
Earnings from continuing operations	1,675	2,224	2,328
Discontinued operations, net of tax of \$671	(125)	_	_
Net earnings	1,550	2,224	2,328
Less: Noncontrolling interests in earnings of subsidiaries	32	21	22
Net earnings common stockholders	\$ 1,518	2,203	2,306
Earnings common stockholders:			
Earnings from continuing operations	\$ 1,643	2,203	2,306
Discontinued operations, net of tax	(125)	_	_
Net earnings common stockholders	\$ 1,518	2,203	2,306
Basic earnings per share common stockholders:			
Earnings from continuing operations	\$ 2.54	3.48	3.74
Discontinued operations	(0.19)	_	_
Basic earnings per common share	\$ 2.35	3.48	3.74
Diluted earnings per share common stockholders:			
Earnings from continuing operations	\$ 2.54	3.46	3.71
Discontinued operations	(0.19)		
Diluted earnings per common share	\$ 2.35	3.46	3.71

Consolidated Statements of Comprehensive Income

EMERSON ELECTRIC CO. & SUBSIDIARIES

Years ended September 30 | Dollars in millions

	2017	2018	2019
Net earnings	\$1,550	2,224	2,328
Other comprehensive income (loss), net of tax:			
Foreign currency translation	441	(231)	(194)
Pension and postretirement	500	242	(508)
Cash flow hedges	37	(7)	(5)
Total other comprehensive income (loss)	978	4	(707)
Comprehensive income	2,528	2,228	1,621
Less: Noncontrolling interests in comprehensive income of subsidiaries	30	21	22
Comprehensive income common stockholders	\$2,498	2,207	1,599

Consolidated Balance Sheets

EMERSON ELECTRIC CO. & SUBSIDIARIES

September 30 | Dollars and shares in millions, except per share amounts

	2018	2019
ASSETS		
Current assets		
Cash and equivalents	\$ 1,093	1,494
Receivables, less allowances of \$113 in 2018 and \$112 in 2019	3,023	2,985
Inventories	1,813	1,880
Other current assets	690	780
Total current assets	6,619	7,139
Property, plant and equipment, net	3,562	3,642
Other assets		
Goodwill	6,455	6,536
Other intangible assets	2,751	2,615
Other	1,003	565
Total other assets	10,209	9,716
Total assets	\$20,390	20,497
LIABILITIES AND EQUITY		
Current liabilities		
Short-term borrowings and current maturities of long-term debt	\$ 1,623	1,444
Accounts payable	1,943	1,874
Accrued expenses	2,598	2,658
Total current liabilities	6,164	5,976
Long-term debt	3,137	4,277
Other liabilities	2,099	1,971
Equity		
Common stock, \$0.50 par value; authorized, 1,200.0 shares; issued, 953.4 shares;		
outstanding, 629.2 shares in 2018; 611.0 shares in 2019	477	477
Additional paid-in-capital	348	393
Retained earnings	23,072	24,199
Accumulated other comprehensive income (loss)	(1,015)	(1,722)
	22,882	23,347
Less: Cost of common stock in treasury, 324.2 shares in 2018; 342.4 shares in 2019	13,935	15,114
Common stockholders' equity	8,947	8,233
Noncontrolling interests in subsidiaries	43	40
Total equity	8,990	8,273

Consolidated Statements of Equity

EMERSON ELECTRIC CO. & SUBSIDIARIES

Years ended September 30 | Dollars in millions, except per share amounts

	2017	2018	2019
Common stock	\$ 477	477	477
Additional paid-in-capital			
Beginning balance	205	297	348
Stock plans	92	51	45
Ending balance	297	348	393
Retained earnings			
Beginning balance	21,716	21,995	23,072
Net earnings common stockholders	1,518	2,203	2,306
Dividends paid (per share: 2017, \$1.92; 2018, \$1.94; 2019, \$1.96)	(1,239)	(1,229)	(1,209)
Adoption of accounting standard updates	_	103	30
Ending balance	21,995	23,072	24,199
Accumulated other comprehensive income (loss)			
Beginning balance	(1,999)	(1,019)	(1,015)
Foreign currency translation	443	(231)	(194)
Pension and postretirement	500	242	(508)
Cash flow hedges	37	(7)	(5)
Ending balance	(1,019)	(1,015)	(1,722)
Treasury stock			
Beginning balance	(12,831)	(13,032)	(13,935)
Purchases	(400)	(1,000)	(1,250)
Issued under stock plans	199	97	71
Ending balance	(13,032)	(13,935)	(15,114)
Common stockholders' equity	8,718	8,947	8,233
Noncontrolling interests in subsidiaries			
Beginning balance	50	52	43
Net earnings	32	21	22
Other comprehensive income (loss)	(2)	_	_
Dividends paid	(28)	(30)	(25)
Ending balance	52	43	40
Total equity	\$ 8,770	8,990	8,273

Consolidated Statements of Cash Flows

EMERSON ELECTRIC CO. & SUBSIDIARIES

Years ended September 30 | Dollars in millions

	2017	2018	2019
Operating activities			
Net earnings	\$ 1,550	2,224	2,328
Loss from discontinued operations, net of tax	125	_	_
Adjustments to reconcile net earnings to net cash provided by operating activities:			
Depreciation and amortization	636	758	822
Stock compensation expense	110	216	120
Pension expense	127	49	2
Pension funding	(45)	(61)	(60)
Transition impact of Tax Act	_	(189)	_
Changes in operating working capital	160	(83)	(150)
Other, net	27	(22)	(56)
Cash from continuing operations	2,690	2,892	3,006
Cash from discontinued operations	(778)	_	_
Cash provided by operating activities	1,912	2,892	3,006
Investing activities			
Capital expenditures	(476)	(617)	(594)
Purchases of businesses, net of cash and equivalents acquired	(2,990)	(2,203)	(469)
Divestitures of businesses	39	201	14
Other, net	(106)	(101)	(125)
Cash from continuing operations	(3,533)	(2,720)	(1,174)
Cash from discontinued operations	5,047	_	_
Cash provided by (used in) investing activities	1,514	(2,720)	(1,174)
Financing activities			
Net increase (decrease) in short-term borrowings	(1,635)	343	(6)
Payments of short-term borrowings greater than three months	(90)	_	_
Proceeds from long-term debt	_	_	1,691
Payments of long-term debt	(254)	(241)	(656)
Dividends paid	(1,239)	(1,229)	(1,209)
Purchases of common stock	(400)	(1,000)	(1,250)
Other, net	27	35	39
Cash used in financing activities	(3,591)	(2,092)	(1,391)
Effect of exchange rate changes on cash and equivalents	45	(49)	(40)
Increase (Decrease) in cash and equivalents	(120)	(1,969)	401
Beginning cash and equivalents	3,182	3,062	1,093
Ending cash and equivalents	\$ 3,062	1,093	1,494
Changes in operating working capital		(
Receivables	\$ (25)	(175)	51
Inventories	32	17	(87)
Other current assets	(12)	(42)	(87)
Accounts payable	135	115	(37)
Accrued expenses	30	2	10
Total changes in operating working capital	\$ 160	(83)	(150)

Notes to Consolidated Financial Statements

EMERSON ELECTRIC CO. & SUBSIDIARIES

Years ended September 30 | Dollars in millions, except per share amounts or where noted

(1) Summary of Significant Accounting Policies

FINANCIAL STATEMENT PRESENTATION

The preparation of the financial statements in conformity with U.S. generally accepted accounting principles (U.S. GAAP) requires management to make estimates and assumptions that affect reported amounts and related disclosures. Actual results could differ from these estimates. Certain prior year amounts have been reclassified to conform with current year presentation.

On October 1, 2018, the Company adopted ASC 606, Revenue from Contracts with Customers, which updated and consolidated revenue recognition quidance from multiple sources into a single, comprehensive standard to be applied for all contracts with customers. The fundamental principle of the revised standard is to recognize revenue based on the transfer of goods and services to customers at the amount the Company expects to be entitled to in exchange for those goods and services. The Company adopted the new standard using the modified retrospective approach and applied the guidance to open contracts which were not completed at the date of adoption. The cumulative effect of adoption resulted in a \$30 increase to beginning retained earnings as of October 1, 2018. This increase primarily related to contracts where a portion of revenue for delivered goods or services was previously deferred due to contingent payment terms. The adoption of ASC 606 did not materially impact the Company's consolidated financial statements as of and for the year ended September 30, 2019. Amounts reported for the years ended September 30, 2018 and 2017 continue to be reported in accordance with the Company's historic accounting under ASC 605, Revenue Recognition.

In the first quarter of fiscal 2019, the Company adopted updates to ASC 715, Compensation - Retirement Benefits, which permit only the service cost component of net periodic pension and postretirement expense to be reported with compensation costs, while all other components are required to be reported separately in other deductions. These updates were adopted retrospectively and resulted in the reclassification of \$40 of income and \$38 of expense in 2018 and 2017, respectively, from cost of sales and SG&A to other deductions, net. Segment earnings were not impacted by the updates to ASC 715.

In the fourth quarter of 2018, the Company adopted updates to ASC 220, Comprehensive Income, which permit reclassification of stranded tax effects resulting from U.S. tax reform from accumulated other comprehensive income to retained earnings. The Company reclassified \$100 of stranded tax effects from accumulated other comprehensive income to retained earnings upon adoption of these updates. See Note 17.

In the first quarter of 2018, the Company adopted updates to ASC 740, Income Taxes, which require recognition of the income tax effects of intra-entity transfers of assets other than inventory when the transfer occurs, on a modified retrospective basis. The adoption of these updates resulted in an increase of \$3 to retained earnings.

In the first quarter of 2018, the Company adopted updates to ASC 330, Inventory, which changed the measurement principle for inventory from the lower of cost or market to the lower of cost and net realizable value. These updates were adopted prospectively and did not materially impact the Company's financial statements.

In the fourth quarter of 2017, the Company adopted updates to ASC 718, Compensation - Stock Compensation, which require all excess tax benefits and deficiencies related to share-based payments to be recognized in income tax expense rather than through additional paid-in-capital, and to be presented as operating cash flows instead of financing. These updates did not materially impact the Company's financial statements.

In the fourth quarter of 2017, the Company adopted updates to ASC 820, Fair Value Measurement, which require investments measured using the net asset value per share practical expedient to be removed from the fair value hierarchy and separately reported when making disclosures. These updates did not change the determination of fair value for any investments. Adoption affected disclosure presentation only; there was no impact on the Company's financial results.

PRINCIPLES OF CONSOLIDATION

The consolidated financial statements include the accounts of the Company and its controlled affiliates. Intercompany transactions, profits and balances are eliminated in consolidation. Investments of 20 percent to 50 percent of the voting shares of other entities are accounted for by the equity method. Investments in publicly traded companies of less than 20 percent are carried at fair value, with changes in fair value reflected in accumulated other comprehensive income. Investments in nonpublicly traded companies of less than 20 percent are carried at cost, minus impairment, and adjusted for observable price changes in orderly transactions.

FOREIGN CURRENCY TRANSLATION

The functional currency for most of the Company's non-U.S. subsidiaries is the local currency. Adjustments resulting from translating local currency financial statements into U.S. dollars are reflected in accumulated other comprehensive income.

CASH EQUIVALENTS

Cash equivalents consist of highly liquid investments with original maturities of three months or less.

INVENTORIES

Inventories are stated at the lower of cost and net realizable value. The majority of inventory is valued based on standard costs, which approximate average costs, while the remainder is principally valued on a first-in, first-out basis. Cost standards are revised at the beginning of each year. The annual effect of resetting standards plus any operating variances incurred during each period are allocated to inventories and recognized in cost of sales as product is sold. Following are the components of inventory as of September 30:

	2018	2019
Finished products Raw materials and work in process	\$ 592 1.221	578 1.302
Total inventories	\$1,813	1,880

FAIR VALUE MEASUREMENT

ASC 820, Fair Value Measurement, establishes a formal hierarchy and framework for measuring certain financial statement items at fair value, and requires disclosures about fair value measurements and the reliability of valuation inputs, Under ASC 820, measurement assumes the transaction to sell an asset or transfer a liability occurs in the principal or at least the most advantageous market for that asset or liability. Within the hierarchy, Level 1 instruments use observable market prices for an identical item in active markets and have the most reliable valuations. Level 2 instruments are valued through broker/dealer quotation or other approaches using market-observable inputs for similar items in active markets, including forward and spot prices, interest rates and volatilities. Level 3 instruments are valued using inputs not observable in an active market, such as company-developed future cash flow estimates, and are considered the least reliable. Valuations for all of the Company's financial instruments fall within Level 2. The fair value of the Company's long-term debt is Level 2, estimated using current interest rates and pricing from financial institutions and other market sources for debt with similar maturities and characteristics.

PROPERTY, PLANT AND EQUIPMENT

The Company records investments in land, buildings, and machinery and equipment at cost. Depreciation is computed principally using the straight-line method over estimated service lives, which for principal assets are 30 to 40 years for buildings and 8 to 12 years for machinery and equipment. Long-lived tangible assets are reviewed for impairment whenever events or changes in business circumstances indicate the carrying value of the assets may not be recoverable. Impairment losses are recognized based on estimated fair values if the sum of estimated future undiscounted cash flows of the related assets is less than the carrying values. The components of property, plant and equipment as of September 30 follow:

	2018	2019
Land	\$ 316	336
Buildings	2,145	2,219
Machinery and equipment	5,470	5,645
Construction in progress	439	471
Property, plant and equipment, at cost	8,370	8,671
Less: Accumulated depreciation	4,808	5,029
Property, plant and equipment, net	\$3,562	3,642

GOODWILL AND OTHER INTANGIBLE ASSETS

Assets and liabilities acquired in business combinations are accounted for using the acquisition method and recorded at their respective fair values. Substantially all goodwill is assigned to the reporting unit that acquires a business. A reporting unit is an operating segment as defined in ASC 280, Segment Reporting, or a business one level below an operating segment if discrete financial information for that business unit is prepared and regularly reviewed by the segment manager. The Company conducts annual impairment tests of goodwill in the fourth quarter. If an initial assessment indicates it is more likely than not goodwill might be impaired, it is evaluated by comparing the reporting unit's estimated fair value to its carrying value. Goodwill is also tested for impairment between annual tests if events or circumstances indicate the fair value of a unit may be less than its carrying value. If the carrying amount exceeds the estimated fair value, impairment is recognized to the extent that recorded goodwill exceeds the implied fair value of that goodwill. Estimated fair values of reporting units are Level 3 measures and are developed generally under an income approach that discounts estimated future cash flows using risk-adjusted interest rates, as well as earnings multiples or other techniques as warranted. Fair values are subject to changes in underlying economic conditions.

All of the Company's identifiable intangible assets are subject to amortization on a straight-line basis over their estimated useful lives. Identifiable intangibles consist of intellectual property such as patents and trademarks, customer relationships and capitalized software. Identifiable intangibles are also subject to evaluation for potential impairment if events or circumstances indicate the carrying amount may not be recoverable. See Note 7.

PRODUCT WARRANTY

Warranties vary by product line and are competitive for the markets in which the Company operates. Warranties are largely offered to provide assurance that the product will function as intended and generally extend for a period of one to two years from the date of sale or installation. Provisions for warranty expense are estimated at the time of sale based on historical experience and adjusted quarterly for any known issues that may arise. Product warranty expense is less than one percent of sales.

REVENUE RECOGNITION

Emerson is a global manufacturer that combines technology and engineering to provide innovative solutions to its customers, largely in the form of tangible products. The Company evaluates its contracts with customers to identify the promised goods or services and recognizes revenue for the identified performance obligations at the amount the Company expects to be entitled to in exchange for those goods or services. A performance obligation is a promise in a contract to transfer a distinct good or service to a customer. Revenue is recognized when, or as, performance obligations are satisfied and control has transferred to the customer, typically when products are shipped or delivered, title and risk of loss pass to the customer, and the Company has a present right to payment. The vast majority of the Company's revenues relate to a broad offering of manufactured products which are recognized at the point in time when control transfers, generally in accordance with shipping terms. A portion of the Company's revenues relate to the sale of software and post-contract customer support, parts and labor for repairs, and engineering services. In limited circumstances, contracts include multiple performance obligations, where revenue is recognized separately for each good or service, as well as contracts where revenue is recognized over time as control transfers to the customer.

Revenue is recognized over time for approximately 5 percent of the Company's revenues. These contracts largely relate to projects in the Process Control Systems & Solutions product offering within the Automation Solutions segment where revenue is recognized using the percentage-of-completion method to reflect the transfer of control over time, while a small amount is attributable to long-term maintenance and service contracts where revenue is typically recognized on a straight-line basis as the services are provided. Approximately 5 percent of revenues relate to sales arrangements with multiple performance obligations, principally in the Automation Solutions segment. Tangible products represent a large majority of the delivered items in contracts with multiple performance obligations or where revenue is recognized over time, while a smaller portion is attributable to installation, service and maintenance.

For revenues recognized over time, the Company typically uses an input method to determine progress and recognize revenue, based on costs incurred. The Company believes costs incurred closely correspond with its performance under the contract and the transfer of control to the customer.

In sales arrangements that involve multiple performance obligations, revenue is allocated based on the relative standalone selling price for each performance obligation. Observable selling prices from actual transactions are used whenever possible. In other instances, the Company determines the standalone selling price based on third-party pricing or management's best estimate. Generally, contract duration is short-term, and cancellation, termination or refund provisions apply only in the event of contract breach and are rarely invoked.

Payment terms vary but are generally short-term in nature. The Company's long-term contracts, where revenue is generally recognized over time, are typically billed as work progresses in accordance with the contract terms and conditions, either at periodic intervals or upon achievement of certain milestones. The timing of revenue recognition and billings under these

contracts results in either unbilled receivables (contract assets) when revenue recognized exceeds billings, or customer advances (contract liabilities) when billings exceed revenue recognized. Unbilled receivables are reclassified to accounts receivable when an unconditional right to consideration exists, typically when a milestone in the contract is achieved. The Company does not evaluate whether the transaction price includes a significant financing component for contracts where the time between cash collection and performance is less than one year.

Certain arrangements with customers include variable consideration, typically in the form of rebates, cash discounts or penalties. In limited circumstances, the Company sells products with a general right of return. In most instances, returns are limited to product quality issues. The Company records a reduction to revenue at the time of sale to reflect the ultimate amount of consideration it expects to receive. The Company's estimates are updated quarterly based on historical experience, trend analysis, and expected market conditions. Variable consideration is typically not constrained at the time revenue is recognized. See Notes 2 and 18 for additional information about the Company's revenues.

DERIVATIVES AND HEDGING

In the normal course of business, the Company is exposed to changes in interest rates, foreign currency exchange rates and commodity prices due to its worldwide presence and diverse business profile. The Company's foreign currency exposures relate to transactions denominated in currencies that differ from the functional currencies of its business units, primarily in euros, Mexican pesos and Singapore dollars. Primary commodity exposures are price fluctuations on forecasted purchases of copper and aluminum and related products. As part of the Company's risk management strategy, derivative instruments are selectively used in an effort to minimize the impact of these exposures. Foreign exchange forwards and options are utilized to hedge foreign currency exposures impacting sales or cost of sales transactions, firm commitments and the fair value of assets and liabilities, while swap and option contracts may be used to minimize the effect of commodity price fluctuations on the cost of sales. Non-U.S. dollar obligations are utilized to reduce foreign currency risk associated with the Company's net investments in foreign operations. All derivatives are associated with specific underlying exposures and the Company does not hold derivatives for trading or speculative purposes. The duration of hedge positions is generally two years or less, except for the Company's net investment hedges.

All derivatives are accounted for under ASC 815, *Derivatives and Hedging*, and recognized at fair value. For derivatives hedging variability in future cash flows, the effective portion of any gain or loss is deferred in stockholders' equity and recognized when the underlying hedged transaction impacts earnings. The majority of the Company's derivatives that are designated as hedges and qualify for hedge accounting are cash flow hedges. For derivatives hedging the fair value of existing assets or liabilities, both the gain or loss on the derivative and the offsetting loss or gain on the hedged item are recognized in earnings each period. Currency fluctuations on non-U.S. dollar obligations that have been designated as hedges of net investments in foreign operations are recognized in accumulated other comprehensive income (loss) and reclassified to income in the same period when a foreign operation is sold and the gain or loss related to the sale is included in income. To the extent that any hedge is not fully effective at offsetting changes in the underlying hedged item, there could be a net earnings impact. The Company also uses derivatives to hedge economic exposures that do not receive hedge accounting under ASC 815. The underlying exposures for these hedges relate primarily to purchases of commodity-based components used in the Company's manufacturing processes, and the revaluation of certain foreign-currency-denominated assets and liabilities. Gains or losses from the ineffective portion of any hedge, as well as any gains or losses on derivative instruments not designated as hedges, are recognized in the income statement immediately.

Counterparties to derivative arrangements are companies with high credit ratings, and the Company has bilateral collateral arrangements with them for which credit rating-based posting thresholds vary depending on the arrangement. If credit ratings on the Company's debt fall below preestablished levels, counterparties can require immediate full collateralization on all instruments in net liability positions. No collateral was posted with counterparties and none was held by the Company at year end. If contractual thresholds had been exceeded, the maximum collateral the Company could have been required to post was \$8. The Company can also demand full collateralization of instruments in net asset positions should any of the Company's counterparties' credit ratings fall below certain thresholds. Risk from credit loss when derivatives are in asset positions is not considered material. The Company has master netting arrangements in place with its counterparties that allow the offsetting of certain derivative-related amounts receivable and payable when settlement occurs in the same period. Accordingly, counterparty balances are netted in the consolidated balance sheet and are reported in other current assets or accrued expenses as appropriate, depending on positions with counterparties as of the balance sheet date. See Note 8.

INCOME TAXES

The provision for income taxes is based on pretax income reported in the consolidated statements of earnings and tax rates currently enacted in each jurisdiction. Certain income and expense items are recognized in different time periods for financial reporting and income tax filing purposes, and deferred income taxes are provided for the effect of temporary differences. The Company also provides for withholding taxes and any applicable U.S. income taxes on earnings intended to be repatriated from non-U.S. locations. No provision has been made for these taxes on approximately \$4.0 billion of undistributed earnings of non-U.S. subsidiaries as of September 30, 2019, as these earnings are considered indefinitely invested or otherwise retained for continuing

international operations. Recognition of withholding taxes and any applicable U.S. income taxes on undistributed non-U.S. earnings would be triggered by a management decision to repatriate those earnings. Determination of the amount of taxes that might be paid on these undistributed earnings if eventually remitted is not practicable. See Note 14.

(2) Revenue Recognition

The following table summarizes the balances of the Company's unbilled receivables (contract assets), which are reported in Other current assets, and its customer advances (contract liabilities), which are reported in Accrued expenses.

	2018	2019
Unbilled receivables (contract assets) Customer advances (contract liabilities)	\$ 321 (510)	456 (519)
Net contract liabilities	\$(189)	(63)

The majority of the Company's contract balances relate to arrangements where revenue is recognized over time and payments from customers are made according to a contractual billing schedule. The decrease in net contract liabilities was due to revenue recognized for performance completed during the period which exceeded customer billings. Revenue recognized for 2019 included approximately \$400 that was included in the beginning contract liability balance. Other factors that impacted the change in net contract liabilities were immaterial.

Revenue recognized for 2019 for performance obligations that were fully satisfied in previous periods, including cumulative catchup adjustments on the Company's long-term contracts, was not material. Capitalized amounts related to incremental costs to obtain customer contracts and costs to fulfill contracts are immaterial.

As of September 30, 2019, the Company's backlog relating to unsatisfied (or partially unsatisfied) performance obligations in contracts with its customers was approximately \$5.1 billion. The Company expects to recognize approximately 85 percent of its remaining performance obligations as revenue over the next 12 months, with the remainder substantially over the subsequent two years thereafter.

See Note 18 for additional information about the Company's revenues.

(3) Weighted-Average Common Shares

Basic earnings per common share consider only the weighted-average of common shares outstanding while diluted earnings per common share also consider the dilutive effects of stock options and incentive shares. An inconsequential number of shares of common stock were excluded from the computation of dilutive earnings per share in 2019 and 2018 as the effect would have been antidilutive, while 4.5 million shares of common stock were excluded in 2017. Earnings allocated to participating securities were inconsequential for all years presented. Reconciliations of weighted-average shares for basic and diluted earnings per common share follow (shares in millions):

	2017	2018	2019
Basic shares outstanding Dilutive shares	642.1 1.3	632.0 3.3	616.2 4.4
Diluted shares outstanding	643.4	635.3	620.6

(4) Acquisitions and Divestitures

The Company acquired eight businesses in 2019, all in the Automation Solutions segment, for \$469, net of cash acquired. These eight businesses had combined annual sales of approximately \$300. The Company recognized goodwill of \$210 (\$173 of which is expected to be tax deductible) and other identifiable intangible assets of \$155, primarily customer relationships and intellectual property with a weighted-average life of approximately nine years. Valuations of certain acquired assets and liabilities are in-process and subject to refinement.

On July 17, 2018, the Company completed the acquisition of Aventics, a global provider of smart pneumatics technologies that power machine and factory automation applications, for \$622, net of cash acquired. This business, which has annual sales of

approximately \$425, is reported in the Industrial Solutions product offering in the Automation Solutions segment. The Company recognized goodwill of \$372 (\$20 of which is expected to be tax deductible), and identifiable intangible assets of \$278, primarily intellectual property and customer relationships with a weighted-average useful life of approximately 12 years.

On July 2, 2018, the Company completed the acquisition of Textron's tools and test equipment business for \$810, net of cash acquired. This business, with annual sales of approximately \$470, is a manufacturer of electrical and utility tools, diagnostics, and test and measurement instruments, and is reported in the Tools & Home products segment. The Company recognized goodwill of \$366 (\$11 of which is expected to be tax deductible), and identifiable intangible assets of \$358, primarily intellectual property and customer relationships with a weighted-average useful life of approximately 14 years.

On December 1, 2017, the Company acquired Paradigm, a provider of software solutions for the oil and gas industry, for \$505, net of cash acquired. This business had annual sales of approximately \$140 and is included in the Measurement & Analytical Instrumentation product offering within Automation Solutions. The Company recognized goodwill of \$309 (\$170 of which is expected to be tax deductible), and identifiable intangible assets of \$238, primarily intellectual property and customer relationships with a weighted-average useful life of approximately 11 years.

During 2018, the Company also acquired four smaller businesses, two in the Automation Solutions segment and two in the Climate Technologies segment.

Total cash paid for all businesses for the fiscal year ended 2018 was \$2.2 billion, net of cash acquired. The purchase price of the 2018 acquisitions was allocated to assets and liabilities as follows.

Accounts receivable	\$ 153
Inventory	187
Property, plant and equipment	140
Goodwill	1,176
Intangibles	1,013
Other assets	77
Total assets	2,746
Accounts payable	73
Other current liabilities	134
Deferred taxes and other liabilities	325
Cash paid, net of cash acquired	\$2,214

Results of operations for the 2018 acquisitions included sales of \$365 and a net loss of \$3, including intangibles amortization of \$40 and restructuring expense of \$3. These results also included first year pretax acquisition accounting charges related to inventory and deferred revenue of \$39 and \$11, respectively, which are reported in Corporate and other. See Note 18.

On April 28, 2017, the Company completed the acquisition of Pentair's valves & controls business for \$2.96 billion, net of cash acquired of \$207, 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 recognized goodwill of \$1.5 billion (none of which is expected to be tax deductible), and other identifiable intangible assets of \$1.1 billion, primarily customer relationships and intellectual property with a weighted-average life of approximately 14 years. 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.

Results of operations for 2017 included sales of \$600 and a net loss of \$97, \$0.15 per share, including restructuring expense of \$25 and intangibles amortization of \$29. These results also included first year pretax acquisition accounting charges related to inventory of \$74 and backlog of \$19, or a total of \$93 (\$65 after-tax, \$0.10 per share), which are reported in Corporate and other in 2017. See Note 18.

On October 2, 2017, the Company sold its residential storage business for \$200 in cash, and recognized a small pretax gain and an after-tax loss of \$24 (\$0.04 per share) in 2018 due to income taxes resulting from nondeductible goodwill. The Company realized \$150 in after-tax cash proceeds from the sale. This business, with sales of \$298 and pretax earnings of \$15 in 2017, is a leader in home organization and storage systems, and was reported within the Tools & Home Products segment.

The results of operations of the acquired businesses discussed above have been included in the Company's consolidated results of operations since the respective dates of acquisition.

PRO FORMA FINANCIAL INFORMATION (UNAUDITED)

The following pro forma consolidated condensed financial results of operations are presented as if the 2018 acquisitions occurred on October 1, 2016 and the acquisition of the valves & controls business occurred on October 1, 2015. The proforma information is presented for informational purposes only and is not indicative of the results of operations that would have been achieved had the acquisitions occurred as of that time.

	2017	2018
Net sales	\$17,148	18,186
Net earnings from continuing operations common stockholders	\$ 1,638	2,269
Diluted earnings per share from continuing operations	\$ 2.53	3.56

The 2018 pro forma results exclude acquisition costs and first year acquisition accounting charges related to inventory, backlog and deferred revenue of \$102. Of these charges, \$73 related to businesses acquired in 2018 and \$29 related to the valves & controls acquisition. The 2017 pro forma results include the charges related to the 2018 acquisitions. The 2017 pro forma results exclude first year acquisition accounting charges related to the valves & controls business of \$93 and acquisition costs of \$52.

DISCONTINUED OPERATIONS

In 2017, the Company completed the previously announced strategic actions to streamline its portfolio and drive growth in its core businesses. 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 financial results of the network power systems business and power generation, motors and drives business reported as discontinued operations for the year ending September 30, 2017, were as follows:

	2017
Net sales	\$1,037
Cost of sales	701
SG&A	263
Other deductions, net	(473)
Earnings (Loss) before income taxes	546
Income taxes	671
Earnings (Loss), net of tax	\$ (125)

In 2017, the net loss from discontinued operations of \$125, \$0.19 per share, included an after-tax gain on the divestiture of the network power systems business of \$125 (\$519 pretax), a \$173 after-tax loss (\$36 pretax loss) on the divestiture of the power generation, motors and drives business, income tax expense of \$109 for repatriation of sales proceeds, and lower expense of \$32 primarily due to ceasing depreciation and amortization for the discontinued businesses held-for-sale.

Operating cash flow used by discontinued operations primarily included payments of approximately \$700 for income taxes on completion of the divestitures and repatriation of cash, cash used by operations and other costs.

(5) Other Deductions, Net

Other deductions, net are summarized as follows:

	2017	2018	2019
Amortization of intangibles (intellectual property and customer relationships)	\$136	211	238
Restructuring costs	78	65	95
Other	110	61	(8)
Total	\$324	337	325

The increase in amortization for 2019 is due to higher intangibles amortization of \$46 which largely relates to acquisitions completed in 2018, partially offset by backlog amortization of \$19 incurred in the prior year related to the valves & controls acquisition. Other, which is composed of several items, including acquisition/divestiture costs, foreign currency transaction gains and losses, bad debt expense, litigation, pension expense and other items, decreased in 2019 primarily due to lower acquisition/ divestiture costs of \$29, pension expenses of \$42 and foreign currency transactions of \$13. The decrease in 2018 is primarily due to lower pension expenses of \$78, partially offset by higher acquisition/divestiture costs of \$18.

(6) Restructuring Costs

Each year the Company incurs costs to size its businesses to levels appropriate for current economic conditions and to continually improve its cost structure and operational efficiency, deploy assets globally, and remain competitive on a worldwide basis. Costs result from numerous individual actions implemented across the Company's various operating units on an ongoing basis and can include costs for moving facilities to best-cost locations, restarting plants after relocation or geographic expansion to better serve local markets, reducing forcecount or the number of facilities, exiting certain product lines, and other costs resulting from asset deployment decisions (such as contract termination costs, asset write-downs and vacant facility costs).

Restructuring expenses were \$95, \$65 and \$78 for 2019, 2018 and 2017, respectively, and included \$7, \$19 and \$25 related to acquisitions, respectively.

Restructuring costs by business segment follows:

	2017	2018	2019
Automation Solutions	\$63	41	65
Climate Technologies Tools & Home Products	10 2	20 3	20 7
Commercial & Residential Solutions	12	23	27
Corporate	3	1	3
Total	\$78	65	95

Costs incurred in 2019, 2018 and 2017 primarily related to the deployment of resources to better serve local markets and higher growth areas, and the integration of acquisitions. In 2019, restructuring activities included actions to exit two production facilities worldwide and eliminate approximately 1,100 positions. Expenses incurred in 2018 and 2017 included actions to exit six and ten facilities, and eliminate approximately 1,200 and 1,200 positions, respectively.

The change in the liability for restructuring costs during the years ended September 30 follows:

	2018	EXPENSE	UTILIZED/PAID	2019
Severance and benefits	\$46	72	56	62
Other	6	23	22	7
Total	\$52	95	78	69
	2017	EXPENSE	UTILIZED/PAID	2018
Severance and benefits	\$60	43	57	46
Other	5	22	21	6
Total	\$65	65	78	52

(7) Goodwill and Other Intangibles

The change in the carrying value of goodwill by business segment follows:

	AUTOMATION SOLUTIONS	CLIMATE TECHNOLOGIES	TOOLS & HOME PRODUCTS	COMMERCIAL & RESIDENTIAL SOLUTIONS	TOTAL
Balance, September 30, 2017	\$4,704	555	57	612	5,316
Acquisitions	696	118	374	492	1,188
Foreign currency translation and other	(45)	(3)	(1)	(4)	(49)
Balance, September 30, 2018	5,355	670	430	1,100	6,455
Acquisitions	210	_	_	_	210
Divestitures	_	_	(2)	(2)	(2)
Foreign currency translation and other	(98)	(2)	(27)	(29)	(127)
Balance, September 30, 2019	\$5,467	668	401	1,069	6,536

The gross carrying amount and accumulated amortization of identifiable intangible assets by major class follow:

	CUSTOMER RELATIONSHIPS			INTELLECTUAL PROPERTY		CAPITALIZED SOFTWARE		TOTAL	
	2018	2019	2018	2019	2018	2019	2018	2019	
Gross carrying amount	\$1,968	1,973	1,469	1,565	1,230	1,334	4,667	4,872	
Less: Accumulated amortization	451	582	544	650	921	1,025	1,916	2,257	
Net carrying amount	\$1,517	1,391	925	915	309	309	2,751	2,615	

Intangible asset amortization expense for the major classes included above for 2019, 2018 and 2017 was \$359, \$314 and \$222, respectively. Based on intangible asset balances as of September 30, 2019, amortization expense is expected to approximate \$366 in 2020, \$329 in 2021, \$292 in 2022, \$265 in 2023 and \$242 in 2024.

The increase in goodwill and intangibles is primarily due to acquisitions. See Note 4.

(8) Financial Instruments

HEDGING ACTIVITIES

As of September 30, 2019, the notional amount of foreign currency hedge positions was approximately \$2.3 billion, while commodity hedge contracts totaled approximately \$117 (primarily 48 million pounds of copper and aluminum). All derivatives receiving hedge accounting are cash flow hedges. The majority of hedging gains and losses deferred as of September 30, 2019 are expected to be recognized over the next 12 months as the underlying forecasted transactions occur. Gains and losses on foreign currency derivatives reported in Other deductions, net reflect hedges of balance sheet exposures that do not receive hedge accounting.

Amounts included in earnings and other comprehensive income follow:

		GAIN	gain (loss) to earnings			GAIN (LOSS) TO OCI			
		2017	2018	2019	2017	2018	2019		
	Location								
Commodity	Cost of sales	\$ 10	13	(11)	25	(7)	(10)		
Foreign currency	Sales, cost of sales	(15)	2	13	30	9	6		
Foreign currency	Other deductions, net	(39)	(15)	66					
Total		\$(44)	_	68	55	2	(4)		

Regardless of whether derivatives receive hedge accounting, the Company expects hedging gains or losses to be essentially offset by losses or gains on the related underlying exposures. The amounts ultimately recognized will differ from those presented above for open positions, which remain subject to ongoing market price fluctuations until settlement. Derivatives receiving hedge accounting are highly effective and no amounts were excluded from the assessment of hedge effectiveness, including for the net investment hedge described below. Hedge ineffectiveness was immaterial in all years shown.

NET INVESTMENT HEDGE

In January 2019, the Company issued €500 of 1.25% notes due October 2025 and €500 of 2.0% notes due October 2029. In May 2019, the Company issued €500 of 0.375% notes due May 2024. The net proceeds from the sale of the notes were used to repay commercial paper borrowings and for general corporate purposes. The euro notes reduce foreign currency risk associated with the Company's international subsidiaries that use the euro as their functional currency and have been designated as a hedge of a portion of the investment in these operations. A pretax gain of \$70 (\$54 after-tax) was recognized in other comprehensive income (loss) related to the net investment hedge during 2019. Amounts deferred in accumulated other comprehensive income (loss) will remain until the hedged investment is sold or substantially liquidated.

FAIR VALUE MEASUREMENT

The estimated fair value of long-term debt was \$5.3 billion and \$4.0 billion, respectively, as of September 30, 2019 and 2018, which exceeded the carrying value by \$469 and \$135, respectively. The fair values of commodity and foreign currency contracts were reported in Other current assets and Accrued expenses as summarized below:

		2018		2019		
	ASSETS	LIABILITIES	ASSETS	LIABILITIES		
Commodity	\$ 1	10	_	8		
Foreign currency	\$35	11	29	12		

(9) Short-Term Borrowings and Lines of Credit

Short-term borrowings and current maturities of long-term debt are as follows:

	2018	2019
Current maturities of long-term debt Commercial paper	\$ 688 935	515 929
Total	\$1,623	1,444
Interest rate for weighted-average short-term borrowings at year end	2.1%	2.1%

In May 2018, the Company entered into a \$3.5 billion five-year revolving backup credit facility with various banks, which replaced the April 2014 \$3.5 billion facility. The credit facility is maintained to support general corporate purposes, including commercial paper borrowings. The Company has not incurred any borrowings under this or previous facilities. The credit facility contains no financial covenants and is not subject to termination based on a change of credit rating or material adverse changes. The facility is unsecured and may be accessed under various interest rate and currency denomination alternatives at the Company's option. Fees to maintain the facility are immaterial.

(10) Long-Term Debt

The details of long-term debt follow:

	2018	2019
5.25% notes due October 2018	\$ 400	_
5.0% notes due April 2019	250	_
4.875% notes due October 2019	500	500
4.25% notes due November 2020	300	300
2.625% notes due December 2021	500	500
2.625% notes due February 2023	500	500
0.375% notes due May 2024	_	545
3.15% notes due June 2025	500	500
1.25% notes due October 2025	_	545
2.0% notes due October 2029	_	545
6.0% notes due August 2032	250	250
6.125% notes due April 2039	250	250
5.25% notes due November 2039	300	300
Other	75	57
Long-term debt	3,825	4,792
Less: Current maturities	688	515
Total, net	\$3,137	4,277

Long-term debt maturing during each of the four years after 2020 is \$314, \$533, \$498 and \$544, respectively. Total interest paid on all debt was approximately \$195, \$193 and \$192 in 2019, 2018 and 2017, respectively. In January 2019, the Company issued €500 of 1.25% notes due October 2025 and €500 of 2.0% notes due October 2029. In May 2019, the Company issued €500 of 0.375% notes due May 2024. During the year, the Company repaid \$400 of 5.25% notes that matured in October 2018 and \$250 of 5.0% notes that matured in April 2019. In 2018, the Company repaid \$250 of 5.375% notes that matured in October 2017.

The Company maintains a universal shelf registration statement on file with the SEC under which it can issue debt securities, preferred stock, common stock, warrants, share purchase contracts or share purchase units without a predetermined limit. Securities can be sold in one or more separate offerings with the size, price and terms to be determined at the time of sale.

(11) Retirement Plans

Retirement plans expense includes the following components:

		U.S. PLANS			NON-U.S. PLANS			
	2017	2018	2019	2017	2018	2019		
Defined benefit plans:								
Service cost (benefits earned during the period)	\$ 60	52	47	19	24	24		
Interest cost	134	141	155	30	39	38		
Expected return on plan assets	(290)	(283)	(281)	(56)	(67)	(68)		
Net amortization and other	211	129	81	22	14	6		
Net periodic pension expense	115	39	2	15	10	_		
Defined contribution plans	96	132	125	47	52	56		
Total retirement plans expense	\$ 211	171	127	62	62	56		
	7 - 1 1							

The decrease in net periodic pension expense in 2019 is primarily attributable to lower amortization expense compared to the prior year. In 2017, net periodic pension expense and defined contribution expense included \$3 and \$6, respectively, related to discontinued operations. For defined contribution plans, the Company makes cash contributions based on plan requirements, which are expensed as incurred.

The Company's principal U.S. defined benefit plan is closed to employees hired after January 1, 2016 while shorter-tenured employees ceased accruing benefits effective October 1, 2016.

Details of the changes in the actuarial present value of the projected benefit obligation and the fair value of plan assets for defined benefit pension plans follow:

	U.S.	PLANS	NON-U.S. PLANS	
	2018	2019	2018	2019
Projected benefit obligation, beginning	\$4,369	3,957	1,489	1,442
Service cost	52	47	24	24
Interest cost	141	155	39	38
Actuarial (gain) loss	(262)	608	(51)	216
Benefits paid	(205)	(206)	(36)	(36)
Settlements	(152)	(152)	(49)	(41)
Acquisitions (Divestitures), net	13	_	54	2
Foreign currency translation and other	1	1	(28)	(61)
Projected benefit obligation, ending	\$3,957	4,410	1,442	1,584
Fair value of plan assets, beginning	\$4,292	4,233	1,236	1,243
Actual return on plan assets	265	316	69	135
Employer contributions	20	16	41	44
Benefits paid	(205)	(206)	(36)	(36)
Settlements	(152)	(152)	(49)	(41)
Acquisitions (Divestitures), net	12	_	10	_
Foreign currency translation and other	1	1	(28)	(61)
Fair value of plan assets, ending	\$4,233	4,208	1,243	1,284
Net amount recognized in the balance sheet	\$ 276	(202)	(199)	(300)
Location of net amount recognized in the balance sheet:				
Noncurrent asset	\$ 465	67	126	97
Current liability	(10)	(11)	(13)	(14)
Noncurrent liability	(179)	(258)	(312)	(383)
Net amount recognized in the balance sheet	276	(202)	(199)	(300)
Pretax accumulated other comprehensive loss	\$ (548)	(1,040)	(164)	(307)

Approximately \$162 of the \$1,347 of pretax losses deferred in accumulated other comprehensive income (loss) at September 30, 2019 will be amortized to expense in 2020. As of September 30, 2019, U.S. pension plans were underfunded by \$202 in total, including unfunded plans totaling \$211. The non-U.S. plans were underfunded by \$300, including unfunded plans totaling \$311.

As of the September 30, 2019 and 2018 measurement dates, the plans' total accumulated benefit obligation was \$5,682 and \$5,154, respectively. The total projected benefit obligation, accumulated benefit obligation and fair value of plan assets for individual plans with accumulated benefit obligations in excess of plan assets were \$1,113, \$991 and \$456, respectively, for 2019, and \$585, \$508 and \$87, respectively, for 2018.

Future benefit payments by U.S. plans are estimated to be \$208 in 2020, \$215 in 2021, \$222 in 2022, \$228 in 2023, \$234 in 2024 and \$1,233 in total over the five years 2025 through 2029. Based on foreign currency exchange rates as of September 30, 2019, future benefit payments by non-U.S. plans are estimated to be \$74 in 2020, \$72 in 2021, \$78 in 2022, \$80 in 2023, \$84 in 2024 and \$462 in total over the five years 2025 through 2029. The Company expects to contribute approximately \$60 to its retirement plans in 2020.

The weighted-average assumptions used in the valuation of pension benefits follow:

	U.S. PLANS			NON-U.S. PLANS			
-	2017	2018	2019	2017	2018	2019	
Net pension expense:							
Discount rate used to determine service cost	3.75%	3.95%	4.33%	2.3%	2.6%	2.7%	
Discount rate used to determine interest cost	2.90%	3.25%	3.98%	2.3%	2.6%	2.7%	
Expected return on plan assets	7.25%	7.00%	7.00%	6.2%	5.7%	6.1 %	
Rate of compensation increase	3.25%	3.25%	3.25%	3.2%	3.4%	3.5%	
Benefit obligations:							
Discount rate	3.76%	4.26%	3.22%	2.6%	2.7%	1.9%	
Rate of compensation increase	3.25%	3.25%	3.25%	3.4%	3.5%	3.7%	

The discount rate for the U.S. retirement plans was 3.22 percent as of September 30, 2019. An actuarially developed, companyspecific yield curve is used to determine the discount rate. To determine the service and interest cost components of pension expense for its U.S. retirement plans, the Company applies the specific spot rates along the yield curve, rather than the single weighted-average rate, to the projected cash flows to provide more precise measurement of these costs. The expected return on plan assets assumption is determined by reviewing the investment returns of the plans for the past 10 years plus longer-term historical returns of an asset mix approximating the Company's asset allocation targets, and periodically comparing these returns to expectations of investment advisors and actuaries to determine whether long-term future returns are expected to differ significantly from the past.

The Company's asset allocations at September 30, 2019 and 2018, and weighted-average target allocations follow:

		U.S. PLANS			NON-U.S. PLANS		
	2018	2019	TARGET	2018	2019	TARGET	
Equity securities	62%	53%	50-60%	52%	42%	40-50%	
Debt securities	34	46	40-50	38	47	45-55	
Other	4	1	0-10	10	11	5-15	
Total	100%	100%	100%	100%	100%	100%	

The primary objective for the investment of pension assets is to secure participant retirement benefits by earning a reasonable rate of return. Plan assets are invested consistent with the provisions of the prudence and diversification rules of ERISA and with a long-term investment horizon. The Company continuously monitors the value of assets by class and routinely rebalances to remain within target allocations. The equity strategy is to minimize concentrations of risk by investing primarily in a mix of companies that are diversified across geographies, market capitalization, style, sectors and industries worldwide. The approach for bonds emphasizes investment-grade corporate and government debt with maturities matching a portion of the longer duration pension liabilities. The bonds strategy also includes a high-yield element which is generally shorter in duration. For diversification, a small portion of U.S. plan assets is allocated to private equity partnerships and real asset fund investments, providing opportunities for above market returns. Leveraging techniques are not used and the use of derivatives in any fund is limited and inconsequential.

The fair values of defined benefit pension assets as of September 30, organized by asset class and by the fair value hierarchy of ASC 820, Fair Value Measurement, follow. Investments valued based on the net asset value (NAV) of fund units held, as derived from the fair value of the underlying assets, are excluded from the fair value hierarchy.

	MEASURED					
	LEVEL 1	LEVEL 2	LEVEL 3	AT NAV	TOTAL	PERCENTAGE
2019						
U.S. equities	\$ 789	5	386	284	1,464	27%
International equities	459	15		615	1,089	20%
Emerging market equities				213	213	4%
Corporate bonds		1,008		464	1,472	27%
Government bonds		512		540	1,052	19%
High-yield bonds						- %
Other	1	8	129	64	202	3%
Total	\$1,249	1,548	515	2,180	5,492	100%

-	MEASURED					
	LEVEL 1	LEVEL 2	LEVEL 3	AT NAV	TOTAL	PERCENTAGE
2018						
U.S. equities	\$ 968	5	350	320	1,643	30%
International equities	595	21		745	1,361	25%
Emerging market equities				243	243	5%
Corporate bonds		696		423	1,119	20%
Government bonds		350		438	788	14%
High-yield bonds				10	10	-%
Other	107	6	121	78	312	6%
Total	\$1,670	1,078	471	2,257	5,476	100%

Asset Classes

U.S. equities reflect companies domiciled in the U.S., including multinational companies. International equities are comprised of companies domiciled in developed nations outside the U.S. Emerging market equities are comprised of companies domiciled in portions of Asia, Eastern Europe and Latin America. Corporate bonds represent investment-grade debt of issuers primarily from the U.S. Government bonds include investment-grade instruments issued by federal, state and local governments, primarily in the U.S. High-yield bonds include noninvestment-grade debt from a diverse group of developed market issuers. Other includes cash, interests in mixed asset funds investing in commodities, natural resources, agriculture, real estate and infrastructure funds, life insurance contracts (U.S.), and shares in certain general investment funds of financial institutions or insurance arrangements (non-U.S.) that typically ensure no market losses or provide for a small minimum return quarantee.

Fair Value Hierarchy Categories

Valuations of Level 1 assets for all classes are based on quoted closing market prices from the principal exchanges where the individual securities are traded. Cash is valued at cost, which approximates fair value. Debt securities categorized as Level 2 assets are generally valued based on independent broker/dealer bids or by comparison to other debt securities having similar durations, yields and credit ratings. U.S. equity securities classified as Level 3 are fund investments in private companies. Valuation techniques and inputs for these assets include discounted cash flow analysis, earnings multiple approaches, recent transactions, transfer restrictions, prevailing discount rates, volatilities, credit ratings and other factors. In the Other class, interests in mixed asset funds are Level 2, and U.S. life insurance contracts and non-U.S. general fund investments and insurance arrangements are Level 3. Investments measured at net asset value are primarily nonexchange-traded commingled or collective funds where the underlying securities have observable prices available from active markets.

Details of the changes in value for Level 3 assets follow:

	2018	2019
Level 3, beginning	\$451	471
Gains (Losses) on assets held	1	_
Gains (Losses) on assets sold	37	34
Purchases, sales and settlements, net	(18)	10
Level 3, ending	\$471	515

(12) Postretirement Plans

The Company sponsors unfunded postretirement benefit plans (primarily health care) for certain U.S. retirees and their dependents. The components of net postretirement benefits expense for the years ended September 30 follow:

	2017	2018	2019
Service cost	\$ 1	1	1
Interest cost	6	6	5
Net amortization	(19)	(19)	(18)
Net postretirement expense	\$(12)	(12)	(12)

Details of the changes in actuarial present value of accumulated postretirement benefit obligations follow:

	2018	2019
Benefit obligation, beginning	\$174	149
Service cost	1	1
Interest cost	6	5
Actuarial (gain) loss	(19)	5
Benefits paid	(13)	(13)
Benefit obligation, ending (recognized in balance sheet)	\$149	147

As of September 30, 2019 there were \$118 of deferred actuarial gains in accumulated other comprehensive income, of which approximately \$13 will be amortized into earnings in 2020. The discount rates used to measure the benefit obligation as of September 30, 2019, 2018 and 2017 were 2.99 percent, 4.08 percent and 3.45 percent, respectively. The health care cost trend rate used for 2020 is assumed to be 7.0 percent initially and was assumed to be 7.2 percent in 2019, declining to 5.0 percent over the subsequent nine years. A one percentage point increase or decrease in the health care cost trend rate assumption for either year would have an inconsequential impact on postretirement benefits expense and the benefit obligation. The Company estimates that future health care benefit payments will be approximately \$12 per year for 2020 through 2024, and \$49 in total over the five years 2025 through 2029.

(13) Contingent Liabilities and Commitments

The Company is a party to a number of pending legal proceedings and claims, including those involving general and product liability (including asbestos) and other matters, several of which claim substantial amounts of damages. The Company accrues for such liabilities when it is probable that future costs (including legal fees and expenses) will be incurred and such costs can be reasonably estimated. Accruals are based on developments to date; management's estimates of the outcomes of these matters; and the Company's experience in contesting, litigating and settling similar matters. The Company engages an outside expert to develop an actuarial estimate of its expected costs to resolve all pending and future asbestos claims, including defense costs, as well as its related insurance receivables. The reserve for asbestos litigation, which is recorded on an undiscounted basis, is based on projected claims through 2065.

Although it is not possible to predict the ultimate outcome of these matters, the Company historically has been largely successful in defending itself against claims and suits that have been brought against it, and will continue to defend itself vigorously in all such matters. While the Company believes a material adverse impact is unlikely, given the inherent uncertainty of litigation, a remote possibility exists that a future development could have a material adverse impact on the Company. The Company enters into certain indemnification agreements in the ordinary course of business in which the indemnified party is held harmless and is reimbursed for losses incurred from claims by third parties, usually up to a prespecified limit. In connection with divestitures of certain assets or businesses, the Company often provides indemnities to the buyer with respect to certain matters including, for example, environmental or unidentified tax liabilities related to periods prior to the disposition. Because of the uncertain nature of the indemnities, the maximum liability cannot be quantified. As such, contingent liabilities are recorded when they are both probable and reasonably estimable. Historically, payments under indemnity arrangements have been inconsequential.

At September 30, 2019, there were no known contingent liabilities (including quarantees, pending litigation, taxes and other claims) that management believes will be material in relation to the Company's financial statements, nor were there any material commitments outside the normal course of business.

(14) Income Taxes

Pretax earnings from continuing operations consist of the following:

	2017	2018	2019
United States Non-U.S.	\$1,350 985	1,652 1,015	1,771 1,088
Total pretax earnings	\$2,335	2,667	2,859

The principal components of income tax expense follow:

2017	2018	2019
\$351	341	247
40	52	24
311	300	308
7	(224)	(2)
4	(11)	12
(53)	(15)	(58)
\$660	443	531
	\$351 40 311 7 4 (53)	\$351 341 40 52 311 300 7 (224) 4 (11) (53) (15)

Reconciliations of the U.S. federal statutory income tax rate to the Company's effective tax rate follow. For fiscal 2018, the U.S. federal statutory rate was 35 percent for one quarter and 21 percent for three quarters.

	2017	2018	2019
U.S. federal statutory rate	35.0%	24.5%	21.0%
State and local taxes, net of U.S. federal tax benefit	1.2	1.2	1.0
Non-U.S. rate differential	(3.6)	0.8	1.8
Non-U.S. tax holidays	(1.0)	(0.8)	(1.1)
U.S. manufacturing deduction	(1.7)	(1.1)	· _ ·
Foreign derived intangible income		_	(1.1)
Gain on divestiture	_	1.0	
Subsidiary restructuring	(1.8)	(2.0)	(2.6)
Transition impact of Tax Act		(7.1)	<u> </u>
Other	0.2	0.1	(0.4)
Effective income tax rate	28.3%	16.6%	18.6%

On December 22, 2017, the U.S. government enacted tax reform, the Tax Cuts and Jobs Act (the "Act"), which made comprehensive changes to U.S. federal income tax laws by moving from a global to a modified territorial tax regime. The Act includes a reduction of the U.S. corporate income tax rate from 35 percent to 21 percent in calendar year 2018 along with the elimination of certain deductions and credits, and a one-time "deemed repatriation" of accumulated non-U.S. earnings. During 2018, the Company recognized a net tax benefit of \$189 (\$0.30 per share) due to impacts of the Act, consisting of a \$94 benefit on revaluation of net deferred income tax liabilities to the lower tax rate, \$35 of expense for the tax on deemed repatriation of accumulated non-U.S. earnings and withholding taxes, and the reversal of \$130 accrued in previous periods for the planned repatriation of non-U.S. cash. The Company completed its accounting for the Act in the first quarter of fiscal 2019.

Effective in fiscal 2019, the Act also subjects the Company to U.S. tax on global intangible low-taxed income earned by certain of its non-U.S. subsidiaries. The Company has elected to recognize this tax as a period expense when it is incurred.

Non-U.S. tax holidays reduce tax rates in certain jurisdictions and are expected to expire over the next three years.

Following are changes in unrecognized tax benefits before considering recoverability of any cross-jurisdictional tax credits (U.S. federal, state and non-U.S.) and temporary differences. The amount of unrecognized tax benefits is not expected to change significantly within the next 12 months.

	2018	2019
Unrecognized tax benefits, beginning	\$ 132	158
Additions for current year tax positions	13	15
Additions for prior year tax positions	8	18
Reductions for prior year tax positions	(8)	(22)
Acquisitions and divestitures	21	4
Reductions for settlements with tax authorities	(3)	(5)
Reductions for expiration of statutes of limitations	(5)	(9)
Unrecognized tax benefits, ending	\$158	159

If none of the unrecognized tax benefits shown is ultimately paid, the tax provision and the calculation of the effective tax rate would be favorably impacted by \$124, which is net of cross-jurisdictional tax credits and temporary differences. The Company accrues interest and penalties related to income taxes in income tax expense. Total interest and penalties recognized were \$4, \$2 and \$(1) in 2019, 2018 and 2017, respectively. As of September 30, 2019 and 2018, total accrued interest and penalties were \$27 and \$23, respectively.

The U.S. is the major jurisdiction for which the Company files income tax returns. U.S. federal tax returns are closed through 2013. The status of state and non-U.S. tax examinations varies due to the numerous legal entities and jurisdictions in which the Company operates.

The principal items that gave rise to deferred income tax assets and liabilities follow:

	2018	2019
Deferred tax assets:		
Net operating losses and tax credits	\$ 396	407
Accrued liabilities	238	228
Postretirement and postemployment benefits	37	36
Employee compensation and benefits	119	110
Pensions	_	95
Other	151	121
Total	\$ 941	997
Valuation allowances	\$ (341)) (307)
Deferred tax liabilities:		
Intangibles	\$ (693)	(637)
Pensions	(43)	<u> </u>
Property, plant and equipment	(187)	(195)
Undistributed non-U.S. earnings	(52)	(49)
Other	(35)) (39)
Total	\$(1,010)) (920)
Net deferred income tax liability	\$ (410)) (230)

Total income taxes paid were approximately \$650, \$680 and \$1,420 in 2019, 2018 and 2017, respectively. Approximately half of the \$407 of net operating losses and tax credits expire over the next 5 years, while most of the remainder can be carried forward indefinitely.

(15) Stock-Based Compensation

The Company's stock-based compensation plans include stock options, performance shares, restricted stock and restricted stock units. Although the Company has discretion, shares distributed under these plans are issued from treasury stock.

STOCK OPTIONS

The Company's stock option plans permit key officers and employees to purchase common stock at specified prices, which are equal to 100 percent of the closing market price of the Company's stock on the date of grant. Options generally vest one-third in each of the three years subsequent to grant and expire 10 years from the date of grant. Compensation expense is recognized ratably over the vesting period based on the number of options expected to vest. As of September 30, 2019, 11.6 million options were available for grant under the plans.

Changes in shares subject to options during the year ended September 30, 2019 follow (shares in thousands):

	WEIGHTED- AVERAGE EXERCISE PRICE PER SHARE	SHARES	TOTAL INTRINSIC VALUE OF SHARES	AVERAGE REMAINING LIFE (YEARS)
Beginning of year	\$56.37	7,801		
Options granted	-	_		
Options exercised	\$49.35	(854)		
Options canceled	\$57.85	(32)		
End of year	\$57.23	6,915	\$67	4.2
Exercisable at end of year	\$57.27	6,795	\$66	4.2

The weighted-average grant date fair value per option was \$12.13 and \$8.36 in 2018 and 2017, respectively. Cash received for option exercises was \$40 in 2019, \$143 in 2018 and \$148 in 2017. The total intrinsic value of options exercised in 2019, 2018 and 2017 was \$16, \$53 and \$36, while the tax benefit from tax deductions related to option exercises was \$8, \$7 and \$2, respectively.

The grant date fair value of options is estimated using the Black-Scholes option-pricing model. The weighted-average assumptions used in valuations for 2018 and 2017 are, respectively: risk-free interest rate, based on U.S. Treasury yield, 2.4 percent and 1.7 percent; dividend yield, 2.9 percent and 3.6 percent; and expected volatility, based on historical volatility, 23 percent and 24 percent. The expected life of each option awarded is seven years based on historical experience and expected future exercise patterns.

PERFORMANCE SHARES. RESTRICTED STOCK AND RESTRICTED STOCK UNITS

The Company's incentive shares plans include performance shares awards which distribute the value of common stock to key management employees subject to certain operating performance conditions and other restrictions. The form of distribution is primarily shares of common stock, with a portion in cash. Compensation expense for performance shares is recognized over the service period based on the number of shares ultimately expected to be earned. Performance shares awards are accounted for as liabilities in accordance with ASC 718, Compensation - Stock Compensation, with compensation expense adjusted at the end of each reporting period to reflect the change in fair value of the awards.

As of September 30, 2016, 4,944,575 performance shares awarded primarily in 2013 were outstanding, contingent on the Company achieving its performance objectives through 2016 and the provision of additional service by employees. The objectives for these shares were met at the 86 percent level at the end of 2016, or 4,252,335 shares. Of these, 2,549,083 shares were distributed in early 2017 as follows: 1,393,715 issued as shares, 944,002 withheld for income taxes, and the value of 211,366 paid in cash. An additional 1,691,986 shares were distributed at the end of 2017 to employees who provided one additional year of service as follows: 1,070,264 issued as shares, 616,734 withheld for income taxes, and the value of 4,988 paid in cash. There were 11,266 shares canceled and not distributed.

As of September 30, 2018, 1,874,750 shares awarded primarily in 2016 were outstanding, contingent on the Company achieving its performance objectives through 2018. The objectives for these shares were met at the 97 percent level at the end of 2018 and 1,818,510 shares were distributed in early 2019 as follows: 1,023,789 issued as shares, 588,094 withheld for income taxes, and the value of 206,627 paid in cash.

As of September 30, 2019, 1,877,650 shares awarded primarily in 2017 were outstanding, contingent on the Company achieving its performance objectives through 2019. The objectives for these shares were met at the 107 percent level at the end of 2019 and 2,009,085 shares will be distributed in early 2020.

Additionally, the rights to receive a maximum of 1,811,605 and 2,125,954 common shares were awarded in 2019 and 2018, respectively, under the new performance shares program, and are outstanding and contingent upon the Company achieving its performance objectives through 2021 and 2020, respectively.

Incentive shares plans also include restricted stock awards which involve distribution of common stock to key management employees subject to cliff vesting at the end of service periods ranging from three to ten years. The fair value of restricted stock awards is determined based on the average of the high and low market prices of the Company's common stock on the date of grant, with compensation expense recognized ratably over the applicable service period. In 2019, 250,000 shares of restricted stock vested as a result of participants fulfilling the applicable service requirements. Consequently, 148,707 shares were issued while 101,293 shares were withheld for income taxes in accordance with minimum withholding requirements. As of September 30, 2019, there were 1,262,700 shares of unvested restricted stock outstanding.

The total fair value of shares distributed under incentive shares plans was \$145, \$20 and \$245, respectively, in 2019, 2018 and 2017, of which \$73, \$9 and \$101 was paid in cash, primarily for tax withholding. As of September 30, 2019, 8.8 million shares remained available for award under incentive shares plans.

Changes in shares outstanding but not yet earned under incentive shares plans during the year ended September 30, 2019 follow (shares in thousands; assumes 100 percent payout of unvested awards):

	SHARES	AVERAGE GRANT DATE FAIR VALUE PER SHARE
Beginning of year	6,898	\$54.69
Granted	1,740	\$68.99
Earned/vested	(2,068)	\$47.93
Canceled	(245)	\$59.85
End of year	6,325	\$60.63

Total compensation expense for stock options and incentive shares was \$120, \$216 and \$115 for 2019, 2018 and 2017, respectively, of which \$5 was included in discontinued operations for 2017. The decrease in expense in 2019 reflects a decreasing stock price in the current year compared to an increasing stock price in the prior year. The increase in expense for 2018 reflects an increase in the Company's stock price and progress toward achieving its performance objectives. Income tax benefits recognized in the income statement for these compensation arrangements during 2019, 2018 and 2017 were \$20, \$42 and \$33, respectively. As of September 30, 2019, total unrecognized compensation expense related to unvested shares awarded under these plans was \$138, which is expected to be recognized over a weighted-average period of 1.6 years.

In addition to the employee stock option and incentive shares plans, in 2019 the Company awarded 17,466 shares of restricted stock and 2,264 restricted stock units under the restricted stock plan for non-management directors. As of September 30, 2019, 139,635 shares were available for issuance under this plan.

(16) Common and Preferred Stock

At September 30, 2019, 34.3 million shares of common stock were reserved for issuance under the Company's stock-based compensation plans. During 2019, 19.9 million common shares were purchased and 1.8 million treasury shares were reissued. In 2018, 15.1 million common shares were purchased and 2.6 million treasury shares were reissued.

At September 30, 2019 and 2018, the Company had 5.4 million shares of \$2.50 par value preferred stock authorized, with none issued.

(17) Accumulated Other Comprehensive Income (Loss)

Activity in Accumulated other comprehensive income (loss) is shown below:

	2017	2018	2019
Foreign currency translation			
Beginning balance	\$ (812)	(369)	(600)
Other comprehensive income (loss)	58	(214)	(194)
Reclassified to gain/loss on sale of businesses	385	(17)	_
Ending balance	(369)	(600)	(794)
Pension and postretirement			
Beginning balance	(1,162)	(662)	(420)
Actuarial gains (losses) deferred during the period	315	250	(560)
Amortization of deferred actuarial losses into earnings	135	94	52
Reclassified to gain/loss on sale of businesses	50	_	_
Adoption of accounting standard update	_	(102)	_
Ending balance	(662)	(420)	(928)
Cash flow hedges			
Beginning balance	(25)	12	5
Gains (Losses) deferred during the period	34	2	(3)
Reclassifications of realized (gains) losses to sales and cost of sales	3	(11)	(2)
Adoption of accounting standard update	_	2	_
Ending balance	12	5	_
Accumulated other comprehensive income (loss)	\$(1,019)	(1,015)	(1,722)

Activity above is shown net of income taxes for 2019, 2018 and 2017, respectively, as follows: foreign currency translation: \$(16), \$0 and \$0; deferral of pension and postretirement actuarial gains (losses): \$165, \$(76) and \$(170); amortization of pension and postretirement deferred actuarial losses: \$(15), \$(29) and \$(75); deferral of cash flow hedging gains (losses): \$1, \$0 and \$(21); reclassification of realized cash flow hedging (gains) losses: \$0, \$4 and \$(2).

(18) Business Segments Information

The Company designs and manufactures products and delivers services that bring 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, the Company realigned its businesses. Starting 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 enables process, hybrid and discrete manufacturers to maximize production, protect personnel and the environment, reduce project costs, and optimize their energy efficiency and operating costs through a broad offering of integrated solutions, software, services and products, including measurement and analytical instrumentation, industrial valves and equipment, and process control software and systems. Significant 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. The segment's major product offerings are described below.

- Measurement & Analytical Instrumentation products measure the physical properties of liquids or gases in a process stream and communicate this information to a process control system or other software applications, and analyze the chemical composition of process fluids and emissions to enhance quality and efficiency, as well as environmental compliance.
- Valves, Actuators & Regulators consists of control, isolation and pressure relief valves which respond to commands from a control system to continuously and precisely modulate the flow of process fluids, smart actuation and control technologies, pressure management products, and industrial and residential regulators that reduce the pressure of fluids moving from highpressure supply lines into lower pressure systems.
- Industrial Solutions provides fluid control and pneumatic 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.
- Process Control Systems & Solutions provides a digital ecosystem that controls plant processes by communicating with and adjusting the "intelligent" plant devices described above to provide precision measurement, control, monitoring, asset optimization, and plant safety and reliability for plants that produce power, or process fluids or other items.

The Commercial & Residential Solutions business consists of the Climate Technologies and Tools & Home Products segments. This business 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.

The Climate Technologies segment provides products, services and solutions for all areas of the climate control industry, including residential heating and cooling, commercial air conditioning, commercial and industrial refrigeration, and cold chain management. Products include compressors, temperature sensors and controls, thermostats, flow controls, and stationary and mobile remote monitoring technologies and services that enable homeowners and businesses to better manage their heating, air conditioning and refrigeration systems for improved control and comfort, and lower energy costs.

The Tools & Home Products segment offers tools for professionals and homeowners and appliance solutions. Products include professional pipe-working tools, electrical and utility tools, residential and commercial food waste disposers, and wet-dry vacuums.

The principal distribution method for each segment is direct sales forces, although the Company also uses independent sales representatives and distributors. Due to its global presence, certain of the Company's international operations are subject to risks including the stability of governments and business conditions in foreign countries which could result in adverse changes in exchange rates, changes in regulations or disruption of operations.

The primary income measure used for assessing segment performance and making operating decisions is earnings before interest and income taxes. Certain expenses are reported at Corporate, including stock compensation expense and a portion of pension and postretirement benefit costs. Corporate and other includes unallocated corporate expenses, acquisition/divestiture costs, first year

acquisition accounting charges (which include fair value adjustments related to inventory, backlog and deferred revenue) and other items. Corporate assets are primarily comprised of cash and equivalents, investments and certain fixed assets. Summarized below is information about the Company's operations by business segment and by geography.

BUSINESS SEGMENTS

		SALES		EARNINGS				TOTAL ASSETS		
	2017	2018	2019	2017	2018	2019	2017	2018	2019	
Automation Solutions	\$ 9,418	11,441	12,202	\$1,522	1,886	1,947	\$12,581	13,720	13,996	
Climate Technologies Tools & Home Products	4,212 1,645	4,454 1,528	4,313 1,856	975 383	972 380	883 388	2,547 830	2,936 1,560	2,885 1,462	
Commercial & Residential Solutions	5,857	5,982	6,169	1,358	1,352	1,271	3,377	4,496	4,347	
Corporate items: Stock compensation Pension and postretirement costs Corporate and other Eliminations/Interest	(11)	(15)	1	(110) 27 (297) (165)	(216) 79 (275) (159)	(120) 108 (173) (174)	3,631	2,174	2,154	
Total	\$15,264	17,408	18,372	\$2,335	2,667	2,859	\$19,589	20,390	20,497	

Automation Solutions sales by major product offering are summarized below:

	2017	2018	2019
Measurement & Analytical Instrumentation	\$3,070	3,604	3,807
Valves, Actuators & Regulators	2,659	3,749	3,794
Industrial Solutions	1,689	1,967	2,232
Process Control Systems & Solutions	2,000	2,121	2,369
Total	\$9,418	11,441	12,202

	AN	DEPRECIATION AND AMORTIZATION			CAPITAL EXPENDITURES			
	2017	2018	2019	2017	2018	2019		
Automation Solutions	\$381	488	535	\$234	295	297		
Climate Technologies Tools & Home Products	156 45	171 44	176 71	182 45	209 64	222 59		
Commercial & Residential Solutions	201	215	247	227	273	281		
Corporate and other	54	55	40	15	49	16		
Total	\$636	758	822	\$476	617	594		

GEOGRAPHIC INFORMATION

	AUT	COMMERCIAL & RESIDENTIAL AUTOMATION SOLUTIONS SOLUTIONS						TOTAL		
	2017	2018	2019	2017	2018	2019	2017	2018	2019	
Americas	\$4,581	5,517	5,850	\$4,051	3,967	4,253	\$ 8,632	9,484	10,103	
Asia, Middle East & Africa	2,936	3,657	3,891	1,273	1,384	1,192	4,209	5,041	5,083	
Europe	1,901	2,267	2,461	533	631	724	2,434	2,898	3,185	
Total	\$9,418	11,441	12,202	\$5,857	5,982	6,169	\$15,275	17,423	18,371	

Sales in the U.S. were \$8,390, \$7,939 and \$7,273 for 2019, 2018 and 2017, respectively, while Asia, Middle East & Africa includes sales in China of \$1,962, \$1,955 and \$1,540 in those years.

	PRO	PROPERTY, PLANT AND EQUIPMENT			
	2017	2018	2019		
Americas	\$2,055	2,234	2,339		
Asia, Middle East & Africa	640	652	671		
Europe	626	676	632		
Total	\$3,321	3,562	3,642		

Assets located in the U.S. were \$2,128 in 2019, \$2,027 in 2018 and \$1,840 in 2017.

(19) Other Financial Data

Items reported in earnings from continuing operations during the years ended September 30 included the following:

	2017	2018	2019
Research and development expense	\$340	436	454
Depreciation expense	\$414	444	463
Rent expense	\$289	279	285

The Company leases certain facilities, transportation and office equipment, and various other items under operating lease agreements. Minimum annual rentals under noncancelable long-term leases, exclusive of maintenance, taxes, insurance and other operating costs, will approximate \$159 in 2020, \$112 in 2021, \$82 in 2022, \$57 in 2023, \$38 in 2024 and \$63 thereafter.

Items reported in other noncurrent assets included the following:

	2018	2019
Pension assets	\$591	164
Asbestos-related insurance receivables	\$124	115
Deferred income taxes	\$ 74	97
Items reported in accrued expenses included the following:		
	2018	2019
Employee compensation	\$629	606
Customer advances (contract liabilities)	\$510	519
Product warranty	\$124	140
Other liabilities are summarized as follows:		
	2018	2019
Pension and postretirement liabilities	\$ 625	775
Deferred income taxes	484	327
Asbestos litigation	334	313
Other	656	556
Total	\$2,099	1,971

(20) Quarterly Financial Information (Unaudited)

	FIRST QUARTER		SECOND QUARTER		THIRD QUARTER		FOURTH QUARTER		FULL YEAR	
	2018	2019	2018	2019	2018	2019	2018	2019	2018	2019
Net sales	\$3,816	4,147	4,248	4,570	4,456	4,684	4,888	4,971	17,408	18,372
Gross profit	\$1,614	1,761	1,817	1,925	1,942	2,001	2,059	2,128	7,432	7,815
Net earnings common stockholders	\$ 392	465	482	520	712	604	617	717	2,203	2,306
Net earnings per common share:										
Basic	\$ 0.61	0.74	0.76	0.85	1.13	0.98	0.98	1.17	3.48	3.74
Diluted	\$ 0.61	0.74	0.76	0.84	1.12	0.97	0.97	1.16	3.46	3.71
Dividends per common share	\$0.485	0.49	0.485	0.49	0.485	0.49	0.485	0.49	1.94	1.96

Earnings per share are computed independently each period; as a result, the quarterly amounts may not sum to the calculated annual figure.

Emerson Electric Co. common stock (symbol EMR) is listed on the New York Stock Exchange and the Chicago Stock Exchange.

Earnings from continuing operations and diluted earnings per share included an income tax benefit of \$43 (\$0.07 per share) and \$150 (\$0.24 per share) in the first quarter and third quarter of 2018, respectively, from the impacts of U.S. tax reform. The full-year impact for fiscal 2018 was an income tax benefit of \$189 (\$0.30 per share). See Note 14.

Report of Independent Registered Public Accounting Firm

To the Stockholders and Board of Directors Emerson Electric Co.:

Opinions on the Consolidated Financial Statements and Internal Control Over Financial Reporting

We have audited the accompanying consolidated balance sheets of Emerson Electric Co. and subsidiaries (the Company) as of September 30, 2019 and 2018, the related consolidated statements of earnings, comprehensive income, equity, and cash flows for each of the years in the three-year period ended September 30, 2019, and the related notes (collectively, the consolidated financial statements). We also have audited the Company's internal control over financial reporting as of September 30, 2019, based on criteria established in Internal Control - Integrated Framework (2013) issued by the Committee of Sponsoring Organizations of the Treadway Commission.

In our opinion, the consolidated financial statements referred to above present fairly, in all material respects, the financial position of the Company as of September 30, 2019 and 2018, and the results of its operations and its cash flows for each of the years in the three-year period ended September 30, 2019, in conformity with U.S. generally accepted accounting principles. Also in our opinion, the Company maintained, in all material respects, effective internal control over financial reporting as of September 30, 2019 based on criteria established in Internal Control - Integrated Framework (2013) issued by the Committee of Sponsoring Organizations of the Treadway Commission.

Basis for Opinions

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

We conducted our audits in accordance with the standards of the PCAOB. Those standards require that we plan and perform the audits to obtain reasonable assurance about whether the consolidated financial statements are free of material misstatement, whether due to error or fraud, and whether effective internal control over financial reporting was maintained in all material respects.

Our audits of the consolidated financial statements included performing procedures to assess the risks of material misstatement of the consolidated financial statements, whether due to error or fraud, and performing procedures that respond to those risks. Such procedures included examining, on a test basis, evidence regarding the amounts and disclosures in the consolidated financial statements. Our audits also included evaluating the accounting principles used and significant estimates made by management, as well as evaluating the overall presentation of the consolidated financial statements. Our audit of internal control over financial reporting included obtaining an understanding of internal control over financial reporting, assessing the risk that a material weakness exists, and testing and evaluating the design and operating effectiveness of internal control based on the assessed risk. Our audits also included performing such other procedures as we considered necessary in the circumstances. We believe that our audits provide a reasonable basis for our opinions.

Definition and Limitations of Internal Control Over Financial Reporting

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

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

Critical Audit Matter

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

Evaluation of the Sufficiency of Audit Evidence over Net Sales

As discussed in Notes 1, 2 and 18 to the Company's consolidated financial statements, and disclosed in the consolidated statements of earnings, the Company recorded \$18.4 billion of net sales in 2019.

We identified the evaluation of the sufficiency of audit evidence over net sales as a critical audit matter. Net sales are recognized primarily from the sale of tangible products from hundreds of Company locations around the world. Evaluating the sufficiency of audit evidence obtained required especially subjective auditor judgment because of the geographical dispersion of the Company's net sales generating activities. This included determining the Company locations at which procedures were performed and the supervision and review of procedures performed at those locations.

The primary procedures we performed to address this critical audit matter included the following. We performed risk assessment procedures and applied auditor judgment to determine the nature and extent of procedures to be performed over net sales, including the determination of the Company locations at which those procedures were to be performed. At each Company location where procedures were performed, we:

- Tested certain internal controls over the Company's net sales processes, including the Company's controls over the accurate recording of amounts.
- Assessed the recorded net sales by selecting a sample of transactions and compared the amounts recognized for consistency with underlying documentation, including contracts with customers and shipping documentation.

After completion of these procedures, we evaluated the overall sufficiency of audit evidence over net sales.

KPMG LLP

We or our predecessor firms have served as the Company's auditor since 1938.

St. Louis, Missouri November 18, 2019

Five-Year Summary

EMERSON ELECTRIC CO. & SUBSIDIARIES

Years ended September 30 | Dollars in millions, except per share amounts or where noted

Results presented in accordance with U.S. GAAP

		2015	2016	2017	2018	2019
Summary of Operations						
Net sales	\$ 10	6,249	14,522	15,264	17,408	18,372
Gross profit	\$	7,008	6,262	6,431	7,432	7,815
Interest expense, net	\$	175	188	165	159	174
Earnings from continuing operations common stockholders	\$	2,517	1,590	1,643	2,203	2,306
Percent of net sales		15.5%	11.0%	10.8%	12.7%	12.6%
Operating cash flow from continuing operations	\$ 2	2,040	2,499	2,690	2,892	3,006
Return on common stockholders' equity	2	29.8%	20.9%	18.6%	24.9%	26.8%
Per Share of Common Stock						
Diluted EPS – Earnings from continuing operations	\$	3.71	2.45	2.54	3.46	3.71
Cash dividends	\$	1.88	1.90	1.92	1.94	1.96
Book value	\$	12.34	11.77	13.59	14.22	13.47
Year-End Financial Position						
Operating working capital	\$	1,748	1,354	1,007	985	1,113
Percent of net sales		7.8%	6.7%	6.6%	5.7%	6.1%
Property, plant and equipment, net	\$ 3	3,585	3,542	3,321	3,562	3,642
Total assets	\$ 22	2,088	21,732	19,589	20,390	20,497
Long-term debt	\$ 4	4,289	4,051	3,794	3,137	4,277
Common stockholders' equity	\$	8,081	7,568	8,718	8,947	8,233
Total debt-to-total capital	4	45.8%	46.7%	34.8%	34.7%	41.0%
Net debt-to-net capital	3	31.3%	31.3%	15.4%	29.1%	33.9%
Other Data						
Capital expenditures	\$	588	447	476	617	594
Depreciation	\$	399	391	414	444	463
Total taxes, including income taxes	\$	1,689	1,086	1,748	901	1,001
Salaries and wages	\$ 3	3,445	3,281	3,478	3,907	4,239
Number of employees	80	0,500	74,500	76,500	87,500	88,000
Approximate number of common stockholders						
of record at year end	20	0,130	19,724	19,066	18,343	17,776
Average common shares – diluted (in thousands)	670	6,450	646,837	643,351	635,323	620,595

The information presented above reflects the Company's results from continuing operations for all years presented. See Notes 4 and 14 in the Annual Report for information regarding the Company's acquisition and divestiture activities for the last three years and the effect of U.S. tax reform in 2018. Results for 2015 included gains on divestitures of businesses of \$611 after-tax (\$0.90 per share benefit).

Board of Directors

CHAIRMAN OF THE BOARD

David N. Farr

St. Louis, Missouri Chairman and Chief Executive Officer, **Emerson**

INDEPENDENT DIRECTORS

Mark A. Blinn

Dallas, Texas Retired President and Chief Executive Officer, Flowserve Corporation

Clemens A.H. Boersig

Lead Independent Director Frankfurt, Germany Retired Chairman, The Supervisory Board, Deutsche Bank AG

Joshua B. Bolten

Washington, District of Columbia President and Chief Executive Officer, Business Roundtable

Martin S. Craighead

Houston, Texas Retired Chairman, President and Chief Executive Officer, Baker Hughes Incorporated

Gloria A. Flach

Marriottsville, Maryland Retired Corporate Vice President and Chief Operating Officer, Northrop Grumman Corporation

Arthur F. Golden

New York, New York Senior Partner, Davis Polk & Wardwell LLP

Candace Kendle

Boca Grande, Florida Retired Chairman and Chief Executive Officer. Kendle International Inc.

Lori M. Lee

Dallas, Texas Chief Executive Officer AT&T Latin America, Global Marketing Officer, AT&T Inc.

Matthew S. Levatich

Milwaukee. Wisconsin President and Chief Executive Officer. Harley-Davidson Inc.

James S. Turley

St. Louis, Missouri Retired Chairman of the Board and Chief Executive Officer, Ernst & Young LLP

COMMITTEES

Executive Committee

David N. Farr, Chair Clemens A.H. Boersig Joshua B. Bolten Arthur F. Golden James S. Turley

Audit Committee

James S. Turley, Chair Joshua B. Bolten Candace Kendle Lori M. Lee Matthew S. Levatich

Compensation Committee

Clemens A.H. Boersig, Chair Martin S. Craighead Gloria A. Flach Matthew S. Levatich

Finance Committee

Arthur F. Golden, Chair Clemens A.H. Boersig Gloria A. Flach Lori M. Lee

Corporate Governance and **Nominating Committee**

Joshua B. Bolten, Chair Martin S. Craighead Candace Kendle James S. Turley

ADVISORY DIRECTORS

Frank J. Dellaquila

Senior Executive Vice President and Chief Financial Officer

Michael H. Train President

Steven J. Pelch

Chief Operating Officer and Executive Vice President -Organization Planning and Development

Robert T. Sharp

Executive President, Commercial & Residential Solutions

S. Lal Karsanbhai

Executive President. **Automation Solutions**

Management

EXECUTIVE OFFICERS

David N. Farr

Chairman and Chief Executive Officer

Frank J. Dellaguila

Senior Executive Vice President and Chief Financial Officer

Michael H. Train

President

Steven J. Pelch

Chief Operating Officer and Executive Vice President -Organization Planning and Development

Robert T. Sharp

Executive President. Commercial & **Residential Solutions**

S. Lal Karsanbhai

Executive President. **Automation Solutions**

Sara Yang Bosco

Senior Vice President, Secretary and General Counsel

Mark J. Bulanda

Senior Vice President, Planning and Development

Katherine Button Bell

Senior Vice President and Chief Marketing Officer

Michael J. Baughman

Vice President, Controller and Chief Accounting Officer

Reconciliation of Non-GAAP Measures

RECONCILIATION OF NON-GAAP MEASURES

Dollars in millions, except per share amounts

	2010	
	2019	D
	6 % 2 %	Reported (GAAP) (Favorable) / Unfavorable FX
5)%	(5)%	Acquisitions / Divestitures
3 %	3 %	Underlying (non-GAAP)
	2010	
	2019	. (CAAD)
	15.6 % 0.9 %	Pretax earnings margin (GAAP) Interest expense, net
	16.5 % 4.5 %	EBIT Margin (non-GAAP) Amortization / depreciation
0 %	21.0 %	EBITDA Margin (non-GAAP)
018 2019 CHANGE	2018	
	\$2,667 159	Pretax earnings (GAAP) Interest expense, net
	\$2,826 758	EBIT (non-GAAP) Amortization / depreciation
584 \$3,855 8%	\$3,584	EBITDA (non-GAAP)
CAGR 016 2019 '16-'19	2016	
316 \$2,859 7%	\$2,316	Pretax earnings from continuing operations (GAAP)
	188	Interest expense, net
and the second of the second o	\$2,504 568	EBIT (non-GAAP) Amortization / depreciation
072 \$3,855 8%	\$3,072	EBITDA (non-GAAP)
018 2019 CHANGE	2018	
	\$2,892 (617)	Operating cash flow (GAAP) Capital expenditures
· · · · ·	\$2,275	Free cash flow (non-GAAP)
CAGR		
	2016	
	\$2,499 (447)	Operating cash flow from continuing operations (GAAP) Capital expenditures
052 2,412 6%	2,052	Free cash flow from continuing operations (non-GAAP)
018 2019 CHANGE	2018	
1 / 1	43% 11%	Dividends as a percent of operating cash flow (GAAP) Capital expenditures
50% (4) points	54%	Dividends as a percent of free cash flow (non-GAAP)
016 2019	2016	
	49% 11%	Dividends as a percent of operating cash flow from continuing operations (GAAP) Capital expenditures
50% 50%	60%	Dividends as a percent of free cash flow from continuing operations (non-GAAP)

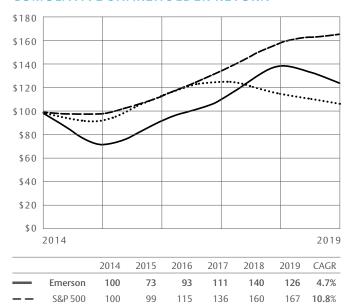
Stockholders Information

SAFE HARBOR STATEMENT

This Annual Report contains various forward-looking statements and includes assumptions concerning Emerson's operations, future results and prospects, for example, the outcome and ultimate impact of the Board review referred to herein. 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 following cautionary statements identifying 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.

Such factors include, but are not limited to, the following: (1) the current and future business environment, including capital and consumer spending, potential volatility of the end markets served, interest rates, and currency exchange rates; (2) competitive factors and competitor responses to Emerson initiatives; (3) development and market introduction of anticipated new products; (4) the ability to defend and protect our intellectual property rights; (5) favorable environments for and execution of acquisitions and divestitures, domestic and foreign, including regulatory requirements and market values of candidates; (6) integration of acquisitions and separation of disposed businesses; (7) the availability of raw materials and purchased components; (8) stability of governments and business conditions in countries where we operate which could result in adverse changes in exchange rates, changes in regulation, tariffs or trade barriers, nationalization of facilities or disruption of operations; (9) changes in tax rates, laws or regulations and the resolution of tax disputes in U.S. and non-U.S. jurisdictions; (10) unrestricted access to capital markets; (11) our ability to attract, develop and retain key personnel; (12) ability to prevent security breaches or disruptions of our information technology systems; (13) impact of potential product failures or similar events caused by product defects, cybersecurity incidents or other intentional acts; (14) the impact of improper conduct by our employees, agents or business partners; and (15) the outcome of pending and future litigation, including environmental compliance.

COMPARISON OF FIVE-YEAR CUMULATIVE SHAREHOLDER RETURN



\$100 invested on 9/30/14 in stock or index, including reinvestment of dividends. Fiscal year ending September 30.

116

127

116

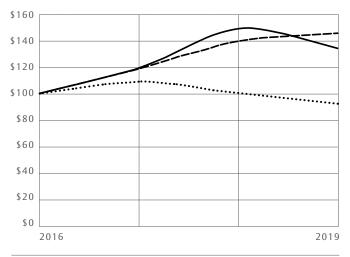
108

93

100

Peer Index*

COMPARISON OF THREE-YEAR CUMULATIVE SHAREHOLDER RETURN



		2016	2017	2018	2019	CAGR
_	Emerson	100	119	149	134	10.4%
	S&P 500	100	119	140	146	13.4%
• • • • •	Peer Index*	100	109	100	93	(2.5%)

\$100 invested on 9/30/16 in stock or index, including reinvestment of dividends. Fiscal year ending September 30.

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^{*}The Peer Index consists of companies with comparable businesses and/or end-markets. Companies included in Emerson's peer group are: ABB Ltd., General Electric Honeywell, Rockwell Automation, Schneider Electric, Siemens, United Technologies and 3M. Returns of each company in the peer comparator group have been weighted according to that company's respective stock market capitalization at the beginning of each period for which a return is indicated.

REGISTRAR AND TRANSFER AGENT

By Mail:

Computershare, Inc.

Attention: Emerson Electric Co.

P.O. Box 505000 Louisville, KY 40233

By Phone:

Toll-Free: (888) 213-0970

TDD for Hearing Impaired: (800) 231-5469 Foreign Shareholders: (201) 680-6578 TDD Foreign Shareholders: (201) 680-6610

By Internet:

www.computershare.com/investor

All other inquiries should be addressed to: Emerson Investor Relations Department 8000 W. Florissant Ave. St. Louis, MO 63136-8506

Telephone: (314) 553-2197

STOCKHOLDER SERVICES

Inquiries regarding dividend payments, loss or nonreceipt of a stock certificate or dividend check, stock transfers (including name changes), tax information and address changes should be directed to Computershare.

DIVIDEND REINVESTMENT AND STOCK PURCHASE PLAN

The Plan is administered by Computershare, for individual investors who want a convenient way to purchase or sell Emerson Electric Co. stock (NYSE:EMR). Only registered holders of Emerson common stock can participate, however, an initial purchase can be made directly through the Plan. The Plan provides the opportunity to reinvest dividends and is an alternative to traditional methods of buying and selling Emerson common stock. The Plan is not sponsored or administered by Emerson. For further information and an authorization form, contact Computershare.

DIRECT DEPOSIT OF DIVIDENDS

Stockholders may elect to have dividends electronically deposited into a checking or savings account. For details, contact Computershare.

DUPLICATE MAILINGS

When stockholders own shares in more than one account or when several stockholders live at the same address, they may receive multiple copies of the annual report. To eliminate duplicate copies, contact Computershare.

INTERNET ACCESS

Corporate news releases, Forms 10-K, 10-Q and 8-K, the Annual Report, and other information about the Company are available at www.emerson.com

ANNUAL MEETING

The annual meeting of stockholders will be held at 10 a.m. CST, Tuesday, February 4, 2020 in Emerson's World Headquarters Building, 8000 W. Florissant Ave., St. Louis, Missouri 63136. Notice of the meeting, proxy statement and proxy were sent or made available to stockholders with this annual report.

10-K REPORT

The Company's 2019 Annual Report on Form 10-K for the fiscal year ended September 30, 2019 filed with the U.S. Securities and Exchange Commission (the "Form 10-K") is available to stockholders without charge by contacting the Emerson Investor Relations Department or by accessing the investor section of our company's website at www.emerson.com, Investors, or by going to the SEC's website at www.sec.gov. The Company's Chief Executive Officer and Chief Financial Officer have furnished the required Form 10-K certifications.

ENVIRONMENTAL PROGRAMS

Information on Emerson's environmental programs may be obtained by contacting:

Emerson Environmental Affairs Department

8000 W. Florissant Ave.

P.O. Box 4100

St. Louis, MO 63136-8506

ANNUAL REPORT

Included in this 2019 Annual Report are financial and operating highlights and summary financial information. Please refer to the Company's Form 10-K for important financial and business information, including Risk Factors, market risk, description of industry segments, and risks of foreign operations. You should read the Form 10-K in connection with this 2019 Annual Report.

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