Xylem Inc.
Form 10-K
February 22, 2019

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

FORM 10-K

(Mark One)

þ **ANNUAL REPORT PURSUANT TO SECTION 13 OR 15(d) OF THE SECURITIES EXCHANGE ACT OF 1934**
For the fiscal year ended December 31, 2018
or

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

For the transition period from to
Commission file number: 1-35229

Xylem Inc.

(Exact name of registrant as specified in its charter)

Indiana	**45-2080495**
(State or other jurisdiction of incorporation or organization)	*(I.R.S. Employer Identification No.)*

1 International Drive, Rye Brook, NY 10573
(address of principal executive offices and zip code)
(914) 323-5700
(Registrant's telephone number, including area code)

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

Title of each class	Name of each exchange on which registered
Common Stock, par value $0.01 per share	New York Stock Exchange
2.250% Senior Notes due 2023	New York Stock Exchange

Securities registered pursuant to Section 12(g) of the Act: None

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

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

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

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

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

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

Large Accelerated Filer þ Accelerated Filer ¨ Non-Accelerated Filer ¨ Smaller reporting company ¨ Emerging growth company ¨

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

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

The aggregate market value of the common stock of the registrant held by non-affiliates of the registrant as of June 30, 2018 was approximately $12.0 billion. As of February 15, 2019, there were 179,552,698 outstanding shares of the registrant's common stock, par value $0.01 per share.

DOCUMENTS INCORPORATED BY REFERENCE

Portions of the registrant's definitive proxy statement for its 2019 Annual Meeting of Shareowners, to be held in May 2019, are incorporated by reference into Part II and Part III of this Report.

Xylem Inc.
ANNUAL REPORT ON FORM 10-K
For the fiscal year ended December 31, 2018
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*Included pursuant to Instruction 3 of Item 401(b) of Regulation S-K.

PART I

The following discussion should be read in conjunction with the consolidated financial statements, including the notes, included elsewhere in this Annual Report on Form 10-K (this "Report"). Except as otherwise indicated or unless the context otherwise requires, "Xylem," "we," "us," "our" and "the Company" refer to Xylem Inc. and its subsidiaries. References in the consolidated financial statements to "ITT" or the "former parent" refer to ITT Corporation (now ITT LLC) and its consolidated subsidiaries (other than Xylem Inc.) as of the applicable periods.

Forward-Looking Statements

This Report contains information that may constitute "forward-looking statements" within the meaning of the Private Securities Litigation Act of 1995. Forward-looking statements by their nature address matters that are, to different degrees, uncertain. Generally, the words "anticipate," "estimate," "expect," "project," "intend," "plan," "forecast," "believe," "target," "will," "could," "would," "should" and similar expressions identify forward-looking statements. However, the absence of these words or similar expressions does not mean that a statement is not forward-looking. These forward-looking statements include any statements that are not historical in nature, including any statements about the capitalization of the Company, the Company's restructuring and realignment, future strategic plans and other statements that describe the Company's business strategy, outlook, objectives, plans, intentions or goals. All statements that address operating or financial performance, events or developments that we expect or anticipate will occur in the future - including statements relating to orders, revenues, operating margins and earnings per share growth, and statements expressing general views about future operating results - are forward-looking statements. Forward-looking statements involve known and unknown risks, uncertainties and other important factors that could cause actual results to differ materially from those expressed or implied in, or reasonably inferred from, such forward-looking statements.

Factors that could cause results to differ materially from those anticipated include: overall economic and business conditions, political and other risks associated with our international operations, including military actions, economic sanctions or trade barriers including tariffs and embargoes that could affect customer markets, and non-compliance with laws, including foreign corrupt practice laws, export and import laws and competition laws; potential for unexpected cancellations or delays of customer orders in our reported backlog; our exposure to fluctuations in foreign currency exchange rates; competition and pricing pressures in the markets we serve; the strength of housing and related markets; weather conditions; ability to retain and attract talent and key members of management; our relationship with and the performance of our channel partners; our ability to successfully identify, complete and integrate acquisitions; our ability to borrow or to refinance our existing indebtedness and availability of liquidity sufficient to meet our needs; changes in the value of goodwill or intangible assets; risks relating to product defects, product liability and recalls; claims or investigations by governmental or regulatory bodies; security breaches or other disruptions of our information technology systems; litigation and contingent liabilities; and other factors set forth under "Item 1A. Risk Factors" and in subsequent filings we make with the Securities and Exchange Commission ("SEC").

All forward-looking statements made herein are based on information currently available to the Company as of the date of this Report. The Company undertakes no obligation to publicly update or revise any forward-looking statements, whether as a result of new information, future events or otherwise, except as required by law.

ITEM 1. BUSINESS

Business Overview

Xylem, with 2018 revenue of $5.2 billion and approximately 17,000 employees, is a leading global water technology company. We design, manufacture and service highly engineered products and solutions ranging across a wide variety of critical applications primarily in the water sector, but also in electric and gas. Our broad portfolio of products, services and solutions addresses customer needs across the water cycle, from the delivery, measurement and use of drinking water to the collection, test and treatment of wastewater to the return of water to the environment.

We have differentiated market positions in core application areas including transport, treatment, test, smart metering, smart infrastructure analytics, digital solutions, condition assessment and leak detection, building services and industrial processing. Setting us apart is a unique set of global assets that include:

- Fortress brands with leading positions, some of which have been in use for more than 100 years
- Far-reaching global distribution networks consisting of direct sales forces and independent channel partners that collectively serve a diverse customer base in approximately 150 countries
- A substantial installed base that provides for steady recurring revenue
- A strong financial position and cash generation profile that enables us to fund strategic organic and inorganic growth initiatives, and consistently return capital to shareholders

Key pillars of our long-term strategy include: (1) accelerate profitable growth; (2) increase profitability by driving continuous improvement initiatives; (3) leadership and talent development; (4) focus on execution and accountability; and (5) create social value in everything we do.

Company History and Certain Relationships

On October 31, 2011 (the "Distribution Date"), ITT Corporation ("ITT") completed the Spin-off (the “Spin-off”) of Xylem, formerly ITT’s water equipment and services businesses. The Spin-off was completed pursuant to a Distribution Agreement, dated as of October 25, 2011 (the “Distribution Agreement”), among ITT (now ITT LLC), Exelis Inc., acquired by Harris Inc. on May 29, 2015 (“Exelis”), and Xylem.

Our Industry

Our planet faces serious water challenges. Less than 1% of the total water available on earth is fresh water, and these supplies are under threat due to factors such as the draining of aquifers, increased pollution and the effects of climate change. Demand for fresh water is rising rapidly due to population growth, industrial expansion, and increased agricultural development, with consumption estimated to double every 20 years. By 2025, more than 30% of the world’s population is expected to live in areas without adequate water supply. Even in developed countries with sufficient clean water supply, existing water supply infrastructure is aging and inadequately funded. In the United States, deteriorating pipe systems, theft or inaccurate meters result in approximately one out of every six gallons of water being lost between the treatment plant and the end customer. This problem of "non-revenue" water is a major financial challenge of many utilities globally, especially in developing markets where non-revenue water can represent 15% to 60% or more of net water produced. These and other challenges create opportunities for growth in the global water industry. We estimate the total addressable market size to be approximately $550 billion.

We compete in areas that are pivotal to improving water productivity, water quality and resilience. Water productivity refers to the more efficient delivery and use of clean water. Water quality refers to the efficient and effective management of wastewater. Resilience refers to the management of water-related risks and the resilience of water infrastructure. Our customers often face all three of these challenges, ranging from inefficient and aging water distribution networks (which require improvements in “water productivity”); energy-intensive or unreliable wastewater management systems (which require improvements in “water quality”); or exposure to natural disasters such as floods or droughts (which require improvements in “resilience”). Additionally, through the acquisition of Sensus, we also provide solutions to enhance communications and efficiency, improve safety and conserve resources to customers in the water, electric, gas, and lighting sectors. Delivering value in these areas creates significant opportunity for the Company. We estimate our total served market size to be approximately $57 billion.

The Global Water Industry Value Chain

The water industry value chain includes Equipment and Services companies, like Xylem, which address the unique challenges and demands of a diverse customer base. This customer base includes water and wastewater utilities that supply and treat clean water or transport and treat wastewater or storm water through an infrastructure network, and engineering, procurement and construction or (EPC) firms, which work with utilities to design and build water and wastewater infrastructure networks, as depicted below. Utilities and EPC customers require products, solutions, services, technology and application expertise from their Equipment and Services providers to address trends such as rising pollution, stricter regulations, increasing operational costs and the increased outsourcing of process knowledge. In addition to utilities and EPC customers, Equipment and Service providers also provide distinct technologies to a wide array of entities, including farms, mines, power plants, industrial facilities and residential and commercial customers seeking to address similar trends.

Water Industry Supply Chain

Business Strategy

Our strategy is to enhance shareholder value by providing distinctive solutions for our customers' most important water productivity, quality and resilience challenges, enabling us to grow revenue, organically and through strategic acquisitions, as we streamline our cost structure. Key elements of our strategy are summarized below:

- **Accelerate Profitable Growth.** To accelerate growth, we continue to focus on several priorities:
- ***Emerging Markets*** - We seek to accelerate our growth in priority emerging markets through increased focus on product localization and channel development.
- ***Innovation & Technology*** - We seek to enhance our innovation efforts with increased focus on smart, digitally enabled technologies and innovation that can significantly improve customers' productivity, quality and resilience.
- ***Commercial Leadership*** - We are strengthening our capabilities by simplifying our commercial processes and supporting information technology systems.
- ***Mergers and Acquisitions*** - We continue to evaluate and, where appropriate, will act upon attractive acquisition candidates to accelerate our growth, including into adjacent markets.
- **Drive Continuous Improvement.** We seek to embed continuous improvement into our culture and simplify our organization to make the Company more agile, more profitable and create room to reinvest in growth. To accomplish this, we will continue to strengthen our lean six sigma and global procurement capabilities, while also continuing to optimize our cost structure through business simplification, which aims to eliminate structural, process and product complexity.
- **Leadership and Talent Development.** We seek to continue to invest in attracting, developing and retaining world-class talent with an increased focus on leadership and talent development programs. We will continue to align individual performance with the objectives of the Company and its shareholders.
- **Focus on Execution and Accountability.** We seek to ensure the impact of these strategic focus areas by holding our people accountable and streamlining our performance management and goal deployment systems.
- **Create social value in everything we do.** We seek to have a positive impact on communities through the combination of corporate social responsibility and employee, customer, and stakeholder engagement.

Business Segments, Distribution and Competitive Landscape

We have three reportable business segments that are aligned around the critical market applications they provide: Water Infrastructure, Applied Water, and Measurement & Control Solutions. See Note 21, “Segment and Geographic Data,” in our consolidated financial statements for financial information about segments and geographic areas.

The table and descriptions below provide an overview of our business segments.

	Market Applications	2018 Revenue (in millions)	% Revenue	Major Products	Primary Brands
Water Infrastructure	Transport	$1,779	82 %	• Water and wastewater pumps • Filtration, disinfection and biological treatment equipment • Mobile dewatering equipment	• Flygt • Godwin • Leopold • Sanitaire • Wedeco
	Treatment	397	18 %		
		$2,176	100 %		
Applied Water	Industrial Water	$706	46 %	• Pumps • Valves • Heat exchangers • Controls • Dispensing equipment systems	• A-C Fire Pump • Bell & Gossett • Flojet • Goulds Water Technology • Jabsco • Lowara • Standard Xchange
	Commercial Building Services	596	39 %		
	Residential Building Services	232	15 %		
		$1,534	100 %		
Measurement & Control Solutions	Water	$692	46 %	• Smart meters • Networked communication devices • Data analytics • Test equipment • Controls • Sensor devices • Software & managed services • Critical infrastructure services	• EmNet • Pure • Sensus • Smith Blair • Valor Water • Visenti • WTW • YSI
	Test	344	23 %		
	Gas	195	13 %		
	Electric	143	10 %		
	Software as a Service/Other	123	8 %		
		$1,497	100 %		

Water Infrastructure

Our Water Infrastructure segment supports the process that collects water from a source, treats it and distributes it to users, and then treats and returns the wastewater responsibly to the environment through two closely linked applications: *Transport and Treatment*. The *Transport* application also includes sales and rental of specialty dewatering pumps and related equipment and services, which provide the safe removal or draining of groundwater and surface water from riverbeds and construction sites or other industrial sites and bypass pumping for the repair of aging utility infrastructure, as well as emergency water transport and removal during severe weather events.

The customer base consists of two primary end markets: utility and industrial. The utility market includes public, private and public-private entities that support water, wastewater and storm water networks. The industrial market includes customers who require similar water and wastewater infrastructure networks to support various industrial operations.

Water Infrastructure provides the majority of its sales through direct channels with remaining sales through indirect channels and service capabilities. Both utility and industrial facility customers increasingly require our teams' global but locally proficient expertise to use our equipment in their specific applications. Several trends are increasing demand for this application expertise: (i) the increase in both the type and amount of contaminants found in the water supply, (ii) increasing environmental regulations, (iii) the need to increase system efficiencies to optimize energy and other operational costs, (iv) the retirement of a largely aging water industry workforce that has not been systematically replaced at utilities and other end-user customers, and (v) the build-out of water infrastructure in the emerging markets. We estimate our served market size in this sector to be approximately $17 billion.

Given the highly fragmented nature of the water industry, the Water Infrastructure segment competes with a large number of businesses. We differentiate ourselves in the market by focusing on product and service performance, quality and reliability, innovation, speed to market with new or disruptive technologies, application expertise, brand reputation, energy efficiency, product life-cycle cost, timeliness of delivery, proximity of service centers, effectiveness of our distribution channels and price. In the sale or rental of products and provision of services, we benefit from our large installed base, which requires maintenance, repair and replacement parts due to the critical application and nature of the products and the conditions under which they operate. Timeliness of delivery, quality and the proximity of service centers are important customer considerations when selecting a provider for after-market products and services as well as equipment rentals. In geographic regions where we are locally positioned to provide a quick response, customers have historically relied on us, rather than our competitors, for after-market products relating to our highly engineered and customized solutions. Our key competitors within the Water Infrastructure segment include KSB Inc., Sulzer Ltd., Evoqua Water Technologies, United Rentals, Danaher Corporation and Grundfos.

Applied Water

Applied Water encompasses the uses of water and serves a diverse set of end markets including: residential, commercial and industrial. Residential consumers represent the end users in the residential market, while owners and managers of properties such as apartment buildings, retail stores, institutional buildings, restaurants, schools, hospitals and hotels are examples of end users in the commercial market. The industrial market includes OEMs, exploration and production firms, and developers and managers of industrial facilities, such as electrical power generators, chemical manufacturers, machine shops, clothing manufacturers, beverage dispensing and food processing firms and car washes.

In the Applied Water segment, end markets vary widely and, as a result, specialized distribution partners are often preferred. As such, the Applied Water segment provides the majority of its sales through strong indirect channels with the remaining sales going through our global direct sales channels. We have long-standing relationships with many of the leading independent distributors in the markets we serve and we provide incentives to distributors, such as specialized loyalty and training programs.

We estimate our served market size in this sector to be approximately $19 billion. Population growth, urbanization and regulatory requirements are macro growth drivers of these markets, driving the need for housing, food, community services and retail goods within growing city centers.

Competition in the Applied Water segment focuses on brand equity, application expertise, product delivery and performance and energy efficiency, quality and price. We compete by offering a wide variety of innovative and high-quality products, coupled with world-class application expertise. We believe our distribution through well-established channels and our reputation for quality significantly enhance our market position. Our ability to deliver innovative product offerings has enabled us to compete effectively, to cultivate and maintain customer relationships and to serve and expand into many niche and new markets. Our key competitors within the Applied Water segment include Grundfos, Wilo SE, Pentair plc and Franklin Electric Co., Inc.

Measurement & Control Solutions

Measurement & Control Solutions develops advanced technology solutions that enable intelligent use and conservation of critical water and energy resources. The segment delivers communications, smart metering, measurement and control technologies and critical infrastructure technologies that allow customers to more effectively use their distribution networks for the delivery, monitoring and control of critical resources such as water, electricity and natural gas. We also provide analytical instrumentation used to measure water quality, flow and level in clean water, wastewater, surface water and coastal environments. Additionally, we offer software and services including cloud-based analytics, remote monitoring and data management, leak detection, condition assessment, asset management and pressure monitoring solutions. We also offer smart lighting solutions that improve efficiency and public safety efforts across communities.

At the heart of our leading technologies is automation, data management and decision support. Communications networks automate and optimize meter reading, monitor flow rates and detect and enable rapid response to changing and unsafe conditions. In short, they provide insight into operations and enable our customers to manage the entire scope of their operations remotely through their networks. At the center of our offering is the FlexNet communication network, which provides a common communications platform and infrastructure for essential services. This two-way communication technology remotely connects a wide variety of smart points in a given network with protocols, frequently on FCC licensed spectrum in the U.S., that enable reliable, resilient and secure transmissions. These technologies allow our customers to remotely and continuously monitor infrastructure, prioritize and manage maintenance and use data to optimize all aspects of their networks. Our advanced infrastructure analytics complement these offerings with intelligent solutions that help utility decision-makers manage their networks more effectively in real time.

The majority of our sales in the U.S. is conducted through strong, long-standing relationships with leading distributors and dedicated channel partners for water, gas and electric markets. Internationally, direct sales are often made in markets without established distribution channels; however, some distribution channels are used in more developed markets. A more direct sales approach, with key account management, is employed for large utilities and government programs.

We estimate our served market size in this sector to be approximately $21 billion. Macro growth drivers include increasing regulation, aging infrastructure and worldwide movement towards smart grid implementation. Water scarcity and conservation, as well as the need to prevent revenue loss (via inaccurate meter readings, leaks or theft) are among the drivers of smart meter and leak detection technologies.

Our Sensus-branded meters are well positioned in the smart metering sector, the fastest growing sector of the global meter industry. We set ourselves apart in the industry by focusing on our communication network, innovation, new product development and service offerings that deliver tangible savings of non-revenue water through improved meter accuracy, reduced theft and identification of leaks. Pure Technologies’ equipment and services are also well positioned in the leak detection sector which is attracting considerable attention as aging infrastructure and increased regulatory scrutiny exert pressure on operating budgets. Our key competitors within the Measurement & Control Solutions segment include Itron, Badger Meter, Landis+Gyr, Neptune (Roper), Elster (Honeywell), Mueller Water Products, Danaher Corporation, Hach and Teledyne.

Geographic Profile

The table below illustrates the annual revenue and percentage of revenue by geographic area for each of the three years ended December 31.

	Revenue					
(in millions)	**2018**		2017		2016	
	$ Amount	**% of Total**	$ Amount	% of Total	$ Amount	% of Total
United States	**$2,424**	**47%**	$2,161	46%	$1,574	42%
Europe	**1,449**	**28%**	1,335	28%	1,195	31%
Asia Pacific	**660**	**13%**	611	13%	518	14%
Other	**674**	**12%**	600	13%	484	13%
Total	**$5,207**		$4,707		$3,771	

In addition to the traditional markets of the United States and western Europe, opportunities in emerging markets within Asia Pacific, eastern Europe, Latin America and other countries are growing. Revenue derived from emerging markets comprised approximately 20% of our revenue in each of the last three years.

Supply and Seasonality

We have a global manufacturing footprint, with production facilities in Europe, North America, Latin America, and Asia. Our inventory management and distribution practices seek to minimize inventory holding periods by striving to take delivery of the inventory and manufacturing as close as possible to the sale or distribution of products to our customers. All of our businesses require various parts and raw materials, of which the availability and prices may fluctuate. Parts and raw materials commonly used in our products include motors, fabricated parts, castings, bearings, seals, batteries, PCBs and electronic components as well as steel, brass, nickel, copper, aluminum and plastics. While we may recover some cost increases through operational improvements, we are still exposed to some pricing risk, including increased pricing risk due to duty and tariff assessments by the United States on foreign imports. We attempt to control costs through fixed-priced contracts with suppliers and various other programs, such as our global procurement initiative.

Our business relies on third-party suppliers, contract manufacturing and commodity markets to secure raw materials, parts and components used in our products. We typically acquire materials and components through a combination of blanket and scheduled purchase orders to support our materials requirements. For many of our products we have existing alternate sources of supply, or such sources may be readily available.

We may experience price volatility or supply constraints for materials that are not available from multiple sources. From time to time, we acquire certain inventory in anticipation of supply constraints or enter into longer-term pricing commitments with suppliers to improve the priority, price and availability of supply. There have been no raw material shortages in the past several years that have had a significant adverse impact on our business as a whole.

Our business segments experience a modest level of seasonality in their business. This seasonality is dependent on factors such as capital spending of customers as well as weather conditions, including heavy flooding, droughts and fluctuations in temperatures, all of which can positively or negatively impact portions of our business.

Customers

Our business is not dependent on any single customer or a few customers the loss of which would have a material adverse effect on our Company. No individual customer accounted for more than 10% of our consolidated 2018, 2017 or 2016 revenue.

Backlog

Backlog includes orders on hand as well as contractual customer agreements at the end of the period. Delivery schedules vary from customer to customer based on their requirements. Annual or multi-year contracts are subject to rescheduling and cancellation by customers due to the long-term nature of the contracts. As such, beginning total backlog, plus orders, minus revenues, will not equal ending total backlog due to contract adjustments, foreign currency fluctuations, and other factors. Typically, large projects require longer lead production cycles and deployment schedules and delays can occur from time to time. Total backlog was $1,689 million at December 31, 2018 and $1,513 million at December 31, 2017. We anticipate that approximately 65% of the backlog at December 31, 2018 will be recognized as revenue during 2019.

Research and Development

Research and development (“R&D”) is a key foundation of our growth strategy and we focus on the design and development of products and application know-how that anticipate customer needs and emerging trends. Our engineers are involved in new product development as well as improvement of existing products to increase customer value. Our businesses invest substantial resources into R&D. We anticipate we will continue to develop and invest in our R&D capabilities to promote a steady flow of innovative, high-quality and reliable products and integrated solutions to further strengthen our position in the markets we serve. In addition to investments made in software development, which were capitalized, we incurred $189 million, $181 million, and $110 million as a result of R&D investment spending in 2018, 2017 and 2016, respectively.

We have R&D and product development capabilities around the world. R&D activities are initially conducted in our technology centers, located in conjunction with some of our major manufacturing facilities to ensure an efficient and robust development process. We have several global technical centers and local development teams around the world where we are supporting global needs and accelerating the customization of our products and solutions to address local needs. In some cases, our R&D activities are conducted at our piloting and testing facilities and at strategic customer sites. These piloting and testing facilities enable us to serve our strategic markets globally. As part of expanding our bandwidth and to increase our access to technology, we have built innovation eco-system partnerships with academic institutions, start-up accelerators and venture capitalist organizations.

Capitalized Software

We capitalize software developed for sale to external customers, which is included within "Other intangible assets, net" on our Consolidated Balance Sheets. As of December 31, 2018 and 2017 we had net capitalized software for sale to external customers of $128 million and $89 million, respectively.

Intellectual Property

We generally seek patent protection for those inventions and improvements that we believe will improve our competitive position. We believe that our patents and applications are important for maintaining the competitive differentiation of our products and improving our return on research and development investments. While we own, control or license a significant number of patents, trade secrets, proprietary information, trademarks, trade names, copyrights and other intellectual property rights which, in the aggregate, are of material importance to our business, management believes that our business, as a whole, as well as each of our core business segments, is not materially dependent on any one intellectual property right or related group of such rights. Patents, patent applications and license agreements expire or terminate over time by operation of law, in accordance with their terms or otherwise. As the portfolio of our patents, patent applications and license agreements has evolved over time, we do not expect the expiration of any specific patent to have a material adverse effect on our financial position or results of operations.

Environmental Matters and Regulation

Our global operations are subject to various laws and regulations governing the environment, including the discharge of pollutants and the management and disposal of hazardous substances. While environmental laws and regulations are subject to change, such changes can be difficult to predict reliably and the timing of potential changes is uncertain. Management does not believe, based on current circumstances, that compliance costs pursuant to such regulations will have a material adverse effect on our financial position or results of operations. However, the effect of future legislative or regulatory changes could be material to our financial condition or results of operations.

We continue to be dedicated to environmental and sustainability programs to minimize the use of natural resources, and reduce the utilization and generation of hazardous materials from our processes and to remediate identified environmental concerns. As to the latter, we are currently engaged in site investigations and remediation activities to address environmental cleanup from past operations at current and former manufacturing facilities. We do not anticipate these liabilities will have a material adverse effect on our consolidated financial position or results of operations. At December 31, 2018, we had estimated and accrued $4 million related to environmental matters.

Environmental Sustainability

At Xylem, sustainability is at the very center of who we are and what we do. As a leading global water technology company, we address one of the world’s most urgent sustainability challenges on a daily basis - responsible stewardship of our shared water resources. Technology is playing an increasingly important role in helping the world solve water issues. We have a long history of innovation, but today, we are focusing more than ever on the powerful capabilities of smart technology, integrated management and big data. These solutions will allow us to transport, treat, test and use water smarter and more sustainably than in the past, and enable our customers to realize greater water and energy efficiencies. Our link to global water and environmental challenges informs how we think about sustainability and drives us to become a more sustainable company.

Our approach to climate-related issues is informed by Xylem’s Climate Change Policy, which defines our climate change approach across product development, operations, employees and external engagement. For example, in the past two years, we have completed several acquisitions to build out our Measurement & Control Solutions portfolio around systems intelligence, bringing best-in-class advanced metering infrastructure, advanced data analytics and software development capabilities to our portfolio. These technologies have enhanced our ability to help customers facing water scarcity, storm water overflows and other climate-related issues. We are also focused on increasing our capabilities in the areas of advanced industrial water treatment and industrial water services. We are committed to sustainability through our own operations as well, as we are reducing our environmental footprint by decreasing our water intensity, greenhouse gas emissions and waste sent to landfills.

Employees

As of December 31, 2018, Xylem had approximately 17,000 employees worldwide. We have approximately 5,900 employees in the United States, of whom approximately 16% are represented by labor unions. In certain foreign countries, our employees are represented by work councils. We believe that our facilities are in favorable labor markets with ready access to adequate numbers of workers and believe our relations with our employees are good.

Available Information

We are required to file annual, quarterly and current reports, proxy statements and other information with the SEC. Our annual reports on Form 10-K, quarterly reports on Form 10-Q, current reports on Form 8-K, proxy statements and amendments to those reports are available free of charge on our website *www.xylem.com* as soon as reasonably practicable after such reports are electronically filed with or furnished to the SEC. The information on our website is not, and shall not be deemed to be, a part hereof or incorporated into this or any of our other filings with the SEC.

In addition, the public may read or copy any materials filed with the SEC, free of charge, at *www.sec.gov.*

ITEM 1A. RISK FACTORS

In evaluating our business, each of the following risks should be carefully considered, along with all of the other information in this Report and in our other filings with the SEC. Should any of these risks and uncertainties develop into actual events, our business, financial condition or results of operations could be materially and adversely affected. The risks and uncertainties described below are those that we have identified as material but are not the only risks and uncertainties we face and therefore may not be exhaustive. We operate in a continually changing business, economic and geopolitical environment and as a result new risk factors may emerge from time to time. We can neither predict with certainty these new risk factors nor assess the extent to which any new factor, or combination of factors, may adversely impact our business or results of operations.

Risks Related to Operational and External Factors

Failure to compete successfully in our markets and disruptive technologies could adversely affect our business.

We offer our products and services in competitive markets. We believe the principal points of competition in our markets are product and service performance, quality and reliability, innovation, speed to market with new or disruptive technologies, application expertise, brand reputation, energy efficiency, product life cycle cost, timeliness of delivery, proximity of service centers, effectiveness of our distribution channels and price. Maintaining and improving our competitive position will require successful management of these factors, including continued investment by us in manufacturing, technology and innovation, research and development, engineering, marketing, customer service and support, and our distribution networks. Our future growth rate depends upon a number of factors, including our ability to (i) identify emerging technological trends in our target end-markets, (ii) develop and maintain competitive products, services and business models and defend our market share against an ever-expanding number of competitors including many new and non-traditional competitors, (iii) enhance our products and services offerings by adding innovative features or disruptive technologies that differentiate them from those of our competitors and prevent commoditization, (iv) develop, manufacture and bring compelling new products and services to market quickly and cost-effectively, and (v) attract, develop and retain individuals with the requisite technical expertise and understanding of customers' needs to develop new technologies and introduce new products and services.

We may not be successful in maintaining our competitive position. Our competitors or third parties from outside of our industry may develop disruptive technologies or products and services that are superior to ours, may develop more efficient or effective methods of providing products and services or may adapt more quickly than we do to new or disruptive technologies or evolving customer requirements. The failure of our technologies, products or services to maintain and gain market acceptance due to more attractive offerings could significantly reduce our revenues or market share and adversely affect our competitive standing and prospects. Pricing pressures also could cause us to adjust the prices of certain products to stay competitive, which could adversely affect our market share and financial performance. Failure to continue competing successfully or to win large contracts could adversely affect our business, financial condition or results of operations.

Our results of operations and financial condition may be adversely affected by global economic and financial market conditions.

We compete around the world in various geographic and product markets. In 2018, 47%, 25% and 20% of our total revenue was from customers located in the United States, western Europe and emerging markets, respectively. We expect revenue from these markets to be significant for the foreseeable future. Important factors impacting our businesses include the overall strength of these economies and our customers' confidence in both local and global macro-economic conditions; industrial and private sector spending, federal, state, local and municipal governmental fiscal and trade policies; the strength of the residential and commercial real estate markets; interest rates; availability of commercial financing for our customers and end-users; the availability of funding for our public sector customers; and unemployment rates. A slowdown or prolonged downturn in our markets could have a material adverse effect on our business, financial condition and results of operations.

Economic and other risks associated with international sales and operations could adversely affect our business.

In 2018, 53% of our total revenue was from customers outside the United States, with 20% of total revenue generated in emerging markets. We expect our sales from international operations and export sales to continue to be a significant portion of our revenue. We have placed a particular emphasis on increasing our growth and presence in emerging markets. Many of our manufacturing operations, employees and suppliers are located outside of the United States. Both our international operations and sales are subject, in varying degrees, to risks inherent in doing business outside the United States. These risks include the following:

- changes in trade protection measures, including embargoes, tariffs and other trade barriers, and import and export regulations and licensing requirements;
- instability and uncertainties arising from the global geopolitical environment, such as economic nationalism, populism, protectionism and anti-global sentiment;
- changes in tax laws and potential negative consequences from the interpretation, application and enforcement by governmental tax authorities of tax laws and policies;
- unanticipated changes in other laws and regulations or in how such provisions are interpreted or administered;
- potential disruptions in our global supply chain;
- possibility of unfavorable circumstances arising from host country laws or regulations, including those related to infrastructure and data transmission, security and privacy;
- currency exchange rate fluctuations and restrictions on currency repatriation;
- disruption of operations from labor and political disturbances;
- regional safety and security considerations;
- increased costs and risks in developing, staffing and simultaneously managing a number of global operations as a result of distance as well as language and cultural differences; and
- outbreak or escalation of insurrection, armed conflict, terrorism or war.

Changes in the geopolitical or economic environments in the countries in which we operate could have a material adverse effect on our financial condition, results of operations or cash flows. For example, changes in U.S. policy regarding international trade, including import and export regulation and international trade agreements, could also negatively impact our business. In 2018, the U.S. imposed tariffs on certain goods imported from China and certain other countries, which has resulted in retaliatory tariffs by China and other countries. Additional tariffs imposed by the U.S. on a broader range of imports, or further retaliatory trade measures taken by China or other countries in response, could result in an increase in supply chain costs that we may not be able to offset or may otherwise adversely impact our financial condition and results of operations.

Additionally, we continue to monitor Brexit and its potential impacts on our results of operations and financial condition. Volatility in foreign currencies is expected to continue as the United Kingdom executes its exit from the European Union. If the United Kingdom's membership in the European Union terminates without an agreement (referred to as a “hard Brexit”), there could be increased costs from re-imposition of tariffs on trade between the United Kingdom and European Union, increased transportation costs, shipping delays because of the need for customs inspections and procedures and shortages of certain goods. The United Kingdom will also need to negotiate its own tax and trade treaties with countries all over the world, which could take years to complete. In the case of a “hard Brexit”, our exposure to disruptions to our supply chain, increased costs, the imposition of tariffs and currency devaluation in the United Kingdom could result in a material impact to our consolidated revenue, earnings and cash flow.

Further, any payment of distributions, loans or advances to us by our foreign subsidiaries could be subject to restrictions on, or taxation of, dividends on repatriation of earnings under applicable local law, monetary transfer restrictions and foreign currency exchange regulations in the jurisdictions in which our subsidiaries operate. In addition to the general risks that we face outside the United States, our operations in emerging markets could involve additional uncertainties for us, including risks that governments may impose withholding or other taxes on remittances and other payments to us, or the amount of any such taxes may increase; governments may seek to nationalize our assets; or governments may impose or increase investment barriers or other restrictions affecting our business. In addition, emerging markets pose other uncertainties, including the difficulty of enforcing agreements, challenges collecting receivables, protection of our intellectual property and other assets, pressure on the pricing of our products and services, higher business conduct risks, ability to hire and retain qualified talent and risks of political instability. We cannot predict the impact such events might have on our business, financial condition and results of operations.

Our business could be adversely affected by cyber threats or other interruptions in information technology, communications networks and operations.

Our business operations rely on information technology and communications networks, including those operated by third parties, to process, transmit and store our electronic information or our customers' electronic information, and manage or support a variety of business processes or activities. Regardless of protection measures, essentially all systems are susceptible to disruption due to cybersecurity attacks including denial-of-service, computer viruses and security breaches, insider risk, equipment or system failure, vandalism, natural disasters, power outages, shutdown, telecommunication or utility failure and other events. In addition, we have designed products and services that connect to and are part of the "Internet of Things." While we attempt to provide adequate security measures to safeguard our products from cyber threats, the potential for an attack remains. A successful attack may result in inappropriate access to our or our customers' information or an inability for our products and services to function properly.

We, and some of our third party vendors, have experienced cybersecurity attacks in the past and may experience them in the future, likely with more frequency and involving a broader range of devices. To date, none have resulted in any material adverse impact to our business or operations. We have adopted measures designed to mitigate potential risks associated with information technology disruptions and cybersecurity threats, however, given the unpredictability of the timing, nature and scope of such disruptions, we could potentially be subject to production downtimes, operational delays, other detrimental impacts on our operations or ability to provide products and services to our customers, the compromise of confidential or otherwise protected information, destruction or corruption of data, security breaches, other manipulation or improper use of our systems or networks, financial losses from remedial actions, loss of business, liability to others, regulatory enforcement actions, and/or damage to our reputation. We also have or operate through a concentration of operations on certain sites, such as production and shared services centers, where business interruptions could cause material damage and costs. Transport of goods from suppliers and to customers could also be hampered for the reasons stated above. Disruption to any of the information technology and communications networks on which we rely, or an attack on our IoT products and services, could interfere with our operations, disrupt service to our customers, interrupt production and shipments, damage customer relationships and negatively impact our reputation, any of which could have a material adverse effect on our competitive position, results of operations, cash flows or financial condition.

Although we continue to assess these risks, implement controls and perform business continuity and disaster recovery planning, we cannot be sure that interruptions with material adverse effects will not occur.

A material disruption to any of our facilities or operations, or that of third parties upon which we rely, may adversely affect our business.

If our facilities or operations, or that of third parties upon which we rely in our supply chain and critical business operations, were to be disrupted as a result of a significant equipment or system failure, natural disaster, power, water or communications outage, fire, explosion, critical supply failure, terrorism, cyber-based attack, political disruption, labor dispute, work stoppage or slowdown, adverse weather conditions or other reason, our financial performance could be adversely affected. Interruptions could cause an inability to meet customer demand, increase our costs, reduce our sales, and impact our business processes and activities. We also have or operate through a concentration of operations on certain sites, such as production and shared services centers, where business interruptions could cause material damage and costs. Any interruption in capability may be lengthy and have lasting effects, require a significant amount of management and other employees' time and focus, and require us to make substantial expenditures to remedy the situation, which could negatively affect our profitability and financial condition. Any recovery under our insurance policies may not offset the lost sales or increased costs that may be experienced during the disruption of operations, which could adversely affect our business, financial condition and results of operations.

We may not achieve some or all of the expected benefits of our restructuring and transformation plans and our restructuring may adversely affect our business.

In recent fiscal years, we have initiated restructuring, realignment and transformation plans in an effort to optimize our cost structure and improve our operational efficiency and effectiveness. In 2017, we undertook steps to advance a multi-year effort to transform many of our support functions and related technologies, including Finance, Human Resources and Procurement. We may not be able to obtain the cost savings and benefits that were initially anticipated in connection with our restructuring and transformation plans. Implementing planned restructuring activities could be delayed resulting in delayed realization of the operational and financial benefits from such actions. Additionally, as a result of these plans, we may experience a loss of continuity, loss of accumulated knowledge or inefficiency during transitional periods. Transformation, realignment and restructuring can require a significant amount of management and other employees' time and focus, which may divert attention from operating and growing our business.

The successful implementation and execution of our restructuring, realignment and transformation actions are critical to achieving our expected cost savings as well as effectively competing in the marketplace and positioning us for future growth. Factors that may impede a successful implementation include the retention of key employees, the impact of regulatory matters including tax, matters involving certain third party service providers selected to assist us including their compliance with the Company's internal controls over financial reporting, and adverse economic market conditions. If our restructuring actions are not executed successfully, it could have a material adverse effect on our competitive position, business, financial condition and results of operations.

Our strategy includes acquisitions, and we may not be able to execute acquisitions of suitable candidates or integrate acquisitions successfully.

As part of our growth strategy, we plan to pursue the acquisition of other companies, assets, technologies and product lines that either complement or expand our existing business. We may not be able to identify suitable candidates, negotiate appropriate acquisition terms, obtain financing that may be needed to consummate acquisitions, complete proposed acquisitions, successfully integrate acquired businesses into our existing operations or expand into new markets. In addition, we cannot make assurances that any acquisition, once integrated, will perform as planned, be accretive to earnings, or prove to be beneficial to our operations or cash flow.

Acquisitions involve a number of risks and present financial, managerial and operational challenges, including: diversion of management attention from existing businesses and operations; integration of technology, operations personnel, and financial and other systems; potentially insufficient cybersecurity controls or insufficient internal controls over financial or compliance activities or financial reporting at an acquired entity that could impact us on a combined basis; the failure to realize expected synergies; the possibility that we become exposed to substantial undisclosed liabilities or new material risks associated with the acquired businesses; and the loss of key employees of the acquired businesses. Failure to successfully execute our acquisition strategy could adversely affect our competitive position, business, financial condition or results of operations.

Failure to comply with laws, regulations and policies, including but not limited to the U.S. Foreign Corrupt Practices Act or other applicable anti-corruption legislation and data privacy and security laws, could result in fines, criminal penalties and an adverse effect on our business.

We are subject to regulation under a wide variety of U.S. federal and state and non-U.S. laws, regulations and policies, including laws related to anti-corruption, trade regulations, including export and import compliance, anti-trust and money laundering, due to our global operations. The U.S. Foreign Corrupt Practices Act (the "FCPA"), the U.K. Bribery Act of 2010 and similar anti-bribery laws in other jurisdictions generally prohibit companies and their intermediaries from making improper payments to government officials or other persons for the purpose of obtaining or retaining business. Our policies mandate compliance with these anti-bribery laws. We operate in many parts of the world that are recognized as having governmental and commercial corruption and in certain circumstances, strict compliance with anti-bribery laws may conflict with local customs and practices. We cannot assure you that our internal control policies and procedures will always protect us from improper conduct of our employees or business partners. In the event that we believe or have reason to believe that our employees or business partners have or may have violated applicable laws, regulations or policies, including anti-corruption laws, we may be required to investigate or have outside counsel investigate the relevant facts and circumstances, which can be expensive and require significant time and attention from senior management. Any such violation could result in substantial fines, sanctions, civil and/or criminal penalties, and curtailment of operations in certain jurisdictions, and might materially and adversely affect our business, results of operations or financial condition. In addition, actual or alleged violations could damage our reputation and ability to do business.

Additionally, to conduct our operations, we regularly move data across national borders, and consequently we are subject to a variety of continuously evolving and developing laws and regulations in the United States and abroad regarding privacy, data protection and data security. The scope of the laws that may be applicable to us is often uncertain and may be conflicting, particularly with respect to foreign laws. For example, the European Union's General Data Protection Regulation ("GDPR"), which became effective in May 2018, greatly increases the jurisdictional reach of European Union law and adds a broad array of requirements for handling personal data, including the public disclosure of significant data breaches. Other countries, such as China, have enacted or are enacting data localization laws that require data to stay within their borders. All of these evolving compliance and operational requirements impose significant costs of compliance that are likely to increase over time. Any such violation could result in substantial fines, sanctions or civil penalties, damage to our reputation and might materially and adversely affect our business, results of operations or financial condition.

Our business could be adversely affected by significant movements in foreign currency exchange rates.

We conduct approximately 53% of our business in various locations outside the United States. We are exposed to fluctuations in foreign currency transaction exchange rates, particularly with respect to the Euro, Swedish Krona, Polish Zloty, Canadian Dollar, British Pound and Australian Dollar. Any significant change in the value of currencies of the countries in which we do business relative to the value of the U.S. Dollar or Euro could affect our ability to sell products competitively and control our cost structure, which could have a material adverse effect on our business, financial condition and results of operations. Additionally, we are subject to foreign exchange translation risk due to changes in the value of foreign currencies in relation to our reporting currency, the U.S. dollar. The translation risk is primarily concentrated in the exchange rate between the U.S. Dollar and the Euro, Chinese Yuan, British Pound, Canadian Dollar, Swedish Krona and Australian Dollar. As the U.S. Dollar fluctuates against other currencies in which we transact business, revenue and income can be impacted. For instance, our 2018 revenue increased by 0.5% due to favorable foreign currency impacts. Strengthening of the U.S. Dollar relative to the Euro and the currencies of the other countries in which we do business, could materially and adversely affect our sales growth in future periods. Refer to Item 7A "Quantitative and Qualitative Disclosures about Market Risk" for additional information on foreign exchange risk.

Failure to retain our existing senior management, engineering, technology, sales and other key personnel or the inability to attract and retain new qualified personnel could negatively impact our ability to operate or grow our business.

Our success will continue to depend to a significant extent on our ability to retain or attract a significant number of employees in senior management, engineering, technology, sales and other key personnel. The ability to attract or retain employees will depend on our ability to offer competitive compensation, benefits, training and development and an attractive culture. We will need to continue to develop a roster of qualified talent to support business growth and replace departing employees. Effective succession planning is also important to our long-term success. Failure to ensure effective transfer of knowledge and smooth transitions involving key employees could hinder our strategic planning and execution. A failure to retain or attract highly skilled personnel could adversely affect our operating results or ability to operate or grow our business.

Product defects and unanticipated use or inadequate disclosure with respect to our products could adversely affect our business, reputation and financial statements.

Manufacturing or design defects in (including in products or components that we source from third parties), unanticipated use of, or inadequate disclosure of risks relating to the use of our products could create product safety, regulatory or environmental risks, including personal injury, death or property damage. These events could lead to recalls or safety alerts relating to our products, result in the removal of a product from the market and result in product liability claims being brought against us. Although we have liability insurance, we cannot be certain that this insurance coverage will continue to be available to us at a reasonable cost or will be adequate to cover any product liability claims. Manufacturing, design, software or service defects or inadequacies may also result in contractual damages or credits being issued, which could impact our profitability. Recalls, removals and product liability and quality claims can result in significant costs, as well as negative publicity and damage to our reputation that could reduce demand for our products and have a material adverse effect on our business, financial condition and results of operations.

Our financial results can be difficult to predict.

Our business is impacted by a substantial amount of short cycle, and book-and-bill business, which we have limited insight into, particularly for the business that we transact through our distributors. We are also impacted by large projects, whose timing can change based upon customer requirements due to a number of factors affecting the project beyond our knowledge or control, such as funding, readiness of the project and regulatory approvals. Accordingly, our financial results for any given period can be difficult to predict.

Changes in our effective tax rates and tax expenses may adversely affect our financial results.
We sell our products in approximately 150 countries and 53% of our revenue was generated outside the United States in 2018. Given the global nature of our business, a number of factors may increase our effective tax rates and tax expense, including:

- the geographic mix of jurisdictions in which profits are earned and taxed;
- the statutory tax rates and tax laws in the jurisdictions in which we conduct business;
- the resolution of tax issues arising from tax examinations by various tax authorities; and
- the valuation of our deferred tax assets and liabilities.

Xylem is regularly examined by various tax authorities throughout the world and the resolutions of these examinations do not typically have a significant impact on our effective tax rates and tax expenses but they could. Additionally, in December 2017, the United States enacted tax reform legislation ("Tax Act"). The legislation implements many new U.S. domestic and international tax provisions. Many aspects of the Tax Act remain unclear, and although additional clarifying guidance is expected to be issued (by the Internal Revenue Service ("IRS"), the U.S. Treasury Department or via a technical correction law change), it may not be clarified for some time. In addition, many U.S. states have not yet updated their laws to take into account the new federal legislation. As a result, there may be further impacts of the new law on our results of operations and financial condition. It is possible that the Tax Act, or interpretations under it, could change and could have an adverse effect on us, and such effect could be material.

Our business could be adversely affected by inflation, tariffs and other manufacturing and operating cost increases.
Our operating costs are subject to fluctuations, particularly due to changes in prices for commodities, parts, raw materials, energy and related utilities, freight, and cost of labor which may be driven by prevailing price levels, exchange rates, changes in trade protection measures including tariffs, and other economic factors. In order to remain competitive, we may not be able to recuperate all or a portion of these higher costs from our customers through product price increases. Further, in a declining price environment, our operating margins may contract because we account for inventory using the first-in, first- out method. Actions we take to mitigate volatility in manufacturing and operating costs may not be successful and, as a result, our business, financial condition and results of operation could be materially and adversely affected.

Our business could be adversely affected by the availability of parts and raw materials or the inability of suppliers to meet delivery requirements.
Our business relies on third-party suppliers, contract manufacturing and commodity markets to secure raw materials, parts and components used in our products, and we expect that reliance to increase. Parts and raw materials commonly used in our products include motors, fabricated parts, castings, bearings, seals, batteries, PCBs and electronic components, as well as steel, brass, nickel, copper, aluminum and plastics. We are exposed to the availability of these materials, which may be subject to curtailment or change due to, among other things, interruptions in production by suppliers, labor disputes, the impaired financial condition of a particular supplier, suppliers' allocations to other purchasers, changes in trade protection measures including tariffs, exchange rates and prevailing price levels, ability to meet regulatory requirements, weather emergencies or acts of war or terrorism. Any delay in our suppliers' abilities to provide us with necessary materials could impair our ability to deliver products to our customers and, accordingly, could have a material adverse effect on our business, financial condition or results of operations.

Our indebtedness may affect our business and may restrict our operational flexibility.
As of December 31, 2018, our total outstanding indebtedness was $2,308 million as described under "Liquidity and Capital Resources." Our indebtedness could:

- increase our vulnerability to general adverse economic and industry conditions;
- limit our ability to obtain additional financing or borrow additional funds;
- create uncertainty and complexity in managing debt that uses LIBOR as a reference rate, including as a result of the planned transition away from LIBOR to the Secured Overnight Financing Rate ("SOFR");
- limit our ability to pay future dividends;

- limit our flexibility in planning for, or reacting to, changes in our business and the industry in which we operate;
- require that a substantial portion of our cash flow from operations be used for the payment of interest on our

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indebtedness instead of funding working capital, capital expenditures, acquisitions or other general corporate purposes; and

- increase the amount of interest expense that we must pay because some of our borrowings are at variable interest rates, which, as interest rates increase, would result in higher interest expense.

In addition, there can be no assurance that future borrowings or equity financing will be available to us on favorable terms or at all for the payment or refinancing of our indebtedness. If we incur additional debt or raise equity through the issuance of preferred stock, the terms of the debt or preferred stock issued may give the holders rights, preferences and privileges senior to those of holders of our common stock, particularly in the event of liquidation. The terms of the debt may also impose additional and more stringent restrictions on our operations than we currently have.

Our ability to make scheduled principal payments of, to pay interest on, or to refinance our indebtedness and to satisfy our other debt obligations will depend on our future operating performance, which may be affected by factors beyond our control. If we are unable to service our indebtedness, our business, financial condition and results of operations would be materially adversely affected.

We may be negatively impacted by legal and regulatory proceedings.

We are subject to various laws, ordinances, regulations and other requirements of government authorities in foreign countries and in the United States, any violation of which could potentially create substantial liability for us and damage our reputation. Changes in laws, ordinances, regulations or other government policies, the nature, timing, and effect of which are uncertain, may significantly increase our expenses and liabilities.

From time to time we are involved in legal and regulatory proceedings that are incidental to the operation of our businesses (or the business operations of previously owned entities). These proceedings may seek remedies relating to environmental matters, tax, intellectual property, acquisitions or divestitures, product liability and personal injury claims, privacy, employment, labor and pension matters, government contract issues and commercial or contractual disputes. Our continuing transition to connected or digital technologies and solutions has increased our exposure to intellectual property litigation and we expect that this risk will continue to increase as we execute on our innovation and technology priorities.

It is not possible to predict with certainty the outcome of claims, investigations, regulatory proceedings and lawsuits, and we could in the future incur judgments, fines or penalties or enter into settlements and claims that could have an adverse effect on our business, results of operations and financial condition in any particular period. Additionally, we may be required to change or cease operations at one or more facilities if a regulatory agency determines that we have failed to comply with laws, regulations or orders applicable to our business.

The global and diverse nature of our operations, coupled with the increase in regulation and enforcement in many regions of the globe, means that legal and compliance risks will continue to exist and additional legal and regulatory proceedings and other contingencies, the outcome of which cannot be predicted with certainty, will arise from time to time. In addition, subsequent developments in legal and regulatory proceedings may affect our assessments and estimates of loss contingencies recorded as a reserve and require us to make payments in excess of our reserves, which could have an adverse effect on our results of operations and financial condition.

Weather conditions and climate changes may adversely affect, or cause volatility in, our financial results.

Weather conditions, including heavy flooding, droughts and fluctuations in temperatures or weather patterns, including as a result of climate change, can positively or negatively impact portions of our business. Within the dewatering space, pumps provided through our Godwin and Flygt brands are used to remove excess or unwanted water. Heavy flooding due to weather conditions drives increased demand for these applications. On the other hand, drought conditions drive higher demand for pumps used in agricultural and turf irrigation applications, such as those provided by our Goulds Water Technology and Lowara brands. Fluctuations to warmer and cooler temperatures result in varying levels of demand for products used in residential and commercial applications where homes and buildings are heated and cooled with HVAC units such as those provided by our B&G brand. The unpredictable nature of weather conditions and climate change may result in volatility for certain portions of our business, as well as the operations of certain of our customers and suppliers.

If we do not or cannot adequately protect our intellectual property, if third parties infringe our intellectual property rights, or if third parties claim that we are infringing or misappropriating their intellectual property rights, we may suffer competitive injury, expend significant resources enforcing our rights or defending against such claims, or be prevented from selling products or services.

We own numerous patents, trademarks, copyrights, trade secrets and other intellectual property and licenses to intellectual property owned by others, which in the aggregate are important to our business. The intellectual property rights that we obtain, however, may not provide us with a significant competitive advantage because they may not be sufficiently broad or may be challenged, invalidated, circumvented, independently developed, or designed-around, particularly in countries where intellectual property rights laws are not highly developed, protected or enforced. Our failure to obtain or maintain intellectual property rights that convey competitive advantage, adequately protect our intellectual property or detect or prevent circumvention or unauthorized use of such property and the cost of enforcing our intellectual property rights could adversely impact our business, financial condition and results of operations.

From time to time, we receive notices from third parties alleging intellectual property infringement or misappropriation. Any dispute or litigation regarding intellectual property could be costly and time-consuming due to the complexity and the uncertainty of intellectual property litigation. Our intellectual property portfolio may not be useful in asserting a counterclaim, or negotiating a license, in response to a claim of infringement or misappropriation. In addition, as a result of such claims of infringement or misappropriation, we could lose our rights to critical technology, be unable to license critical technology or sell critical products and services, be required to pay substantial damages or license fees with respect to the infringed rights or be required to redesign our products at substantial cost, any of which could adversely impact our competitive position, financial condition and results of operations. Even if we successfully defend against claims of infringement or misappropriation, we may incur significant costs and diversion of management attention and resources, which could adversely affect our business, financial condition and results of operations.

A significant portion of our products and offerings in our Measurement & Control Solutions segment are affected by the availability and regulation of radio spectrum and could be affected by interference with the radio spectrum that we use.

A significant portion of the offering in our Measurement & Control Solutions segment use radio spectrum, which is subject to government regulation. To the extent we introduce new products designed for use in the United States or another country into a new market, such products may require significant modification or redesign in order to meet frequency requirements and other regulatory specifications. In some countries, limitations on frequency availability or the cost of making necessary modifications may preclude us from selling our products in those countries. The regulations that govern our use of the radio spectrum may change and the changes may require us to modify our products or seek new partnerships, either directly or due to interference caused by new consumer products allowed under the regulations. The inability to modify our products to meet such requirements, the possible delays in completing such modifications, and the cost of such modifications all could have a material adverse effect on our business, financial condition, and results of operations. In addition, suitable partners for co-development may not be able to be secured by us.

In the United States, our products are primarily designed to use licensed spectrum in the 900MHz range. If the Federal Communications Commission ("FCC") did not renew our existing spectrum licenses, our business could be adversely affected. In addition, there may be insufficient available frequencies in some markets to sustain or develop our planned operations at a commercially feasible price or at all.

Outside of the United States, certain of our products require the use of radio frequency and are subject to regulations. In some jurisdictions, radio station licenses may be granted for a fixed term and must be periodically renewed. Our advanced and smart metering systems offering transmits to (and receives information from, if applicable) handheld, mobile, or fixed network reading devices in licensed bands made available to us through strategic partnerships and are reliant to some extent on the licensed spectrum continuing to be available through our partners or our customers. We may be unable to find partners or customers that have access to sufficient frequencies in some markets to sustain or develop our planned operations or to find partners or customers that have access to sufficient frequencies in the relevant markets at a commercially feasible price or at all.

We may incur impairment charges for our goodwill and other indefinite-lived intangible assets which would negatively impact our operating results.

We have a significant amount of goodwill and purchased intangible assets on our balance sheet as a result of acquisitions we have completed. As of December 31, 2018, the net carrying value of our goodwill and other indefinite-lived intangible assets totaled approximately $3 billion. The carrying value of goodwill represents the fair value of an acquired business in excess of identifiable assets and liabilities as of the acquisition date. The carrying value of indefinite-lived intangible assets represents the fair value of trademarks, trade names and FCC licenses as of the acquisition date. We do not amortize goodwill and indefinite-lived intangible assets that we expect to contribute indefinitely to our cash flows, but instead we evaluate these assets for impairment at least annually, or more frequently if interim indicators suggest that a potential impairment could exist. A goodwill impairment charge will be recognized if the fair value of a reporting unit is less than its carrying amount. Significant negative industry or economic trends, disruptions to our business, inability to effectively integrate acquired businesses, unexpected significant changes or planned changes in use of the assets, failure of the FCC to renew licenses, divestitures and market capitalization declines may impair our goodwill and other indefinite-lived intangible assets. Any charges relating to such impairments could adversely affect our results of operations and financial condition.

We cannot make assurances that we will pay dividends on our common stock or continue to repurchase our common stock under Board approved share repurchase plans, and likewise our indebtedness could limit our ability to pay dividends or make share repurchases.

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

Further, the timing and amount of the repurchase of our common stock under Board approved share repurchase plans has similar dependencies as the payment of dividends and accordingly, there can be no assurances that we will repurchase our common stock.

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

Developments in environmental laws and regulations could impact our financial condition or results of operations.

Our operations, product and service offerings are subject to and affected by many federal, state, local and foreign environmental laws and regulations. In addition, we could be affected by future environmental laws or regulations, including, for example, those imposed in response to climate change concerns. Compliance with current and future environmental laws and regulations currently requires and is expected to continue to require operating and capital expenditures.

Environmental laws and regulations may authorize substantial fines and criminal sanctions as well as facility shutdowns to address violations, and may require the installation of costly pollution control equipment or operational changes to limit emissions or discharges. We also incur, and expect to continue to incur, costs to comply with current environmental laws and regulations.

Developments such as the adoption of new environmental laws and regulations, stricter enforcement of existing laws and regulations, violations by us of such laws and regulations, discovery of previously unknown or more extensive contamination, litigation involving environmental impacts, our inability to recover costs associated with any such developments, or financial insolvency of other responsible parties could in the future have a material adverse effect on our financial condition and results of operations.

The level of returns on postretirement benefit plan assets, changes in interest rates and other factors could affect our earnings and cash flows in future periods.

Certain members of our current and retired employee population are covered by pension and other employee-related defined benefit plans (collectively, postretirement benefit plans). We may experience significant fluctuations in costs related to our postretirement benefit plans as a result of macro-economic factors, such as interest rates, that are beyond our control. The cost of our postretirement plans is incurred over long periods of time and involves factors and uncertainties during those periods which can be volatile and unpredictable, including rates of return on postretirement benefit plan assets, discount rates used to calculate liabilities and expenses and rates of future compensation increases. Management develops each assumption using relevant plan and Company experience and expectations in conjunction with market-related data. Our liquidity, financial position (including shareholders'

equity) and results of operations could be materially affected by significant changes in key economic indicators, actuarial experience, financial market volatility, future legislation and other governmental regulatory actions.
We make contributions to fund our postretirement benefit plans when considered necessary or advantageous to do so. The macro-economic factors discussed above, including the return on postretirement benefit plan assets and the minimum funding requirements established by local government funding or taxing authorities, or established by other agreement, may influence future funding requirements. A significant decline in the fair value of our plan assets, or other adverse changes to our overall pension and other employee-related benefit plans, could require us to make significant funding contributions and affect cash flows in future periods.

The market price of our common stock may fluctuate significantly.

We cannot predict the prices at which our common stock may trade. The market price of our common stock may fluctuate widely, depending on many factors, some of which may be beyond our control, including:

- actual or anticipated fluctuations in our operating results due to factors related to our business;
- success or failure of our business strategy;
- our quarterly or annual earnings, or those of other companies in our industry;
- our ability to obtain financing as needed;
- stock repurchases or dividends;
- acquisitions and divestitures;
- announcements by us or our competitors of significant new business awards;
- announcements by us or our competitors of significant acquisitions or divestitures;
- changes in accounting standards, policies, guidance, interpretations or principles;
- changes in earnings estimates by securities analysts or our ability to meet those estimates;
- our ability to execute transformation, restructuring and realignment actions;
- the operating and stock price performance of other comparable companies;
- natural or environmental disasters that investors believe may affect us;
- overall market fluctuations;
- fluctuations in foreign currency impacts;
- fluctuations in the budgets of federal, state and local governmental entities around the world;
- results from any material litigation, governmental or regulatory body investigation, or tax examination;
- changes in laws and regulations affecting our business;
- impact of trade protection measures including tariffs; and
- general economic conditions and other external factors.

Stock markets in general have experienced volatility that has often been unrelated to the operating performance of a particular company. These broad market fluctuations could adversely affect the trading price of our common stock.

Anti-takeover provisions in our organizational documents and Indiana law could delay or prevent a change in control.

Certain provisions of our fourth amended and restated articles of incorporation and our amended and restated by-laws may delay or prevent a merger or acquisition of part or all of our business operations. For example, our articles of incorporation and our by-laws, among other things, require advance notice for shareholder proposals and nominations. In addition, our articles of incorporation authorize our Board of Directors to issue one or more series of preferred stock. These provisions may also discourage acquisition proposals of our business operations or delay or prevent a change in control, which could harm our stock price. Indiana law also imposes some restrictions on mergers and other business combinations between any holder of 10% or more of our outstanding common stock and us.

In connection with our Spin-off, ITT (now ITT LLC) and Exelis, acquired by Harris Inc., will indemnify us for certain liabilities and we will indemnify ITT (now ITT LLC) or Exelis for certain liabilities. If we are required to indemnify ITT (now ITT LLC) or Exelis, we may need to divert cash to meet those obligations and our financial results could be negatively impacted. In the case of ITT's or Exelis' indemnity, there can be no assurance that those indemnities will be sufficient to insure us against the full amount of such liabilities, or as to ITT's or Exelis' ability to satisfy its indemnification obligations in the future.

Pursuant to the Distribution Agreement and certain other agreements with ITT (now ITT LLC) and Exelis, ITT (now ITT LLC) and Exelis agreed to indemnify us from certain liabilities, and we agreed to indemnify ITT (now ITT LLC) and Exelis for certain liabilities. Indemnities that we may be required to provide ITT (now ITT LLC) and Exelis may be significant and could negatively impact our business. Third parties could also seek to hold us responsible for any of the liabilities that ITT (now ITT LLC) or Exelis has agreed to retain. Further, there can be no assurance that the indemnities from ITT (now ITT LLC) and Exelis will be sufficient to protect us against the full amount of such liabilities, or that ITT (now ITT LLC) and Exelis will be able to fully satisfy their indemnification obligations. Moreover, even if we ultimately were to succeed in recovering from ITT (now ITT LLC) and Exelis any amounts for which we are held liable, we may be temporarily required to bear these losses ourselves. Each of these risks could negatively affect our business, results of operations and financial condition.

ITEM 1B. UNRESOLVED STAFF COMMENTS.

None.

ITEM 2. PROPERTIES

We have approximately 385 locations in more than 52 countries. These properties total approximately 12.3 million square feet, of which more than 345 locations, or approximately 6.6 million square feet, are leased. We consider the offices, plants, warehouses and other properties that we own or lease to be in good condition and generally suitable for the purposes for which they are used. The following table shows our significant locations by segment:

Location	State or Country	Principal Business Activity	Approx. Square Feet	Owned or Leased
		Water Infrastructure		
Emmaboda	Sweden	Administration and Manufacturing	1,197,000	Owned
Stockholm	Sweden	Administration and Research & Development	182,000	Leased
Bridgeport	NJ	Administration and Manufacturing	136,000	Leased
Shenyang	China	Manufacturing	125,000	Owned
Yellow Springs	OH	Administration and Manufacturing	112,000	Owned
Quenington	UK	Manufacturing	86,000	Leased
		Applied Water		
Morton Grove	IL	Administration and Manufacturing	530,000	Owned
Montecchio	Italy	Administration and Manufacturing	379,000	Owned
Nanjing	China	Manufacturing	363,000	Owned
Auburn	NY	Manufacturing	273,000	Owned
Stockerau	Austria	Administration	233,000	Owned
Lubbock	TX	Manufacturing	229,000	Owned
Strzelin	Poland	Manufacturing	185,000	Owned
Cheektowaga	NY	Manufacturing	147,000	Owned
		Measurement & Control Solutions		
Ludwigshafen	Germany	Manufacturing	318,000	Owned
Texarkana	AR	Manufacturing	254,000	Owned
Uniontown	PA	Manufacturing	240,000	Leased
DuBois	PA	Manufacturing	197,000	Owned
Durham	NC	Administration and Research & Development	154,000	Leased
DuBois	PA	Manufacturing	137,000	Leased
		Regional Selling Locations		
Dubai	United Arab Emirates	Manufacturing	144,000	Owned
Nottinghamshire	United Kingdom	Sales Office	139,000	Leased
Nanterre	France	Sales Office	139,000	Leased
Langenhagen	Germany	Sales Office	134,000	Leased
		Corporate Headquarters		
Rye Brook	NY	Administration	67,000	Leased

ITEM 3. LEGAL PROCEEDINGS

From time to time we are involved in legal and regulatory proceedings that are incidental to the operation of our businesses (or the business operations of previously owned entities). These proceedings may seek remedies relating to environmental matters, tax, intellectual property matters, acquisitions or divestitures, product liability and personal injury claims, privacy, employment, labor and pension matters, government contract issues and commercial or contractual disputes. See Note 19, "Commitments and Contingencies", of the consolidated financial statements included in Item 8 of Part II of this 10-K for information regarding certain legal and regulatory proceedings we are involved in.

ITEM 4. MINE SAFETY DISCLOSURES

Not applicable.

EXECUTIVE OFFICERS OF THE REGISTRANT

The following information is provided regarding the executive officers of Xylem as of January 31, 2019:

NAME	AGE	CURRENT TITLE	OTHER BUSINESS EXPERIENCE DURING PAST 5 YEARS
Patrick K. Decker	54	President and Chief Executive Officer (2014)	• President and Chief Executive Officer, Harsco Corp. (diversified, worldwide industrial company) (2012)
E. Mark Rajkowski	60	Senior VP and Chief Financial Officer (2016)	• Senior VP and Chief Financial Officer, MeadWestvaco Corp. (worldwide packaging company) (2004)
Tomas Brannemo	47	Senior VP and President, Transport and Treatment (2017)	• Senior VP and President, Transport (2014) • VP, Transport (2013)
David Flinton	48	Senior VP and President, Dewatering (2015)	• VP, Engineering and Marketing, Applied Water Systems (2013)
Pak Steven Leung	62	Senior VP and President, Emerging Markets (2015)	• VP, Global Sales, Valves and Controls, Pentair Plc (diversified, worldwide industrial manufacturing company) (2013)
Kenneth Napolitano	56	Senior VP and President, Applied Water Systems and Americas Commercial Team (2017)	• Senior VP and President, Applied Water Systems (2012)
Colin R. Sabol	51	Senior VP and President, Measurement & Control Solutions (2017)	• Senior VP and President, Analytics and Treatment (2015) • Senior VP and President, Dewatering (2013)
Paul A. Stellato	44	VP, Controller and Chief Accounting Officer (2017)	• VP, Financial Planning and Analysis (2014) • Director, Financial Planning and Analysis (2011)
Kairus Tarapore	57	Senior VP and Chief Human Resources Officer (2015)	• Senior VP and Chief Administrative Officer, Babcock & Wilcox Company (energy and environmental technologies and services) (2013)
Claudia S. Toussaint	55	Senior VP, General Counsel and Corporate Secretary (2014)	• Senior VP, General Counsel and Secretary, Barnes Group Inc. (international industrial and aerospace

manufacturing) (2012)

Note: Date in parentheses indicates the year in which the position was assumed.

BOARD OF DIRECTORS

The following information is provided regarding the Board of Directors of Xylem as of January 31, 2019:

NAME	TITLE
Markos I. Tambakeras	Chairman, Xylem Inc., Former Chairman, President and Chief Executive Officer, Kennametal, Inc.
Curtis J. Crawford, Ph.D.	President and Chief Executive Officer, XCEO, Inc.
Jeanne Beliveau-Dunn	Former Vice President and General Manager, Cisco Systems, Inc.
Patrick K. Decker	President and Chief Executive Officer, Xylem Inc.
Robert F. Friel	Chairman, President and Chief Executive Officer, PerkinElmer, Inc.
Victoria D. Harker	Chief Financial Officer, TEGNA, Inc.
Sten E. Jakobsson	Former President and Chief Executive Officer, ABB AB
Steven R. Loranger	Former Chairman, President and Chief Executive Officer, ITT Corporation
Surya N. Mohapatra, Ph.D.	Former Chairman, President and Chief Executive Officer, Quest Diagnostics Incorporated
Jerome A. Peribere	Former President and Chief Executive Officer, Sealed Air Corporation

PART II

ITEM 5. MARKET FOR THE REGISTRANT’S COMMON EQUITY, RELATED STOCKHOLDER MATTERS AND ISSUER PURCHASES OF EQUITY SECURITIES

Market Price and Dividends

Our common stock trades publicly on the New York Stock Exchange under the trading symbol “XYL”. As of January 31, 2019, there were 10,898 holders of record of our common stock.

Dividends are declared and paid on the common stock at the discretion of our Board of Directors and depend on our profitability, financial condition, capital needs, future prospects and other factors deemed relevant by our Board. Therefore, there can be no assurance as to what level of dividends, if any, will be paid in the future. In the first quarter of 2019, we declared a dividend of $0.24 per share to be paid on March 14, 2019 for shareholders of record on February 14, 2019.

There were no unregistered offerings of our common stock during 2018.

Fourth Quarter 2018 Share Repurchase Activity

The following table summarizes our purchases of our common stock for the quarter ended December 31, 2018:

(in millions, except per share amounts)

Period	Total Number of Shares Purchased	Average Price Paid per Share (a)	Total Number of Shares Purchased as Part of Publicly Announced Plans or Programs (b)	Approximate Dollar Value of Shares That May Yet Be Purchased Under the Plans or Programs (b)
10/1/18 - 10/31/18	—	—	—	$363
11/1/18 - 11/30/18	—	—	—	$363
12/1/18 - 12/31/18	—	—	—	$363

(a) Average price paid per share is calculated on a settlement basis.

(b) On August 24, 2015, our Board of Directors authorized the repurchase of up to $500 million in shares with no expiration date. The program's objective is to deploy our capital in a manner that benefits our shareholders and maintains our focus on growth. There were no shares repurchased under this program during the three months ended December 31, 2018. There are up to $363 million in shares that may still be purchased under this plan as of December 31, 2018.

PERFORMANCE GRAPH
CUMULATIVE TOTAL RETURN

The following graph compares the relative performance of our common stock, the S&P 500 Index and the S&P 500 Industrials Index. This graph covers the period from December 31, 2013 through December 31, 2018 and assumes that $100 was invested on December 31, 2013 in our common stock, the S&P 500 and the S&P 500 Industrials with the reinvestment of any dividends.

	XYL	S&P 500	S&P 500 Industrials Index
December 31, 2013	100	100	100
December 31, 2014	112	114	110
December 31, 2015	109	115	107
December 31, 2016	150	129	127
December 31, 2017	209	157	153
December 31, 2018	206	150	132

The graph is not, and is not intended to be, indicative of future performance of our common stock.

This performance graph shall not be deemed “filed” with the SEC or subject to the liabilities of Section 18 of the Securities Exchange Act of 1934, and should not be deemed incorporated by reference into any of our prior or subsequent filings under the Securities Act of 1933 or the Securities Exchange Act of 1934, except as shall be expressly set forth by specific reference in such filing.

ITEM 6. SELECTED FINANCIAL DATA

The following table sets forth selected consolidated financial data for the five years ended December 31, 2018. This selected consolidated financial data should be read in conjunction with "Management's Discussion and Analysis of Financial Condition and Results of Operations" and the consolidated financial statements and the notes thereto included in this Report.

(in millions, except per share data)	**Year Ended December 31, 2018 (a)**	2017 (b) (c)	2016 (b) (c)	2015 (c)	2014 (c)
Results of Operations Data:					
Revenue	**$5,207**	$4,707	$3,771	$3,653	$3,916
Gross profit	**2,026**	1,847	1,462	1,407	1,517
Gross margin	***38.9 %***	*39.2 %*	*38.8 %*	*38.5 %*	*38.7 %*
Operating income	**654**	552	408	454	469
Operating margin	***12.6 %***	*11.7 %*	*10.8 %*	*12.4 %*	*12.0 %*
Net income attributable to Xylem	**549**	331	260	340	337
Per Share Data:					
Earnings per share:					
Basic	**$3.05**	$1.84	$1.45	$1.88	$1.84
Diluted	**3.03**	1.83	1.45	1.87	1.83
Basic shares outstanding	**179.8**	179.6	179.1	180.9	183.1
Diluted shares outstanding	**181.1**	180.9	180.0	181.7	184.2
Cash dividends per share	**$0.8400**	$0.7200	$0.6196	$0.5632	$0.5120
Balance Sheet Data (at period end):					
Cash and cash equivalents	**$296**	$414	$308	$680	$663
Working capital*	**988**	873	878	810	882
Total assets	**7,222**	6,860	6,474	4,657	4,833
Total debt	**2,308**	2,200	2,368	1,274	1,284

* The Company calculates Working capital as follows: net accounts receivable + inventories - accounts payable - customer advances.

(a) The amounts for the year ended December 31, 2018 reflects the acquisitions of both Pure and Sensus. Refer to Note 3 to the Consolidated Financial Statements for further information regarding acquisitions.

(b) The amounts for the years ended December 31, 2017 and December 31, 2016 reflect the acquisition of Sensus. Refer to Note 3 to the Consolidated Financial Statements for further information regarding acquisitions.

(c) The amounts for the years ended December 31, 2017, December 31, 2016, December 31, 2015 and December 31, 2014 reflect a re-classification related to prior year pension and post retirement accounting. Refer to Note 2 to the Consolidated Financial Statements for further information regarding this prior year re-classification.

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

The following discussion should be read in conjunction with our consolidated financial statements and the notes thereto. This discussion summarizes the significant factors affecting our results of operations and the financial condition of our business during each of the fiscal years in the three-year period ended December 31, 2018. Except as otherwise indicated or unless the context otherwise requires, "Xylem," "we," "us," "our" and "the Company" refer to Xylem Inc. and its subsidiaries.

Overview

Xylem is a leading global water technology company. We design, manufacture and service highly engineered products and solutions ranging across a wide variety of critical applications in utility, industrial, residential and commercial building services settings. Our broad portfolio of solutions addresses customer needs across the water cycle, from the delivery, measurement and use of drinking water to the collection, test and treatment of wastewater to the return of water to the environment. Our product and service offerings are organized into three reportable segments that are aligned around the critical market applications they provide: Water Infrastructure, Applied Water and Measurement & Control Solutions.

- *Water Infrastructure* serves the water infrastructure sector with pump systems that transport water from aquifers, lakes, rivers and seas; with filtration, ultraviolet and ozone systems that provide treatment, making the water fit to use; and pumping solutions that move the wastewater to treatment facilities where our mixers, biological treatment, monitoring and control systems provide the primary functions in the treatment process. We also provide sales and rental of specialty dewatering pumps and related equipment and services. Additionally, our offerings use monitoring & control, smart and connected technologies to allow for remote monitoring of performance and enable products to self-optimize pump operations maximizing energy efficiency and minimizing unplanned downtime and maintenance for our customers. In the Water Infrastructure segment, we provide the majority of our sales directly to customers along with strong applications expertise, while the remaining amount is through distribution partners.
- *Applied Water* serves the usage applications sector with water pressure boosting systems for heating, ventilation and air conditioning, and for fire protection systems to the residential and commercial building services markets. In addition, our pumps, heat exchangers and controls provide cooling to power plants and manufacturing facilities, circulation for food and beverage processing, as well as boosting systems for agricultural irrigation. In the Applied Water segment, we provide the majority of our sales through long-standing relationships with many of the leading independent distributors in the markets we serve, with the remainder going directly to customers.
- *Measurement & Control Solutions* primarily serves the utility infrastructure solutions and services sector by delivering communications, smart metering, measurement and control technologies and critical infrastructure technologies that allow customers to more effectively use their distribution networks for the delivery, monitoring and control of critical resources such as water, electricity and natural gas. We also provide analytical instrumentation used to measure water quality, flow and level in clean water, wastewater, surface water and coastal environments. Additionally, we offer software and services including cloud-based analytics, remote monitoring and data management, leak detection, condition assessment, asset management and pressure monitoring solutions. We also offer smart lighting solutions that improve efficiency and public safety efforts across communities. In the Measurement & Control Solutions segment, we generate our sales through a combination of long-standing relationships with leading distributors and dedicated channel partners as well as direct sales depending on the regional availability of distribution channels and the type of product.

Key Performance Indicators and Non-GAAP Measures

Management reviews key performance indicators including revenue, gross margins, segment operating income and margins, orders growth, working capital and backlog, among others. In addition, we consider certain non-GAAP (or "adjusted") measures to be useful to management and investors evaluating our operating performance for the periods presented, and provide a tool for evaluating our ongoing operations, liquidity and management of assets. This information can assist investors in assessing our financial performance and measures our ability to generate capital for deployment among competing strategic alternatives and initiatives, including, but not limited to, dividends, acquisitions, share repurchases and debt repayment. Excluding revenue, Xylem provides guidance only on a non-GAAP basis due to the inherent difficulty in forecasting certain amounts that would be included in GAAP earnings, such as discrete tax items, without unreasonable effort. These adjusted metrics are consistent with how management views our business and are used to make financial, operating and planning decisions. These metrics, however, are not measures of financial performance under GAAP and should not be considered a substitute for revenue, operating income, net income, earnings per share (basic and diluted) or net cash from operating activities as determined in accordance with GAAP. We consider the following non-GAAP measures, which may not be comparable to similarly titled measures reported by other companies, to be key performance indicators:

- "organic revenue" and "organic orders" defined as revenue and orders, respectively, excluding the impact of fluctuations in foreign currency translation and contributions from acquisitions and divestitures. Divestitures include sales of insignificant portions of our business that did not meet the criteria for classification as a discontinued operation. The period-over-period change resulting from foreign currency translation impacts is determined by translating current period and prior period activity using the same currency conversion rate.
- "constant currency" defined as financial results adjusted for foreign currency translation impacts by translating current period and prior period activity using the same currency conversion rate. This approach is used for countries whose functional currency is not the U.S. dollar.
- "adjusted net income" and "adjusted earnings per share" defined as net income and earnings per share, respectively, adjusted to exclude restructuring and realignment costs, Sensus acquisition related costs, special charges, tax-related special items and gains and losses from the sale of businesses, as applicable. A reconciliation of adjusted net income is provided below.

(in millions, except per share data)	**2018**	2017	2016
Net income attributable to Xylem	**$549**	$331	$260
Earnings per share - diluted	**$3.03**	$1.83	$1.45
Restructuring and realignment, net of tax of $12, $13 and $13, respectively	**36**	28	34
Sensus acquisition related costs, net of tax of $8 and $15, respectively	**—**	14	38
Special charges, net of tax of $1, $4 and $7, respectively	**12**	8	11
Tax-related special items	**(75)**	40	21
Loss (gain) from sale of businesses, net of tax benefit of $2	**—**	12	—
Adjusted net income	**$522**	$433	$364
Adjusted earnings per share	**$2.88**	$2.40	$2.03

- "adjusted operating expenses" and "adjusted gross profit" defined as operating expenses and gross profit, respectively, adjusted to exclude restructuring and realignment costs, Sensus acquisition related costs and special charges.
- "adjusted operating income" defined as operating income, adjusted to exclude "adjusted operating expenses", and "adjusted operating margin" defined as adjusted operating income divided by total revenue.
- “realignment costs” defined as costs not included in restructuring costs that are incurred as part of actions taken to reposition our business, including items such as professional fees, severance, relocation, travel, facility set-up and other costs.
- "Sensus acquisition related costs" defined as costs incurred by the Company associated with the acquisition of Sensus that are being reported within operating income. These costs include integration costs, acquisition

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costs, costs related to the recognition of the backlog intangible asset amortization recorded in purchase accounting.

“special charges" defined as costs incurred by the Company, such as acquisition and integration related costs not included in "Sensus acquisition related costs", non-cash impairment charges, due diligence costs and other special non-operating items.

"tax-related special items" defined as tax items, such as tax return versus tax provision adjustments, tax exam impacts, tax law change impacts, significant reserves for cash repatriation, excess tax benefits/losses and other discrete tax adjustments.

"free cash flow" defined as net cash from operating activities less capital expenditures. Free cash flow is further adjusted for other significant items that impact current results which management believes are not related to our ongoing operations and performance. Our definition of free cash flow does not consider certain non-discretionary cash payments, such as debt. The following table provides a reconciliation of free cash flow.

(in millions)	**2018**	2017	2016
Net cash provided by operating activities	**$586**	$686	$497
Capital expenditures	**(237)**	(170)	(124)
Free cash flow	**$349**	$516	$373
Cash paid for Sensus acquisition related costs	**1**	28	13
Free cash flow, excluding Sensus acquisition related costs	**$350**	$544	$386

“EBITDA” defined as earnings before interest, taxes, depreciation and amortization expense and "Adjusted EBITDA" reflects the adjustment to EBITDA to exclude share-based compensation, restructuring and realignment costs, Sensus acquisition related costs, special charges and gain or loss from sale of businesses.

(in millions)	**2018**	2017	2016
Net Income	**$549**	$330	$260
Income tax expense	**36**	136	80
Interest expense (Income), net	**78**	79	68
Depreciation	**117**	109	87
Amortization	**144**	125	64
EBITDA	**$924**	$779	$559
Share-based compensation	**30**	21	18
Restructuring and realignment	**47**	41	47
Sensus acquisition related costs	**—**	14	46
Special charges	**12**	13	5
Loss (gain) from sale of business	**—**	10	—
Adjusted EBITDA	**$1,013**	$878	$675

Executive Summary

Xylem reported revenue of $5,207 million for 2018, an increase of $500 million, or 10.6%, from $4,707 million reported in 2017. On a constant currency basis, revenue increased by $477 million, or 10.1%, primarily consisting of organic revenue growth of $390 million, or 8.3%, driven by growth in all end markets, as well as across all major geographic regions. Acquisition revenue of $111 million also contributed to the increase, partially offset by revenue related to divestitures of $24 million.

Operating income for 2018 was $654 million, reflecting an increase of $102 million, or 18.5%, compared to $552 million in 2017. Operating margin was 12.6% for 2018 versus 11.7% for 2017, an increase of 90 basis points. The increase in operating income and margin included favorable impacts from decreased Sensus acquisition related costs of $22 million, partially offset by an increase in restructuring and realignment costs of $7 million and increased special charges of $1 million. Excluding the impact of these items, adjusted operating income was $714 million, with an adjusted operating margin of 13.7% in 2018 as compared to adjusted operating income of $626 million with an adjusted operating margin of 13.3% in 2017. The increase in adjusted operating margin was primarily due to cost reductions from our global procurement and productivity initiatives, favorable volume impacts and price realization, which were partially offset by cost inflation, increased spending on strategic investments and unfavorable mix. Purchase accounting and currency impacts also negatively affected operating margin.

Additional financial highlights for 2018 include the following:

- Net income attributable to Xylem of $549 million, or $3.03 per diluted share ($522 million or $2.88 per diluted share on an adjusted basis, up 20.6% from 2017)
- Cash from operating activities of $586 million, and free cash flow, excluding Sensus acquisition related costs, of $350 million down 35.7% from 2017
- Orders of $5,437 million, up 11.7% from $4,868 million in 2017 (up 9.3% on an organic basis)
- Dividends paid to shareholders increased 17% in 2018.

2019 Business Outlook

We anticipate total revenue growth in the range of 2% to 4% in 2019, with organic revenue growth anticipated to be in the range of 4% to 6%. The following is a summary of our 2018 organic revenue performance and 2019 organic revenue outlook by end market.

- Utilities increased approximately 10% for 2018 on an organic basis driven by strength across all regions globally, particularly in North America and Asia Pacific. For 2019, we expect organic growth in the mid-single-digit range driven by healthy water and wastewater spending in the U.S., smart meter and infrastructure analytics growth opportunities and mixed but stable low-single-digit growth in Europe. We also anticipate a healthy infrastructure investment focus in the emerging markets will continue in China and India.
- Industrial increased by roughly 6% for 2018 on an organic basis driven by strength in North America, western Europe and Latin America, partially offset by weakness in Asia Pacific. For 2019, we expect organic growth in the low to mid-single-digits driven by continued solid industrial conditions in the U.S. as the oil and gas markets begin to stabilize after a strong 2018. We also anticipate mixed emerging market conditions with strength in India and Latin America, offset by softness in the Middle East and slowing growth in China.
- In the commercial markets, organic growth was approximately 11% for 2018 primarily driven by strength in the United States and Asia Pacific. For 2019, we expect organic growth in the low to mid-single-digit range as the overall market will begin to moderate after two years of strong performance. Organic growth will be driven by continued strength in the U.S., especially during the first half of the year, and the emerging markets led by initiatives in the China and India building markets.
- In residential markets, organic growth was approximately 2% in 2018 primarily driven by strength in western Europe which was partially offset by weakness in Asia Pacific. For 2019, we expect low-single-digit growth primarily driven by continued competition in the U.S. replacement market as the housing market begins to stabilize. We also anticipate stability in Europe and modest growth opportunities in China and

other Asia Pacific countries for secondary clean water sources.

We will continue to strategically execute restructuring and realignment actions primarily to reposition our European and North American businesses in an effort to optimize our cost structure and improve our operational efficiency and effectiveness. During 2018, we incurred $20 million and $28 million in restructuring and realignment costs, respectively. We realized approximately $13 million of incremental net savings in 2018 from actions initiated in 2017, and an additional $3 million of net savings from our 2018 actions. As a result of our 2017 and 2018 actions we expect to realize approximately $8 million of incremental net savings in 2019 and beyond. During 2019, we currently expect to incur approximately $30 million in restructuring and realignment costs.

We plan to continue to take actions and focus spending in 2019 on actions that allow us to make progress on our top strategic priorities. The priority of accelerating profitable growth encompasses our initiatives to drive commercial excellence, grow in emerging markets and strengthen innovation and technology through creation of new centers of excellence, a streamlined approach to product development and strategic acquisitions. The priority of driving continuous improvement is an area where we will continue to work to create new opportunities to unlock savings by eliminating waste and increasing efficiencies, which is supported by efforts to expand and further deepen our talent pool. We plan to continue to deploy capital in smart, disciplined ways to develop and acquire solutions to address our customers’ challenges. Finally, we continue to work to improve cash performance and generate capital to return to our shareholders.

Results of Operations

(in millions)	2018	2017	2016	2018 v. 2017	2017 v. 2016
Revenue	**$5,207**	$4,707	$3,771	10.6 %	24.8 %
Gross profit	**2,026**	1,847	1,462	9.7 %	26.3 %
Gross margin	**38.9 %**	39.2 %	38.8 %	(30)bp	40 bp
Restructuring and realignment costs	**5**	3	3	66.7 %	— %
Sensus acquisition related charges	**—**	8	26	NM	(69.2)%
Adjusted gross profit	**2,031**	1,858	1,491	9.3 %	24.6 %
Adjusted gross margin	**39.0 %**	39.5 %	39.5 %	(50)bp	—
Total operating expenses	**1,372**	1,295	1,054	5.9 %	22.9 %
Expense to revenue ratio	**26.3 %**	27.5 %	28.0 %	(120)bp	(50)bp
Restructuring and realignment costs	**(43)**	(38)	(44)	13.2 %	(13.6)%
Sensus acquisition related charges	**—**	(14)	(27)	NM	(48.1)%
Special charges	**(12)**	(11)	(5)	9.1 %	120.0 %
Adjusted operating expenses	**1,317**	1,232	978	6.9 %	26.0 %
Adjusted operating expense to revenue ratio	**25.3 %**	26.2 %	25.9 %	(90)bp	30 bp
Operating income	**654**	552	408	18.5 %	35.3 %
Operating margin	**12.6 %**	11.7 %	10.8 %	90 bp	90 bp
Interest and other non-operating expense (income), net	**69**	76	68	(9.2)%	11.8 %
(Loss)/gain from sale of businesses	**—**	(10)	—	NM	NM
Income tax expense	**36**	136	80	(73.5)%	70.0 %
Tax rate	**6.1 %**	29.2 %	23.5 %	(2,310)bp	570 bp
Net income	**$549**	$330	$260	66.4 %	26.9 %

NM Not Meaningful

2018 versus 2017

Revenue

Revenue generated for 2018 was $5,207 million, an increase of $500 million, or 10.6%, compared to $4,707 million in 2017. On a constant currency basis, revenue grew 10.1% during 2018. This increase in revenue at constant currency was primarily driven by an increase in organic revenue of $390 million reflecting strong organic growth across all major regions, with the vast majority of growth coming from North America, the emerging markets, particularly in China and Latin America, as well as in western Europe. Acquisition revenue of $111 million also contributed to the increase, partially offset by a reduction in revenue related to divestitures of $24 million during the period.

The following table illustrates the impact on 2018 revenue from organic growth, recent acquisitions and divestitures, and foreign currency translation in relation to revenue:

	Water Infrastructure		**Applied Water**		**Measurement & Control Solutions**		**Total Xylem**	
(in millions)	$ Change	% Change	$ Change	% Change	$ Change	% Change	$ Change	% Change
2017 Revenue	$2,004		$1,421		$1,282		$4,707	
Organic Growth	176	8.8 %	113	8.0 %	101	7.9 %	390	8.3 %
Acquisitions/(Divestitures)	—	— %	(10)	(0.7)%	97	7.6 %	87	1.8 %
Constant Currency	176	8.8 %	103	7.2 %	198	15.4 %	477	10.1 %
Foreign currency translation (a)	(4)	(0.2)%	10	0.7 %	17	1.3 %	23	0.5 %
Total change in revenue	172	8.6 %	113	8.0 %	215	16.8 %	500	10.6 %
2018 Revenue	**$2,176**		**$1,534**		**$1,497**		**$5,207**	

(a) Foreign currency translation impact for the year primarily due to strength in the value of the Euro, British Pound, Chinese Yuan and various other currencies against the U.S. Dollar. This impact was partially offset by the weakening in value of the Argentine Peso, Indian Rupee, Swedish Krona and Australian dollar against the U.S. Dollar.

Water Infrastructure

Water Infrastructure's revenue increased$172 million, or 8.6%, in 2018 (8.8% increase on a constant currency basis) compared to 2017. Revenue was negatively impacted by $4 million of foreign currency translation, with the change at constant currency coming entirely from organic growth during the year of $176 million, or 8.8%. Organic growth for the year was driven by strength in the utility end market across all geographic regions, with particularly strong growth coming from the emerging markets, especially China, as well as from the United States. Organic growth during the year was also driven by strength in the industrial end market, primarily in North America and Europe, while emerging market industrial strength in Latin America was partially offset by declines in Asia Pacific due to the lapping of a large ozone project delivery in China last year.

From an application perspective, organic revenue growth for the year was largely attributable to our transport application. The transport application grew due to strength across all geographic regions. Growth in North America was driven by modest share gains and continued focus by utility customers on improving infrastructure, as well as strong dewatering rental sales and oil and gas growth. Project deliveries in western Europe and product localization in China also contributed to the transport application growth during the period with China having 35.6% organic growth for the year. Organic revenue from our treatment application also contributed significantly to the segment's growth across all regions, particularly from strong utility project deliveries in China, with 42.1% growth for the year.

Applied Water

Applied Water's revenue increased$113 million, or 8.0%, in 2018, with revenue benefiting from $10 million of foreign currency translation during the year. The revenue growth at constant currency was $103 million, or 7.2%, and consisted of organic growth of $113 million, or 8.0%, partially offset by $10 million of reduction in revenue related to divestitures. Organic growth for the year was driven primarily by strength in the commercial and industrial end markets, primarily in the United States and Asia Pacific, as well as modest growth in the residential end market.

From an application perspective, commercial building services revenue was primarily driven by distributor strength and commercial building construction growth, coupled with price realization, in the United States and project deployments in China and India. Organic revenue growth in the industrial water application was driven primarily by recovery in large project business and healthy general industrial demand in the United States, as well as strong strength in the emerging markets, particularly China and Latin America. Residential building services also had modest organic growth, primarily from strength in western Europe, partially offset by declines in Asia Pacific.

Measurement & Control Solutions

Measurement & Control Solutions revenue increased $215 million, or 16.8%, in 2018 (15.4% increase on a constant currency basis), with revenue benefiting from $17 million of foreign currency translation during the year. Revenue growth at constant currency consisted of revenue contributed by acquisitions of $111 million and organic revenue growth of $101 million, or 7.9%, which was partially offset by $14 million of reduction in revenue related to divestitures during the year. Organic revenue growth for the year was primarily driven by strength in the utility end market in North America.

From an application perspective, organic revenue from the gas application contributed the most organic growth for the segment, driven entirely by large project deployments in North America. The water application also drove organic growth, with large project deployments and increased water shipments in the Unites States and Asia Pacific, partially offset by declines in Europe. Software as a service & other also had significant growth from large deployments in the United States and the United Kingdom. Additional organic revenue growth came from the test application, which saw growth in both the utility and industrial end markets, primarily in western Europe and the United States, partially offset by declines in the emerging markets. The electric application also had modest organic growth in North America during the year.

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Orders/Backlog

(in millions)	Water Infrastructure $ Change	Water Infrastructure % Change	Applied Water $ Change	Applied Water % Change	Measurement & Control Solutions $ Change	Measurement & Control Solutions % Change	Total Xylem $ Change	Total Xylem % Change
2017 Orders	$2,112		$1,476		$1,280		$4,868	
Organic Growth	140	6.6 %	83	5.6 %	231	18.0 %	454	9.3 %
Acquisitions/(Divestitures)	—	— %	(12)	(0.8)%	100	7.8 %	88	1.8 %
Constant Currency	140	6.6 %	71	4.8 %	331	25.9 %	542	11.1 %
Foreign currency translation (a)	3	0.1 %	10	0.7 %	14	1.1 %	27	0.6 %
Total change in revenue	143	6.8 %	81	5.5 %	345	27.0 %	569	11.7 %
2018 Orders	**$2,255**		**$1,557**		**$1,625**		**$5,437**	

(a) Foreign currency translation impact for the year primarily due to strength in the value of the Euro, British Pound, Chinese Yuan and various other currencies against the U.S. Dollar. This impact was partially offset by the weakening in value of the Argentine Peso, Indian Rupee, Swedish Krona and Australian dollar against the U.S. Dollar.

Orders received during 2018 increased by $569 million, or 11.7%, to $5,437 million (11.1% increase on a constant currency basis). Order growth was favorably impacted by $27 million of foreign currency translation during the year. The order increase on a constant currency basis included organic order growth of $454 million, or 9.3%, over the prior year. Orders from acquisitions of $115 million also contributed to the growth at constant currency, partially offset by a reduction in orders related to divestitures of $27 million during the year.

Water Infrastructure segment orders increased $143 million, or 6.8%, to $2,255 million (6.6% increase on a constant currency basis). Orders growth for the segment benefited from $3 million of foreign currency translation for the year. The order increase on a constant currency basis consisted entirely of an increase in organic orders. Organic orders grew in both of the segment applications. The treatment application had very strong order intake, driven by orders in China, the United States and India. Transport order growth was driven by increased strength in North America, primarily from dewatering rental and equipment orders along with overall strong market conditions, and order strength in Europe. Transport order growth during the year was partially offset by custom pump project timing in India.

Orders increased in our Applied Water segment by $81 million, or 5.5%, to $1,557 million (4.8% increase on a constant currency basis). Orders growth for the segment benefited from $10 million of foreign currency translation for the year. The order increase on a constant currency basis included organic order growth of $83 million, or 5.6%, driven by strong commercial and industrial performance in the United States, as well as modest strength in Europe and the emerging markets, partially offset by the reduction in orders from divestitures of $12 million.

Orders increased in our Measurement & Control Solutions segment by $345 million, or 27.0%, to $1,625 million (25.9% increase on a constant currency basis). Orders growth for the segment benefited from $14 million of foreign currency translation for the year. The order increase on a constant currency basis included orders from recent acquisitions of $115 million, partially offset by the reduction of orders from divestitures of $15 million, and organic order growth of $231 million, or 18.0%. Organic order growth primarily driven by orders within the water application in North America and a large order in India. The gas and software as a service & other applications also had strong organic order growth in North America as well as Asia Pacific, while electric orders were only slightly up for the year.

Backlog includes contractual customer commitments as well as orders on hand as of the end of the period. Delivery schedules vary from customer to customer based upon their requirements. Annual or multi-year contracts are subject to rescheduling and cancellation by customers due to the long-term nature of the contracts. As such, beginning total backlog, plus orders, minus revenues will not equal ending total backlog due to contract adjustments, foreign currency fluctuations and other factors. Typically, large projects require longer lead production cycles and deployment schedules, and delays can occur from time to time. Total backlog was $1,689 million at December 31, 2018 and $1,513 million at December 31, 2017, an increase of 11.6%. This year over year increase in backlog of $176 million includes approximately $42 million of backlog from 2018 acquisitions. We anticipate that approximately 65% of our total backlog at December 31, 2018 will be recognized as revenue during 2019.

Gross Margin
Gross margins as a percentage of consolidated revenue decreased 30 basis points to 38.9% in 2018 as compared to 39.2% in 2017. The gross margin decrease was primarily driven by the negative impact of cost inflation, unfavorable mix, increased amortization of external sale software, net negative currency impacts and purchase accounting impacts. These unfavorable impacts were partially offset by cost reductions from global procurement and productivity improvement initiatives, price realization, and reductions in Sensus acquisition related costs and realignment costs.

Operating Expenses

(in millions)	**2018**	2017	Change
Selling, general and administrative expenses ("SG&A")	**$1,161**	$1,089	6.6 %
SG&A as a % of revenue	**22.3 %**	23.1 %	(80)bp
Research and development expenses ("R&D")	**189**	181	4.4 %
R&D as a % of revenue	**3.6 %**	3.8 %	(20)bp
Restructuring and asset impairment charges	**22**	25	(12.0)%
Operating expenses	**$1,372**	$1,295	5.9 %
Expense to revenue ratio	**26.3 %**	27.5 %	(120)bp

Selling, General and Administrative Expenses
SG&A increased by $72 million (increase of 6.6%) to 22.3% of revenue in 2018, as compared to 23.1% of revenue in 2017. The improvement in SG&A as a percent of revenue for the year was primarily driven by favorable volume impacts, partially offset by the absence of Sensus acquisition related charges that did not recur in 2018. Additional SG&A from recent acquisitions also added to the increase in SG&A expenses as compared to the prior year.

Research and Development Expenses
R&D spending was $189 million, or 3.6% of revenue, in 2018 as compared to $181 million, or 3.8% of revenue, in 2017. Additionally, we capitalized R&D on external sale software of $60 million in 2018 as compared to $46 million in 2017. Our increased spending on R&D is driven by our continued commitment to innovation and technology development.

Restructuring Charges and Asset Impairment
Restructuring Charges
During 2018, we incurred restructuring costs of $9 million, $2 million and $9 million in our Water Infrastructure, Applied Water and Measurement & Control Solutions segments, respectively. We incurred these charges related to actions taken in 2018 primarily as a continuation of our efforts to reposition our European and North American businesses to optimize our cost structure and improve our operational efficiency and effectiveness. The charges included the reduction of headcount and consolidation of facilities within our Measurement & Control Solutions and Water Infrastructure segments, as well as headcount reductions within our Applied Water segment.
During 2017, we recognized restructuring costs of $7 million, $8 million and $5 million in our Water Infrastructure, Applied Water and Measurement & Control Solutions, respectively. These charges were incurred primarily in an effort to realign our organizational structure in Europe and North America to optimize our cost structure. The charges included the reduction of headcount and consolidation of facilities within our Applied Water and Water Infrastructure segments, as well as headcount reductions within our Measurement & Control Solutions segment.

The following table presents expected restructuring spend:

(in millions)	Water Infrastructure	Applied Water	Measurement & Control Solutions	Corporate	Total
Actions Commenced in 2018:					
Total expected costs	$ 9	$ 1	$ 7	$ —	$17
Costs incurred during 2018	7	1	7	—	15
Total expected costs remaining	**$ 2**	**$ —**	**$ —**	**$ —**	**$2**
Actions Commenced in 2017:					
Total expected costs	$ 18	$ 12	$ 3	$ —	$33
Costs incurred during 2017	5	4	2	—	11
Costs incurred during 2018	2	1	1	—	4
Total expected costs remaining	**$ 11**	**$ 7**	**$ —**	**$ —**	**$18**
Actions Commenced in 2016:					
Total expected costs	$ 13	$ 14	$ 10	$ 2	$39
Costs incurred during 2016	11	10	6	2	29
Costs incurred during 2017	2	4	3	—	9
Costs incurred during 2018	—	—	1	—	1
Total expected costs remaining	**$ —**	**$ —**	**$ —**	**$ —**	**$—**

The Water Infrastructure, Applied Water, and Measurement & Control Solutions actions commenced in 2018 consist primarily of severance charges and are expected to continue through the third quarter of 2019. The Water Infrastructure, Applied Water, and Measurement & Control Solutions actions commenced in 2017 consist primarily of severance charges and are expected to continue through the second quarter of 2020. The Water Infrastructure, Applied Water, Measurement & Control Solutions and Corporate actions commenced in 2016 consist primarily of severance charges and are complete. As a result of the actions initiated in 2018, we achieved savings of approximately $2 million in 2018 and estimate annual future net savings beginning in 2019 of approximately $7 million, resulting in $5 million of incremental savings from the 2018 actions.

Asset Impairment Charges

During the fourth quarter of 2018 we determined that certain software assets within our Water Infrastructure segment were impaired. Accordingly we recognized an impairment charge of $2 million.

During the first quarter of 2017 we determined that certain assets within our Applied Water segment, including a tradename, were impaired. Accordingly we recognized an impairment charge of $5 million. Refer to Note 11, "Goodwill and Other Intangible Assets," for additional information.

Operating Income

We generated operating income of $654 million (operating margin of 12.6%) for 2018, reflecting an increase of $102 million, or 18.5%, when compared to operating income of $552 million (operating margin of 11.7%) during the prior year. The increase in operating margin was primarily due to cost reductions resulting from our global procurement and productivity initiatives, favorable volume impacts and price realization and a decrease in Sensus acquisition related costs. These favorable impacts on operating margin were partially offset by cost inflation increases, increased spending on strategic investments, unfavorable mix, an increase in restructuring and realignment costs and an increase in special charges. Purchase accounting impacts also negatively affected operating margin.

Adjusted operating income was $714 million (adjusted operating margin of 13.7%) for 2018, reflecting an increase of $88 million, or 14.1%, when compared to adjusted operating income of $626 million (adjusted operating margin of 13.3%) during the prior year. The increase in adjusted operating margin was mostly due to the same factors impacting operating income, except for the decrease in Sensus acquisition related costs, the increase in restructuring and realignment costs and the increase in special charges as these costs were not included in adjusted operating income.

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The table below provides a reconciliation of total and each segment's operating income to adjusted operating income, and a calculation of the corresponding adjusted operating margin:

(In millions)	2018	2017	Change
Water Infrastructure			
Operating income	**$359**	$312	15.1 %
Operating margin	***16.5 %***	*15.6 %*	*90 bp*
Restructuring and realignment costs	**20**	16	25.0 %
Special charges	**2**	—	NM
Adjusted operating income	**$381**	$328	16.2 %
Adjusted operating margin	***17.5 %***	*16.4 %*	*110 bp*
Applied Water			
Operating income	**$236**	$194	21.6 %
Operating margin	***15.4 %***	*13.7 %*	*170 bp*
Restructuring and realignment costs	**10**	17	(41.2)%
Special charges	**—**	5	(100.0)%
Adjusted operating income	**$246**	$216	13.9 %
Adjusted operating margin	***16.0 %***	*15.2 %*	*80 bp*
Measurement & Control Solutions			
Operating income	**$118**	$110	7.3 %
Operating margin	***7.9 %***	*8.6 %*	*(70)bp*
Sensus acquisition related costs	**—**	15	(100.0)%
Restructuring and realignment costs	**18**	8	125.0 %
Special charges	**5**	—	NM
Adjusted operating income	**$141**	$133	6.0 %
Adjusted operating margin	***9.4 %***	*10.4 %*	*(100)bp*
Corporate and other			
Operating loss	**$(59)**	$(64)	(7.8)%
Sensus acquisition related costs	**—**	7	(100.0)%
Special charges	**5**	6	(16.7)%
Adjusted operating loss	**$(54)**	$(51)	5.9 %
Total Xylem			
Operating income	**$654**	$552	18.5 %
Operating margin	***12.6 %***	*11.7 %*	*90 bp*
Restructuring and realignment costs	**48**	41	17.1 %
Sensus acquisition related costs	**—**	22	(100.0)%
Special charges	**12**	11	9.1 %
Adjusted operating income	**$714**	$626	14.1 %
Adjusted operating margin	***13.7 %***	*13.3 %*	*40 bp*

NM Not Meaningful

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Water Infrastructure
Operating income for our Water Infrastructure segment increased $47 million, or 15.1%, with operating margin also increasing from 15.6% to 16.5%, a 90 basis point increase as compared to the prior year. Operating margin was negatively impacted year over year by increased restructuring and realignment costs of $4 million and special charges of $2 million incurred in 2018. Excluding these items, adjusted operating income increased $53 million, or 16.2%, with adjusted operating margin increasing from 16.4% to 17.5%, a 110 basis point increase as compared to the prior year. The increase in adjusted operating margin was primarily due to cost reductions from our global procurement and productivity initiatives, favorable volume and price realization, which were partially offset by cost inflation, unfavorable mix, increased spending on strategic investments and negative currency impacts.
Applied Water
Operating income for our Applied Water segment increased $42 million, or 21.6%, with operating margin also increasing from 13.7% to 15.4%, a 170 basis point increase as compared to the prior year. Operating margin was positively impacted by special charges of $5 million incurred in 2017 that did not recur and decreased restructuring and realignment costs of $7 million in 2018. Excluding these items, adjusted operating income increased $30 million, or 13.9%, with adjusted operating margin increasing from 15.2% to 16.0%, an 80 basis point increase as compared to the prior year. The increase in adjusted operating margin was primarily due to cost reductions from our global procurement and productivity initiatives, favorable volume and price realization, which were partially offset by cost inflation, negative transactional currency impacts and unfavorable mix.
Measurement & Control Solutions
Operating income for our Measurement & Control Solutions segment increased $8 million, or 7.3%, with operating margin decreasing from 8.6% to 7.9%, a 70 basis point decrease as compared to the prior year. Operating margin was negatively impacted by an increase of $10 million in restructuring and realignment costs and $5 million in special charges incurred in 2018. This impact was offset by $15 million of Sensus acquisition related costs incurred during the year in 2017 that did not recur. Excluding these items, adjusted operating income increased $8 million, or 6.0%, with adjusted operating margin decreasing from 10.4% to 9.4%, a 100 basis point decrease as compared to the prior year. The decrease in adjusted operating margin was primarily due to increases in cost inflation, spending on strategic investments and unfavorable mix impacts due to large energy project deployments. Purchase accounting impacts also negatively affected operating margin. These impacts were partially offset by favorable volume and price realization and cost reductions from our global procurement and productivity initiatives.
Corporate and other
Operating expense for corporate and other decreased $5 million, or 7.8%, compared to the prior year, primarily due to a reduction of Sensus acquisition related costs and special charges. Excluding these costs, adjusted operating expense increased $3 million, or 5.9%, compared to the prior year, mostly driven by an increase in employee related, non-cash share-based compensation costs.
Interest Expense
Interest expense remained constant at $82 million for both 2018 and 2017. See Note 14, "Credit Facilities and Debt" of our consolidated financial statements for a description of our credit facilities and long-term debt and related interest.
Income Tax Expense
Tax Act
On December 22, 2017, the U.S. government enacted comprehensive tax legislation commonly referred to as the Tax Cuts and Jobs Act (the “Tax Act”). The Tax Act makes broad and complex changes to the U.S. tax code. As noted at 2017 year end, we reasonably estimated certain effects and, therefore, as permitted by SAB 118, recorded provisional estimates associated with the reduction of U.S. federal corporate tax rate and deemed repatriation transition tax. Our accounting for the reduction of U.S. federal corporate tax rate is complete. We recorded a provisional tax benefit for corporate tax rate reduction of $107 million as of December 31, 2017. Upon further analysis of our deferred tax assets and liabilities, we recognized a

measurement-period adjustment of $1.5 million as an additional decrease of the net deferred tax liabilities and recorded a corresponding deferred tax benefit of $1.5 million during the period ended December 31, 2018. The effect of this measurement period adjustment on the 2018 effective tax rate was about 0.3%. A total decrease of the net deferred tax liabilities of $108 million has been recorded for the corporate rate reduction, with a corresponding deferred tax benefit of $108 million.

Our accounting for the Deemed Repatriation Transition Tax ("Transition Tax") is complete. We made an estimate of the Transition Tax and recorded a provisional Transition Tax liability of $153 million as of December 31, 2017. On the basis of revised E&P computations that were completed and additional guidance, we recognized a measurement-period adjustment of a $9 million decrease to the income tax expense in 2018. The effect of the measurement-period adjustment on the 2018 effective tax rate was approximately 1.6%. A total Transition Tax obligation to date of $144 million has been recorded, with a corresponding adjustment of $144 million to income tax expense.

The income tax provision for 2018 was $36 million at an effective tax rate of 6.1% compared to $136 million at an effective tax rate of 29.2% in 2017. The 2018 effective tax rate is lower than 2017 primarily due to the impact of an intercompany sale of assets, the reduction of the Transition Tax and the reduction of the U.S. federal corporate rate in 2018, partially offset by the 2017 benefit from the remeasurement of deferred tax assets and liabilities.

See Note 7, "Income Taxes" of our consolidated financial statements for further discussion of the Tax Act.

Other Comprehensive (Loss) Income

Other comprehensive loss was $111 million in 2018 as compared to income of $108 million in 2017. This decrease was primarily driven by unfavorable foreign currency translation impacts due to the weakening of the Euro, Great British Pound, Canadian Dollar, South African rand, Polish Zloty, Swedish Krona, amongst other various currencies, against the U.S. Dollar in the current year versus strengthening for the same period in the prior year. These decreases were partially offset by the favorable impact from movement in our Euro net investment hedges. The tax impact on the movement in the net investment hedges also contributed to the year over year decrease.

2017 versus 2016

Revenue

Revenue generated for 2017 was $4,707 million, an increase of $936 million, or 24.8%, compared to $3,771 million in 2016. On a constant currency basis, revenue grew 23.9%. This increase in revenue was primarily driven by additional revenue of $790 million from acquisitions. There was also strong organic growth of $122 million during the year, driven primarily by North America as well as strength in the emerging markets, particularly in China and India. Additionally, to a lesser extent, Europe contributed to this organic growth despite ongoing weakness in the United Kingdom during the year.

The following table illustrates the impact on 2017 revenue from organic growth, recent acquisitions and divestitures, and foreign currency translation in relation to revenue.

	Water Infrastructure		**Applied Water**		**Measurement & Control Solutions**		**Total Xylem**	
(in millions)	$ Change	% Change	$ Change	% Change	$ Change	% Change	$ Change	% Change
2016 Revenue	$1,932		$1,393		$446		$3,771	
Organic Growth	56	2.9 %	34	2.4 %	32	7.2 %	122	3.2 %
Acquisitions/(Divestitures)	—	— %	(10)	(0.7)%	790	177.1%	780	20.7 %
Constant Currency	56	2.9 %	24	1.7 %	822	184.3%	902	23.9 %
Foreign currency translation (a)	16	0.8 %	4	0.3 %	14	3.1 %	34	0.9 %
Total change in revenue	72	3.7 %	28	2.0 %	836	187.4%	936	24.8 %
2017 Revenue	**$2,004**		**$1,421**		**$1,282**		**$4,707**	

(a) Foreign currency translation impact primarily due to strength in the value of the Euro, Canadian dollar, Russian Ruble, Australian dollar, South African Rand and various other currencies, partially offset by weakness in the British Pound against the U.S. Dollar.

Water Infrastructure

Water Infrastructure's revenue increased $72 million, or 3.7%, in 2017 (2.9% increase on a constant currency basis) compared to 2016. Revenue benefited from $16 million of foreign currency translation for the year and included organic growth of $56 million, or 2.9%.

Organic growth for the year was driven by strength in the industrial end market, and to a lesser extent in the utility end market. The growth in both of these end markets was driven by strength from Asia Pacific and North America.

From an application perspective, organic revenue growth was driven primarily by our transport application. The transport application grew in the industrial end market due to strength in the dewatering business which benefited from the recovery of the industrial construction market, particularly within the distribution channel and recovery of oil and gas and mining markets in North America and Latin America. The transport application also grew in the utility end market driven by increased municipal spending in North America and increased projects in the Middle East and India. Organic revenue from our treatment application also contributed to the segment's growth primarily from growth in China from industrial treatment project deliveries as well as growth in Europe from municipal treatment projects.

Applied Water

Applied Water's revenue increased $28 million, or 2.0%, in 2017 (1.7% increase on a constant currency basis) compared to 2016. Revenue benefited from $4 million of foreign currency translation for the year and the constant currency increase included organic growth of $34 million, or 2.4%.

Organic growth for the year was driven by strength in the residential and commercial end markets in the United States, Asia Pacific and western Europe, which were partially offset by declines in the industrial market.

From an application perspective, growth in residential building services was primarily driven by strength in the United States, where we benefited from the timing of promotions and market share gains, and continued strength in Asia Pacific. Commercial building services also grew, primarily in North America, western Europe and Asia Pacific, driven by new product traction and sales channel investments. This growth was partially offset by a decline in industrial applications, primarily driven by unfavorable weather conditions impacting the agriculture business in the United States, partially offset by strength in western Europe.

Measurement & Control Solutions

Measurement & Control Solutions revenue increased $836 million, or 187.4%, in 2017 (184.3% on a constant currency basis) compared to 2016. The revenue increase for the year was almost entirely from $790 million of revenue related to acquisitions that we did not have in the prior year. Most of the additional revenue contributed by the Sensus business was generated in the United States with additional revenue coming primarily from western Europe and China. The majority of the Sensus business revenue came from water applications with gas and electric applications making up most of the remaining sales for the year.

Organic revenue growth in the Measurement & Control Solutions segment was $32 million, or 7.2%, for the year. Organic growth was driven primarily by growth across all applications, except electric which had slight declines. Much of the organic revenue increase was in the water application, which had increased AMI deployments in North America as well as higher demand for iPerl product in eastern Europe and the Middle East. Organic revenue also increased in the gas application, primarily due to AMI deployments in North America, as well as in the software and services application, primarily driven by a couple of major contract upgrades. The test application also contributed to the increase in organic revenue as a result of strength from the environmental monitoring business in the United States.

Orders/Backlog

	Water Infrastructure		Applied Water		Measurement & Control Solutions		Total Xylem	
(in millions)	$ Change	% Change	$ Change	% Change	$ Change	% Change	$ Change	% Change
2016 Orders	$1,957		$1,405		$462		$3,824	
Organic Growth	139	7.1 %	79	5.6 %	42	9.1 %	260	6.8 %
Acquisitions/(Divestitures)	—	— %	(11)	(0.8)%	762	164.9%	751	19.6 %
Constant Currency	139	7.1 %	68	4.8 %	804	174.0%	1,011	26.4 %
Foreign currency translation (a)	16	0.8 %	3	0.2 %	14	3.0 %	33	0.9 %
Total change in revenue	155	7.9 %	71	5.1 %	818	177.1%	1,044	27.3 %
2017 Orders	**$2,112**		**$1,476**		**$1,280**		**$4,868**	

(a) Foreign currency translation impact primarily due to strength in the value of the Euro, Canadian dollar, Russian Ruble, Australian dollar, South African Rand and various other currencies, partially offset by weakness in the British Pound against the U.S. Dollar.

Orders received during 2017 increased by $1,044 million, or 27.3%, to $4,868 million (26.4% increase on a constant currency basis). The order growth on a constant currency basis was primarily driven by additional orders from recent acquisitions, primarily Sensus, of $762 million. Organic order growth was $260 million, or 6.8%, over the prior year.

Water Infrastructure segment orders increased $155 million, or 7.9%, to $2,112 million (7.1% growth on a constant currency basis). Orders benefited from $16 million of foreign currency translation for the year and included organic growth of $139 million, or 7.1%. The majority of the organic order growth for the segment came from the transport application, driven by the utility sector in the United States, as well as strong project orders in China and India. Additionally, dewatering distributor orders increased driven by storm related activity and the strengthening of the oil and gas markets. Treatment applications also had strong order intake, primarily from projects in the emerging markets, Latin America and North America.

Orders increased in our Applied Water segment by $71 million, or 5.1%, to $1,476 million (4.8% increase on a constant currency basis). The order increase was primarily due to organic order growth of $79 million, or 5.6%, driven by strength in the emerging markets and strong commercial building and industrial performance in North America, which was partially offset by the loss of orders related to divested businesses of $11 million.

Orders increased in our Measurement & Control Solutions segment by $818 million, or 177.1%, to $1,280 million (174.0% growth on a constant currency basis). This increase included orders from recent acquisitions, primarily Sensus, of $762 million and organic order growth of $42 million, or 9.1%, primarily from Sensus order increases in North America for most applications, as well as increased orders from test application strength in the United States and China.

Backlog includes contractual customer commitments as well as orders on hand as of the end of the period. Delivery schedules vary from customer to customer based upon their requirements. Annual or multi-year contracts are subject to rescheduling and cancellation by customers due to the long-term nature of the contracts. As such, beginning total backlog, plus orders, minus revenues will not equal ending total backlog due to contract adjustments, foreign currency fluctuations and other factors. Typically, large projects require longer lead production cycles and deployment schedules, and delays can occur from time to time. Total backlog was $1,513 million at December 31, 2017 and $1,292 million at December 31, 2016, an increase of 17%. The December 31, 2016 backlog balance has been revised to include contractual agreements that Sensus has with customers that do not have minimum commitments but which we believe will be executed upon over the terms of the contracts. This year over year increase in backlog of $221 million is due to strong order growth in the fourth quarter across all of our segments as well as benefits from currency translation impacts. We anticipate that over 60% of our total backlog at December 31, 2017 will be recognized as revenue during 2018.

Gross Margin

Gross margins as a percentage of consolidated revenue increased to 39.2% in 2017 from 38.8% in 2016. The gross margin increase was primarily due to the benefits realized from cost reductions from global procurement and continuous improvement initiatives, as well as a decrease in the inventory step-up charge for Sensus in 2017. These positive impacts on gross margin were partially offset by cost inflation and unfavorable product mix.

Operating Expense

(in millions)	**2017**	2016	Change
Selling, general and administrative expenses	**$1,089**	$914	19.1 %
SG&A as a % of revenue	**23.1 %**	24.2 %	(110)bp
Research and development expenses	**181**	110	64.5 %
R&D as a % of revenue	**3.8 %**	2.9 %	90 bp
Restructuring and asset impairment charges	**25**	30	(16.7)%
Operating expenses	**$1,295**	$1,054	22.9 %
Expense to revenue ratio	**27.5 %**	28.0 %	(50)bp

Selling, General and Administrative Expenses

SG&A increased by $175 million (increase of 19.1%) to 23.1% of revenue in 2017, as compared to 24.2% of revenue in 2016. The increase in SG&A expenses includes approximately $160 million of incremental SG&A spending for the Sensus business that we did not have prior to the acquisition in the fourth quarter of 2016. The remaining increases in SG&A expenses were primarily due to inflation, investments in regional sales channels and operational capabilities and foreign currency impacts, which were partially offset by savings from restructuring and other cost actions.

Research and Development Expenses

R&D spending increased $71 million or 64.5% to 3.8% of revenue in 2017 as compared to 2.9% of revenue in 2016 primarily due to additional R&D spend from our recent acquisitions and investments in new products and technologies.

Restructuring Charges

Restructuring Charges

During 2017, we incurred restructuring costs of $7 million, $8 million and $5 million in our Water Infrastructure, Applied Water and Measurement & Control Solutions segments, respectively. We incurred these charges related to actions taken in 2017 primarily as a continuation of our efforts to reposition our European and North American businesses to optimize our cost structure and improve our operational efficiency and effectiveness. The charges included the reduction of headcount and consolidation of facilities within our Applied Water and Water Infrastructure segments, as well as headcount reductions within our Measurement & Control Solutions segment.

During 2016, we recognized restructuring costs of $12 million, $10 million, $6 million and $2 million in our Water Infrastructure, Applied Water, Measurement & Control Solutions and Corporate, respectively. These charges were incurred primarily in an effort to realign our organizational structure in Europe and North America to optimize our cost structure. The charges relate to the reduction in structural costs, including a decrease in headcount and consolidation of facilities.

The following table presents expected restructuring spend:

(in millions)	Water Infrastructure	Applied Water	Measurement & Control Solutions	Corporate	Total
Actions Commenced in 2017:					
Total expected costs	$ 18	$ 12	$ 3	$ —	$33
Costs incurred during 2017	5	4	2	—	11
Total expected costs remaining	**$ 13**	**$ 8**	**$ 1**	**$ —**	**$22**
Actions Commenced in 2016:					
Total expected costs	$ 13	$ 14	$ 10	$ 2	$39
Costs incurred during 2016	11	10	6	2	29
Costs incurred during 2017	2	4	3	—	9
Total expected costs remaining	**$ —**	**$ —**	**$ 1**	**$ —**	**$1**

The Water Infrastructure, Applied Water, Measurement & Control Solutions, and Corporate actions commenced in 2017 consist primarily of severance charges and are expected to continue through the end of 2018. The Water Infrastructure, Applied Water, Measurement & Control Solutions and Corporate actions commenced in 2016 consist primarily of severance charges and are largely complete. The Water Infrastructure, Applied Water and Measurement & Control Solutions actions commenced in 2015 consist primarily of severance charges and are complete. As a result of these actions initiated in 2017, we achieved savings of approximately $4 million in 2017 and estimate annual future net savings beginning in 2018 of approximately $15 million, resulting in $11 million of incremental savings from the 2017 actions.

Asset Impairment Charges

During the first quarter of 2017 we determined that certain assets within our Applied Water segment, including a tradename, were impaired. Accordingly we recognized an impairment charge of $5 million. Refer to Note 11, "Goodwill and Other Intangible Assets," for additional information.

Operating Income

We generated operating income of $552 million (operating margin of 11.7%) during 2017, reflecting an increase of $144 million, or 35.3%, when compared to operating income of $408 million (operating margin of 10.8%) during the prior year. This increase in operating income was largely driven by the inclusion of Sensus operating income for the full year in 2017. Sensus acquisition related costs and restructuring and realignment costs decreased $31 million and $6 million, respectively, while special charges increased $6 million when compared to the prior year period. Excluding these costs, adjusted operating income was $626 million (adjusted operating margin of 13.3%) for 2017 as compared to $513 million (adjusted operating margin of 13.6%) for 2016. The decrease in adjusted operating margin was mostly due to cost inflation increases, increased spending on strategic investments and Sensus purchase accounting impacts, which were largely offset by cost savings from our global procurement and productivity initiatives and restructuring savings. The non-cash Sensus purchase accounting impact on adjusted operating margin for the year was 50 basis points.

The table below provides a reconciliation of the total and each segment's operating income to adjusted operating income, and a calculation of the corresponding adjusted operating margin:

(In millions)	**2017**	2016	Change
Water Infrastructure			
Operating income	$312	$295	5.8 %
Operating margin	*15.6 %*	*15.3 %*	*30 bp*
Restructuring and realignment costs	16	16	— %
Special charges	—	2	(100.0)%
Adjusted operating income	$328	$313	4.8 %
Adjusted operating margin	*16.4 %*	*16.2 %*	*20 bp*
Applied Water			
Operating income	$194	$188	3.2 %
Operating margin	*13.7 %*	*13.5 %*	*20 bp*
Restructuring and realignment costs	17	16	6.3 %
Special charges	5	—	NM
Adjusted operating income	$216	$204	5.9 %
Adjusted operating margin	*15.2 %*	*14.6 %*	*60 bp*
Measurement & Control Solutions			
Operating income	$110	$—	NM
Operating margin	*8.6 %*	*— %*	NM
Sensus acquisition related costs	15	25	(40.0)%
Restructuring and realignment costs	8	13	(38.5)%
Special charges	—	$3	(100.0)%
Adjusted operating income	$133	$41	224.4 %
Adjusted operating margin	*10.4 %*	*9.2 %*	*120 bp*
Corporate and other			
Operating loss	$(64)	$(75)	(14.7)%
Restructuring and realignment costs	—	2	(100.0)%
Sensus acquisition related costs	7	28	(75.0)%
Special charges	6	—	NM
Adjusted operating loss	$(51)	$(45)	13.3 %
Total Xylem			
Operating income	$552	$408	35.3 %
Operating margin	*11.7 %*	*10.8 %*	*90 bp*
Restructuring and realignment costs	41	47	(12.8)%
Sensus acquisition related costs	22	53	(58.5)%
Special charges	11	5	120.0 %
Adjusted operating income	$626	$513	22.0 %
Adjusted operating margin	*13.3 %*	*13.6 %*	*(30)bp*

NM Not Meaningful

Water Infrastructure
Operating income for our Water Infrastructure segment increased $17 million, or 5.8%, with operating margin also increasing from 15.3% to 15.6%, a 30 basis point increase as compared to the prior year. Operating margin was positively impacted year over year by special charges of $2 million in 2016 that did not recur, while restructuring and realignment costs remained flat. Excluding these items, adjusted operating income increased $15 million, or 4.8%, with adjusted operating margin increasing from 16.2% to 16.4%, a 20 basis point increase as compared to the prior year. The increase in adjusted operating margin was primarily due to cost reductions from global procurement and continuous improvement initiatives as well as restructuring savings and favorable volume. These drivers were partially offset by increases in cost inflation and spending on strategic investments, as well as unfavorable transactional foreign currency impacts.
Applied Water
Operating income for our Applied Water segment increased $6 million, or 3.2%, with operating margin also increasing from 13.5% to 13.7%, a 20 basis point increase as compared to the prior year. Operating margin was negatively impacted by higher special charges for a non-cash impairment of $5 million and a $1 million increase in restructuring and realignment costs. Excluding these items, adjusted operating income increased $12 million, or 5.9%, with adjusted operating margin increasing from 14.6% to 15.2%, an 60 basis point increase as compared to the prior year. The increase in adjusted operating margin was primarily due to cost reductions from global procurement and continuous improvement initiatives and restructuring savings, which were partially offset by increases in cost inflation, unfavorable mix and the impact from the change in accounting for pension costs.
Measurement & Control Solutions
Operating income for our Measurement & Control Solutions segment increased $110 million (operating margin of 8.6%) for the year as compared to operating income and margin of zero in 2016. Operating margin was positively impacted by decreases in Sensus acquisition related costs, restructuring and realignment costs and special charges of $10 million, $5 million and $3 million, respectively. Excluding these items, adjusted operating income increased $92 million, or 224.4%, with most of the increase coming from the inclusion of the incremental adjusted operating income for Sensus in 2017. Adjusted operating margin increased from 9.2% to 10.4%, a 120 basis point increase as compared to the prior year. The increase in adjusted operating margin was primarily due to cost reductions from global procurement and continuous improvement initiatives, restructuring savings and favorable volume impacts. These drivers were partially offset by the inclusion of Sensus margins, which were negatively impacted by purchase accounting. Non-cash Sensus purchase accounting negatively impacted the segment's full year adjusted operating margin by 200 basis points.
Corporate and other
Operating expense for corporate and other decreased $11 million, or 14.7%, compared to the prior year, primarily due to a $21 million decrease in Sensus acquisition related costs and a $2 million decrease in restructuring and realignment costs. This was partially offset by $6 million of special charges incurred during the year which we did not have in the prior year. Excluding these costs, adjusted operating expense increased $6 million compared to the prior year, driven mostly by employee related costs as well as the impact from the change in accounting for pension costs.
Interest Expense
Interest expense was $82 million and $70 million for 2017 and 2016, respectively. The increased interest expense for the year includes additional interest expense in 2017 related to debt entered into in the fourth quarter of 2016 to fund our acquisition of Sensus. The increase in interest expense was partially offset by the reduction in special interest charges incurred in 2016 of $8 million in connection with the early extinguishment of our Senior Notes due in 2016 and $5 million of financing charges on the bridge loan related to the Sensus acquisition, neither of which recurred in 2017, as well as a lower interest rate on the Senior Notes due 2023 which effectively replaced the Senior Notes due in 2016. See Note 14, "Credit Facilities and Debt" of our consolidated financial statements for a description of our credit facilities and

long-term debt and related interest.

Income Tax Expense

The income tax provision for 2017 was $136 million at an effective tax rate of 29.2% compared to $80 million at an effective tax rate of 23.5% in 2016. The 2017 effective tax rate is higher than 2016 due to the provisional one time deemed repatriation transition tax under the newly enacted Tax Cuts and Jobs Act, partially offset by the benefit from the remeasurement of deferred tax assets and liabilities and the release of valuation allowances.

See Note 7, "Income Taxes" of our consolidated financial statements for further discussion of the Tax Act.

Other Comprehensive Income

Other comprehensive income was $108 million in 2017 as compared to an $80 million loss in 2016. This increase was driven primarily by favorable foreign currency translation impacts, primarily due to the strengthening of the Euro, Great British Pound, Chinese Yuan, Polish Zloty, amongst other various currencies, against the U.S. Dollar as compared to the weakening of these same currencies in the prior year. Partially offsetting these favorable movements, was the Euro movement on the Company's net investment hedge as compared to the prior year. The tax impact on the foreign currency translation related to the net investment hedge also contributed to the year over year increase. Finally, year over year movement in foreign currency translation on postretirement benefit plans partially offset the increase in other comprehensive income.

Liquidity and Capital Resources

The following table summarizes our sources and uses of cash:

	Year Ended December 31,		
(in millions)	**2018**	2017	2016
Operating activities	**$586**	$686	$497
Investing activities	**(643)**	(181)	(1,886)
Financing activities	**(40)**	(421)	1,034
Foreign exchange (a)	**(21)**	22	(17)
Total	**$(118)**	$106	$(372)

(a) 2018 impact is primarily due to the weakness of the Chinese Yuan, Argentine Peso, Indian Rupee and various other currencies against the U.S. Dollar. 2017 impact is primarily due to the strengthening of the Euro and the Chinese Yuan against the U.S. Dollar. 2016 impact is primarily due to the weakness of the Euro and the Chinese Yuan against the U.S. dollar.

Sources and Uses of Liquidity

Operating Activities

During 2018, net cash provided by operating activities was $586 million, compared to $686 million in 2017. The $100 million year-over-year decrease was primarily driven by an increased use of working capital for inventory, which was built up at year end to maintain service levels impacted by component shortages as well as to make strategic purchases to manage tariff impacts. Operating cash also decreased during the period as a result of increased receivables from higher growth levels. These negative impacts to operating cash flow were partially offset by increased cash from earnings during the year.

During 2017, net cash provided by operating activities was $686 million, compared to $497 million in 2016. The $189 million year-over-year increase was primarily driven by increased cash from operating activities of the Sensus business acquired in the fourth quarter of 2016 and strong operating cash performance across the rest of the business.

Investing Activities

Cash used in investing activities was $643 million in 2018, compared to $181 million in 2017. This increase of $462 million was primarily driven by the $433 million spent on 2018 acquisitions, primarily the acquisition of Pure Technologies Ltd., versus the $33 million spent for various acquisition activities in the prior year. Spending on capital expenditures also increased by $67 million over the prior year, primarily due to increased spending on software development, building up of the dewatering rental fleet, as well as increased spending on other strategic capital investments to meet increasing demand.

Cash used in investing activities was $181 million in 2017 compared to $1,886 million in 2016. The decrease of $1,705 million was primarily driven by the $1,782 million spent on the acquisition of Sensus and two other businesses in 2016 as compared to the $33 million spent for acquisitions in 2017. This impact is partially offset by increased spending of $46 million over the prior year on capital projects, including spending on capitalized software in the Sensus business.

Financing Activities
Cash used by financing activities was $40 million in 2018, compared to cash used by financing activities of $421 in 2017. The decrease in cash used during the year was primarily due to the net issuance of $335 million in short term debt in the current year, which was largely used for acquisition financing. Additionally, short term debt repaid during the year was $52 million versus $282 million during the prior year period (see Note 14, "Credit Facilities and Long-Term Debt" of our consolidated financial statements for a full discussion of debt activities). These drivers are partially offset by the higher net repayment of $120 million of long-term debt in the current year, an increase in share repurchase activity of $34 million and an increase in dividends paid of $22 million as compared to the prior year.
Cash generated by financing activities was $421 million in 2017, compared to cash generated by financing activities of $1,034 in 2016. In 2017, the net decrease in cash provided was primarily due to the issuance of long-term and short-term debt related to acquisition financing in 2016 versus the net repayment of short-term debt in 2017 (see Note 14, "Credit Facilities and Long-Term Debt" of our consolidated financial statements for a full discussion of debt activities). Also contributing to the decrease in cash generated by financing activities were increased share repurchases and higher dividend payments in 2017.
Funding and Liquidity Strategy
Our ability to fund our capital needs depends on our ongoing ability to generate cash from operations and access to bank financing and the capital markets. Historically, we have generated operating cash flow sufficient to fund our primary cash needs centered on operating activities, working capital, capital expenditures, strategic investments and dividends. If our cash flows from operations are less than we expect, we may need to incur debt or issue equity. From time to time, we may need to access the long-term and short-term capital markets to obtain financing. Our access to, and the availability of, financing on acceptable terms and conditions in the future will be impacted by many factors, including: (i) our credit ratings or absence of a credit rating, (ii) the liquidity of the overall capital markets, and (iii) the current state of the economy. There can be no assurance that such financing will be available to us on acceptable terms or that such financing will be available at all.
We monitor our global funding requirements and seek to meet our liquidity needs on a cost effective basis. Based on our current global cash positions, cash flows from operations and access to the commercial paper markets, we believe there is sufficient liquidity to meet our funding requirements. In addition, our existing committed credit facilities and access to the public debt markets would provide further liquidity if required.
We anticipate that our present sources of funds, including funds from operations and additional borrowings, will provide us with sufficient liquidity and capital resources to meet our liquidity and capital needs in both the United States and outside of the United States over the next twelve months.
Credit Facilities & Long-Term Contractual Commitments
See Note 14, "Credit Facilities and Long-Term Debt" of our consolidated financial statements for a description of our credit facilities and long-term debt.
Non-U.S. Operations
For 2018 and 2017, we generated 53% and 54% of our revenue from non-U.S. operations, respectively. As we continue to grow our operations in the emerging markets and elsewhere outside of the United States, we expect to continue to generate significant revenue from non-U.S. operations and expect that a substantial portion of our cash will be predominately held by our foreign subsidiaries. We expect to manage our worldwide cash requirements considering available funds among the many subsidiaries through which we conduct business and the cost effectiveness with which those funds can be accessed. We may transfer cash from certain international subsidiaries to the U.S. and other international subsidiaries when we believe it is cost effective to do so. We continually review our domestic and foreign cash profile, expected future cash generation and investment opportunities and reassess whether there is a need to repatriate funds held internationally to support our U.S. operations. As of December 31, 2018, we have provided a deferred tax liability of $13 million for net foreign withholding taxes and state income taxes on $1.9 billion expected to be repatriated to the U.S. parent.

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Contractual Obligations

The following table summarizes our contractual commitments as of December 31, 2018:

(in millions)	2019	2020 - 2021	2022 - 2023	Thereafter	Total
Debt and capital lease obligations (1)	$257	$600	$570	$900	$2,327
Interest payments (1) (2)	76	152	93	451	772
Operating lease obligations	76	104	55	64	299
Purchase obligations (3)	154	2	—	—	156
Other long-term obligations reflected on the balance sheet	1	16	17	27	61
Total commitments	$564	$874	$735	$1,442	$3,615

In addition to the amounts presented in the table above, we have recorded liabilities for net investment hedges of $46 million and employee severance indemnity of $16 million. These amounts have been excluded from the contractual obligations table due to an inability to reasonably estimate the timing or amounts of such payments in individual years. Further, benefit payments which reflect expected future service related to the Company's pension and other postretirement employee benefit obligations are presented in Note 15, “Postretirement Benefit Plans” of the consolidated financial statements and deferred income tax liabilities and uncertain tax positions are presented in Note 7, "Income Taxes" of the consolidated financial statements, and as such, these obligations are not included in the above table. Finally, estimated environmental payments and workers' compensation and general liability reserves are excluded from the table above. We estimate, based on historical experience, that we will spend approximately $2 million to $3 million per year on environmental investigation and remediation and approximately $4 million to $5 million per year on workers' compensation and general liability. At December 31, 2018, we had estimated and accrued $4 million and $21 million related to environmental matters, and workers' compensation and general liability, respectively.

(1) Refer to Note 14, “Credit Facilities and Long-Term Debt,” of the consolidated financial statements for discussion of the use and availability of debt and revolving credit agreements. Amounts represent principal payments of short-term and long-term debt including current maturities and exclude unamortized discounts.

(2) Amounts represent estimates of future interest payments on short-term and long-term debt outstanding as of December 31, 2018.

(3) Represents unconditional purchase agreements that are enforceable and legally binding and that specify all significant terms to purchase goods or services, including fixed or minimum quantities to be purchased; fixed, minimum or variable price provisions; and the approximate timing of the transaction. Purchase agreements that are able to cancel without penalty have been excluded.

Off-Balance Sheet Arrangements

As of December 31, 2018, we have issued guarantees for the debt and other obligations of consolidated subsidiaries in the normal course of business. We have determined that none of these arrangements has a material current effect or is reasonably likely to have a material future effect on our consolidated financial statements, financial condition, changes in financial condition, revenues or expenses, liquidity, capital expenditures or capital resources.

We obtain certain stand-by letters of credit, bank guarantees and surety bonds from third-party financial institutions in the ordinary course of business when required under contracts or to satisfy insurance related requirements. As of December 31, 2018, the amount of stand-by letters of credit, bank guarantees and surety bonds was $275 million.

Critical Accounting Estimates

The preparation of financial statements in conformity with GAAP requires management to make estimates and assumptions that affect the reported amounts of assets, liabilities, revenue and expenses, and the disclosure of contingent liabilities. Management bases its estimates on historical experience and on various other assumptions that it believes to be reasonable under the circumstances, the results of which form the basis for making judgments about the carrying values of assets and liabilities that are not readily apparent from other sources.

Significant accounting policies used in the preparation of the Consolidated Financial Statements are discussed in Note 1, “Summary of Significant Accounting Policies,” of the consolidated financial statements. Accounting estimates and assumptions discussed in this section are those that we consider most critical to an understanding of our financial statements because they are inherently uncertain, involve significant judgments, include areas where different estimates reasonably could have been used, and changes in the estimate that are reasonably possible could materially impact the financial statements. Management believes that the accounting estimates employed and the resulting balances are reasonable; however, actual results in these areas could differ from management's estimates under different assumptions or conditions.

Revenue Recognition. As discussed in Note 2, "Recently Issued Accounting Pronouncements", Xylem adopted the new guidance on recognizing revenue from contracts with customers as of January 1, 2018. In accordance with this new guidance Xylem recognizes revenue in a manner that depicts the transfer of promised goods and services to customers in an amount that reflects the consideration to which it expects to be entitled to for providing those goods and services. For each arrangement with a customer, we identify the contract, the associated performance obligations within the contract, determine the transaction price of that contract, allocate the transaction price to each performance obligation and recognize revenue as each performance obligation is satisfied.

The satisfaction of performance obligations in a contract is based upon when the customer obtains control over the asset. Depending on the nature of the performance obligation, control transfers either at a particular point in time, or over time which determines the recognition pattern of revenue.

For product sales, other than long-term construction-type contracts, we recognize revenue once control has passed at a point in time, which is generally when products are shipped. In instances where contractual terms include a provision for customer acceptance, revenue is recognized when either (i) we have previously demonstrated that the product meets the specified criteria based on either seller or customer specified objective criteria or (ii) upon formal acceptance received from the customer where the product has not been previously demonstrated to meet customer specified objective criteria. We recognize revenue on product sales to channel partners, including resellers, distributors or value-added solution providers at the point in time when the risks and rewards, possession, and title have transferred to the customer, which usually occurs at the point of delivery.

Revenue from performance obligations related to services is recognized over time, as the performance obligations are satisfied. In these instances, the customer consumes the benefit of the service as Xylem performs.

Certain businesses also enter into long-term construction-type sales contracts where revenue is recognized over time. In these instances, revenue is recognized using a measure of progress that applies an input method based on costs incurred in relation to total estimated costs. We also recognize revenue for certain of these arrangements using the output method and measure progress based on shipments of product where control has transferred to the customer.

For all contracts with customers, we determine the transaction price in the arrangement and allocate the transaction price to each performance obligation identified in the contract. Judgment is required to determine the appropriate unit of account, and we separate out the performance obligations if they are capable of being distinct and if they are distinct within the context of the contract. The transaction price is adjusted for our estimate of variable consideration which may include a right of return, discounts, rebates, penalties and retainage. To estimate variable consideration, we apply the expected value or the most likely amount method, based on whichever method most appropriately predicts the amount of consideration we expect to be entitled to. The method applied is typically based on historical experience and known trends. We constrain the amounts of variable consideration that are included in the transaction price, to the extent that it is probable that a significant reversal in the amount of cumulative revenue recognized will not occur or when uncertainties around the variable consideration are resolved.

The adoption of the new revenue guidance did not provide materially different results from historical revenue guidance.

Income Taxes. Deferred tax assets and liabilities are determined based on temporary differences between the financial reporting and tax bases of assets and liabilities, applying enacted tax rates in effect for the year in which we expect the differences will reverse. Based on the evaluation of available evidence, we recognize future tax benefits, such as net operating loss carryforwards, to the extent that we believe it is more likely than not we will realize these benefits. We periodically assess the likelihood that we will be able to recover our deferred tax assets and reflect any changes to our estimate of the amount we are more likely than not to realize in the valuation allowance, with a corresponding adjustment to earnings or other comprehensive income, as appropriate.

In assessing the need for a valuation allowance, we look to the future reversal of existing taxable temporary differences, taxable income in carryback years and the feasibility of tax planning strategies and estimated future taxable income. The valuation allowance can be affected by changes to tax laws, changes to statutory tax rates and changes to future taxable income estimates.

Due to the Tax Act, we have recorded net foreign withholding taxes and state income taxes on earnings that are expected to be repatriated to the U.S. parent. We have not recorded any deferred taxes on the amounts that the Company currently does not intend to repatriate as the determination of any deferred taxes on this amount is not practicable.

The calculation of our tax liabilities involves dealing with uncertainties in the application of complex tax regulations in a multitude of jurisdictions across our global operations. We recognize potential liabilities and record tax liabilities for anticipated tax audit issues in the U.S. and other tax jurisdictions based on our estimate of whether, and to the extent to which, additional taxes will be due. Furthermore, we recognize the tax benefit from an uncertain tax position only if it is more likely than not that the tax position will be sustained on examination by the taxing authorities or litigation, based on the technical merits of the position. The tax benefits recognized in the financial statements from such a position are measured based on the largest benefit that has a greater than 50% likelihood of being realized upon ultimate resolution.

We adjust our liability for uncertain tax positions in light of changing facts and circumstances; however, due to the complexity of some of these uncertainties, the ultimate resolution may result in a payment that is materially different from our current estimate of the tax liabilities. If our estimate of tax liabilities proves to be less than the ultimate assessment, an additional tax expense would result. If a payment of these amounts ultimately proves to be less than the recorded amounts, the reversal of the liabilities would result in tax benefits being recognized in the period when we determine the liabilities are no longer necessary.

Business Combinations. We record acquisitions using the purchase method of accounting. All of the assets acquired, liabilities assumed, contractual contingencies and contingent consideration is recorded at fair value as of the acquisition date. The excess of the purchase price over the estimated fair values of the net tangible and intangible assets acquired is recorded as goodwill. The application of the purchase method of accounting for business combinations requires management to make significant estimates and assumptions in the determination of the fair value of assets acquired and liabilities assumed, in order to properly allocate purchase price consideration between assets that are depreciated and amortized from goodwill. These assumptions and estimates include a market participant’s use of the asset and the appropriate discount rates for a market participant. Our estimates are based on historical experience, information obtained from the management of the acquired companies and, when appropriate, includes assistance from independent third-party appraisal firms. Significant assumptions and estimates include, but are not limited to, the cash flows that an asset is expected to generate in the future, the cost to build/recreate certain technology, the appropriate weighted-average cost of capital, and the cost savings expected to be derived from acquiring an asset. These estimates are inherently uncertain and unpredictable. In addition, unanticipated events and circumstances may occur which may affect the accuracy or validity of such estimates.

Goodwill and Intangible Assets. We review goodwill and indefinite-lived intangible assets for impairment annually and whenever events or changes in circumstances indicate the carrying value of an asset may not be recoverable. We also review the carrying value of our finite-lived intangible assets for potential impairment when impairment indicators arise. We conduct our annual impairment test as of the first day of the fourth quarter. For goodwill, the estimated fair value of each reporting unit is compared to the carrying value of the net assets assigned to that reporting unit. If the estimated fair value of the reporting unit exceeds its carrying value, goodwill is not impaired. If the carrying value of the reporting unit exceeds its estimated fair value, then an impairment charge is recognized for that excess up to the amount of recorded goodwill. We estimate the fair value of our reporting units using an income approach. We estimate the fair value of our intangible assets with indefinite lives using either the income approach or the market approach. Under the income approach, we calculate fair value based on the present value of estimated future cash flows. Under the market approach, we calculate fair value based on recent sales and selling prices of similar assets.

Determining the fair value of a reporting unit or an indefinite-lived intangible asset is judgmental in nature and involves the use of significant estimates and assumptions, particularly related to future operating results and cash flows. These estimates and assumptions include, but are not limited to, revenue growth rates and operating margins used to calculate projected future cash flows, risk-adjusted discount rates, assumed royalty rates, future economic and market conditions and identification of appropriate market comparable data. In addition, the identification of reporting units and the allocation of assets and liabilities to the reporting units when determining the carrying value of each reporting unit also require judgment. Goodwill is tested for impairment at either the operating segment identified in Note 21, “Segment and Geographic Data,” of the consolidated financial statements, or one level below. The fair value of our reporting units and indefinite-lived intangible assets is based on estimates and assumptions that are believed to be reasonable. Significant changes to these estimates and assumptions could adversely impact our conclusions. Actual future results may differ from those estimates.

During the fourth quarter of 2018, we performed our annual impairment assessment and determined that the estimated fair values of our goodwill reporting units were in excess of their carrying values. Future goodwill impairment tests could result in a charge to earnings. Our AIA business within our Measurement & Control Solutions segment was the only goodwill reporting unit whose fair value was not substantially in excess of its carrying value. The majority of this business was purchased during 2018 and was recorded at fair value in Xylem’s financial statements. As a result, our 2018 assessment indicated that the fair value of the AIA business exceeded its carrying value by less than 10%. The goodwill associated with the AIA business was $290 million at December 31, 2018. We will continue to evaluate goodwill on an annual basis as of the beginning of our fourth quarter and whenever events and changes in circumstances require us to do so.

We determined that no impairment of the indefinite-lived intangibles existed as of the measurement date in 2018. However, future indefinite-lived intangible impairment tests could result in a charge to earnings. We will continue to evaluate indefinite-lived intangibles on an annual basis as of the beginning of our fourth quarter and whenever events and changes in circumstances indicate there may be a potential impairment.

Contingent Liabilities. As discussed in Note 19, "Commitments and Contingencies" of the consolidated financial statements, the Company is, from time to time, involved in legal and regulatory proceedings that are incidental to the operation of our businesses (or the business operations of previously owned entities). The Company recognizes a liability for any contingency that is known or probable of occurrence and reasonably estimable. These assessments require judgments concerning matters such as litigation developments and outcomes, the anticipated outcome of negotiations, the number of future claims and the cost of both pending and future claims. In addition, because most contingencies are resolved over long periods of time, liabilities may change in the future due to various factors, including those discussed in Note 19 of the consolidated financial statements. If the liabilities established by the Company with respect to these contingencies are inadequate, the Company would be required to incur an expense equal to the amount of the loss incurred in excess of the recorded liability, which would adversely affect the Company’s financial statements.

Receivables and Allowance for Doubtful Accounts and Discounts. Receivables primarily comprise uncollected amounts owed to us from transactions with customers and are presented net of allowances for doubtful accounts and early payment discounts.

We determine our allowance for doubtful accounts using a combination of factors to reduce our trade receivable balances to their estimated net realizable amount. We maintain an allowance for doubtful accounts based on a variety of factors, including the length of time receivables are past due, macroeconomic trends and conditions, significant one-time events, historical experience and the financial condition of customers. In addition, we record a specific reserve for individual accounts when we become aware of specific customer circumstances, such as in the case of bankruptcy filings or deterioration in the customer’s operating results or financial position. The past due or delinquency status of a receivable is based on the contractual payment terms of the receivable. If circumstances related to the specific customer change, we adjust estimates of the recoverability of receivables as appropriate. We determine our allowance for early payment discounts primarily based on historical experience with customers.

Credit risk with respect to accounts receivable is generally diversified due to the large number of entities comprising our customer base and their dispersion across many different geographical regions. We perform ongoing credit evaluations of the financial condition of our third-party distributors, resellers and other customers and require collateral, such as letters of credit and bank guarantees, in certain circumstances. As of December 31, 2018 and 2017 we do not believe we have any significant concentrations of credit risk.

Postretirement Plans. Company employees around the world participate in numerous defined benefit plans. The determination of projected benefit obligations and the recognition of expenses related to these plans are dependent on various assumptions. These major assumptions primarily relate to discount rates, expected long-term rates of return on plan assets, rate of future compensation increases, mortality, health care inflation and years of service (some of which are disclosed in Note 15, “Postretirement Benefit Plans,” of the consolidated financial statements) and other factors. Actual results that differ from our assumptions are accumulated and amortized on a straight-line basis only to the extent they exceed 10% of the higher of the market-related value or projected benefit obligation, over the average remaining service period of active plan participants, or for plans with all or substantially all inactive participants, over the average remaining life expectancy.

Significant Assumptions

Management develops each assumption using relevant Company experience, in conjunction with market-related data for each individual country in which such plans exist. All assumptions are reviewed annually with third-party consultants and adjusted as necessary. The table included below provides the weighted average assumptions used to estimate our defined benefit pension obligations and costs as of and for the years ended 2018 and 2017.

	2018		**2017**	
	U.S.	**Int'l**	**U.S.**	**Int'l**
Benefit Obligation Assumptions				
Discount rate	**4.50%**	**2.60%**	3.75%	2.43%
Rate of future compensation increase	**NM**	**2.92%**	NM	2.93%
Net Periodic Benefit Cost Assumptions				
Discount rate	**3.75%**	**2.43%**	4.25%	2.63%
Expected long-term return on plan assets	**8.00%**	**7.23%**	8.00%	7.20%
Rate of future compensation increase	**NM**	**2.93%**	NM	2.76%

NM Not meaningful. The pension benefits for future service for all the U.S. pension plans are based on years of service and not impacted by future compensation increases.

We determine the expected long-term rate of return on plan assets by evaluating both historical returns and estimates of future returns. Specifically, the Company analyzes the estimated future returns based on independent estimates of asset class returns and evaluates historical broad market returns over long-term timeframes based on the strategic asset allocation, which is detailed in Note 15, “Postretirement Benefit Plans,” of the consolidated financial statements.

Based on the approach described above, the chart below shows weighted average actual returns versus the weighted average expected long-term rates of return for our pension plans that were utilized in the calculation of the net periodic pension cost for each respective year.

	2018	**2017**	**2016**
Expected long-term rate of return on plan assets	**7.34 %**	7.30%	7.32 %
Actual rate of return on plan assets	**(3.85)%**	5.70%	12.20%

For the recognition of net periodic pension cost, the calculation of the expected return on plan assets is generally derived by applying the expected long-term rate of return to the market-related value of plan assets. The market-related value of plan assets is based on average asset values at the measurement date over the last five years. The use of fair value, rather than a calculated value, could materially affect net periodic pension cost. The weighted average expected long-term rate of return for all of our plan assets to be used in determining net periodic benefit costs for 2019 is estimated at 7.09%. We estimate that every 25 basis point change in the expected return on plan assets impacts the expense by $1 million.

The discount rate reflects our expectation of the present value of expected future cash payments for benefits at the measurement date. A decrease in the discount rate increases the present value of benefit obligations and increases pension expense. We base the discount rate assumption on current investment yields of high-quality fixed income investments during the retirement benefits maturity period. The pension discount rate was determined by considering an interest rate yield curve comprising AAA/AA bonds, with maturities between zero and 30 years, developed by the plan’s actuaries. Annual benefit payments are then discounted to present value using this yield curve to develop a single-point discount rate matching the plan’s characteristics. Our weighted average discount rate for all pension plans effective January 1,2019, is 2.82%. We estimate that every 25 basis point change in the discount rate impacts the expense by $1 million.

The rate of future compensation increase assumption reflects our long-term actual experience and future and near-term outlook. Effective January 1, 2019, our expected rate of future compensation is 3.02% for all pension plans. The estimated impact of a 25 basis point change in the expected rate of future compensation is less than $1 million.

The assumed rate of future increases in the per capita cost of health care (the health care trend rate) is 8.24% for 2019, decreasing ratably to 4.48% in 2027. An increase or decrease in the health care trend rates by one percent per year would impact the aggregate annual service and interest components by less than $1 million, and impact the benefit obligation by approximately $3 million.
We currently anticipate making contributions to our pension and postretirement benefit plans in the range of $15

million to $25 million during 2019, of which $5 million is expected to be made in the first quarter.

Funded Status

Funded status is derived by subtracting the respective year-end values of the projected benefit obligations from the fair value of plan assets. We estimate that every 25 basis point change in the discount rate impacts the funded status by approximately $29 million.

Fair Value of Plan Assets

The plan assets of our pension plans comprise a broad range of investments, including domestic and foreign equity securities, interests in private equity and hedge funds, fixed income investments, insurance contracts, and cash and cash equivalents.

A portion of our pension benefit plan assets portfolio comprises investments in private equity and hedge funds. The private equity and hedge fund investments are generally measured at net asset value. However, in certain instances, the values reported by the asset managers were not current at the measurement date. Accordingly, we made estimate adjustments to the last reported value where necessary to measure the assets at fair value at the measurement date. These adjustments consider information received from the asset managers, as well as general market information. The adjustment recorded at December 31, 2018 and 2017 for these assets represented less than one percent of total plan assets in each respective year. Asset values for other positions were generally measured using market observable prices. We estimate that a 5% change in asset values will impact funded status by approximately $26 million.

New Accounting Pronouncements

See Note 2, “Recently Issued Accounting Pronouncements,” of the consolidated financial statements for a complete discussion of recent accounting pronouncements.

ITEM 7A. QUANTITATIVE AND QUALITATIVE DISCLOSURES ABOUT MARKET RISK

We are exposed to market risk, primarily related to foreign currency exchange rates and interest rates. These exposures are actively monitored by management. Our exposure to foreign exchange rate risk is due to certain costs, revenue and borrowings being denominated in currencies other than one of our subsidiaries functional currency. Similarly, we are exposed to market risk as the result of changes in interest rates which may affect the cost of our financing. It is our policy and practice to use derivative financial instruments only to the extent necessary to manage exposures.

Foreign Currency Exchange Rate Risk

We conduct approximately 53% of our business in various locations outside the United States.

Our economic foreign currency risk primarily relates to receipts from customers, payments to suppliers and intercompany transactions denominated in foreign currencies. We may use derivative financial instruments to offset risk related to receipts from customers and payments to suppliers, when it is believed that the exposure will not be limited by our normal operating and financing activities. We enter into currency forward contracts periodically in order to manage the exchange rate fluctuation risk on certain intercompany transactions associated with third party sales and purchases. These risks are also mitigated by natural hedges including the presence of manufacturing facilities outside the United States, global sourcing and other spending which occurs in foreign countries. Our principal foreign currency transaction exposures primarily relate to the Euro, Swedish Krona, Polish Zloty, Canadian Dollar, British Pound, and Australian Dollar. We estimate that a hypothetical 10% movement in foreign currency exchange rates would not have a material economic impact to Xylem’s financial position and results of operations.

Additionally, we are subject to foreign exchange translation risk due to changes in the value of foreign currencies in relation to our reporting currency, the U.S. Dollar. The translation risk is primarily concentrated in the exchange rate between the U.S. Dollar and the Euro, Chinese Yuan, British Pound, Canadian Dollar, Swedish Krona and Australian Dollar. As the U.S. Dollar strengthens against other currencies in which we transact business, revenue and income will generally be negatively impacted, and if the U.S. Dollar weakens, revenue and income will generally be positively impacted. We expect to continue to generate significant revenue from non-U.S. operations and we expect our cash will be predominately held by our foreign subsidiaries. We expect to manage our worldwide cash requirements considering available funds among the many subsidiaries through which we conduct business and the cost effectiveness with which those funds can be accessed. We may transfer cash from certain international subsidiaries to the U.S. and other international subsidiaries when it is cost effective to do so, though we continually review our domestic and foreign cash profile, expected future cash generation and investment opportunities and reassess whether there is a need to repatriate funds held internationally to support our U.S. operations. We also hedge our investment in certain foreign subsidiaries via the use of cross currency swaps and the designation of our 2.25% Senior Notes of €500 million aggregate principal amount due March 2023 as a net investment hedge. Accordingly, we estimate that a 10% movement of the U.S. Dollar to various foreign currency exchange rates we translate from, in aggregate would not have a material economic impact on our financial position and results of operations.

Effective July 1, 2018, Argentina was determined to be a highly inflationary economy, and as such we evaluated the impact of revaluing our monetary assets and liabilities under the applicable guidance and do not expect it to have a material impact.

Interest Rate Risk

As of December 31, 2018, our long-term debt portfolio is primarily comprised of four series of fixed-rate senior notes that total $2.1 billion. The senior notes are not exposed to interest rate risk as the bonds are at a fixed rate until maturity. Based on current interest rate market we do not anticipate material risk associated with our debt refinancing within the target time frame of completion.

Commodity Price Exposures

For a discussion of risks relating to commodity prices, refer to “Item 1A. Risk Factors.”

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ITEM 8. FINANCIAL STATEMENTS AND SUPPLEMENTARY DATA
INDEX TO CONSOLIDATED FINANCIAL STATEMENTS

REPORT OF INDEPENDENT REGISTERED PUBLIC ACCOUNTING FIRM

To the Stockholders and Board of Directors of
Xylem Inc.
Rye Brook, New York

Opinion on the Financial Statements

We have audited the accompanying consolidated balance sheets of Xylem Inc. and subsidiaries (the "Company") as of December 31, 2018 and 2017, the related consolidated statements of income, comprehensive income, stockholders’ equity, and cash flows, for each of the three years in the period ended December 31, 2018, and the related notes (collectively referred to as the "financial statements"). In our opinion, the financial statements present fairly, in all material respects, the financial position of the Company as of December 31, 2018 and 2017, and the results of its operations and its cash flows for each of the three years in the period ended December 31, 2018, in conformity with accounting principles generally accepted in the United States of America.

We have also audited, in accordance with the standards of the Public Company Accounting Oversight Board (United States) (PCAOB), the Company's internal control over financial reporting as of December 31, 2018, based on criteria established in *Internal Control - Integrated Framework (2013)* issued by the Committee of Sponsoring Organizations of the Treadway Commission and our report dated February 22, 2019, expressed an unqualified opinion on the Company's internal control over financial reporting.

Basis for Opinion

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

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

/s/ Deloitte & Touche LLP
Stamford, Connecticut
February 22, 2019
We have served as the Company's auditor since 2010.

XYLEM INC. AND SUBSIDIARIES
CONSOLIDATED INCOME STATEMENTS
(In Millions, except per share data)

Year Ended December 31,	**2018**	2017	2016
Revenue	**$5,207**	$4,707	$3,771
Cost of revenue	**3,181**	2,860	2,309
Gross profit	**2,026**	1,847	1,462
Selling, general and administrative expenses	**1,161**	1,089	914
Research and development expenses	**189**	181	110
Restructuring and asset impairment charges	**22**	25	30
Operating income	**654**	552	408
Interest expense	**82**	82	70
Other non-operating income, net	**13**	6	2
(Loss)/gain on sale of businesses	**—**	(10)	—
Income before taxes	**585**	466	340
Income tax expense	**36**	136	80
Net income	**549**	330	260
Less: Net loss attributable to non-controlling interests	**—**	(1)	—
Net income attributable to Xylem	**$549**	$331	$260
Earnings per share:			
Basic	**$3.05**	$1.84	$1.45
Diluted	**$3.03**	$1.83	$1.45
Weighted average number of shares:			
Basic	**179.8**	179.6	179.1
Diluted	**181.1**	180.9	180.0
Dividends declared per share	**$0.8400**	$0.7200	$0.6196

See accompanying notes to consolidated financial statements.

XYLEM INC. AND SUBSIDIARIES
CONSOLIDATED STATEMENTS OF COMPREHENSIVE INCOME
(In Millions)

Year Ended December 31,	**2018**	2017	2016
Net income	**$549**	$330	$260
Other comprehensive (loss) income, before tax:			
Foreign currency translation adjustment	**(85)**	79	(65)
Net change in derivative hedge agreements:			
Unrealized (loss) gain	**(8)**	9	—
Amount of loss (gain) reclassified into net income	**4**	(5)	(2)
Net change in postretirement benefit plans:			
Net loss	**(37)**	(19)	(20)
Prior service credit	**—**	1	1
Amortization of prior service credit cost	**(4)**	(3)	(3)
Amortization of net actuarial loss into net income	**13**	13	13
Settlement	**1**	1	—
Foreign currency translation adjustment	**15**	(18)	19
Other comprehensive (loss) income, before tax	**(101)**	58	(57)
Income tax expense (benefit) related to other comprehensive loss	**10**	(50)	23
Other comprehensive (loss) income, net of tax	**(111)**	108	(80)
Comprehensive income	**$438**	$438	$180
Less: comprehensive loss attributable to noncontrolling interests	**(2)**	—	—
Comprehensive income attributable to Xylem	**$440**	**$438**	**$180**

See accompanying notes to consolidated financial statements.

XYLEM INC. AND SUBSIDIARIES
CONSOLIDATED BALANCE SHEETS
(In Millions, except per share amounts)

December 31,	**2018**	2017
ASSETS		
Current assets:		
Cash and cash equivalents	**$296**	$414
Receivables, less allowances for discounts, returns and doubtful accounts of $35 and $35 in 2018 and 2017, respectively	**1,031**	956
Inventories	**595**	524
Prepaid and other current assets	**172**	177
Total current assets	**2,094**	2,071
Property, plant and equipment, net	**656**	643
Goodwill	**2,976**	2,768
Other intangible assets, net	**1,232**	1,168
Other non-current assets	**264**	210
Total assets	**$7,222**	$6,860
LIABILITIES AND STOCKHOLDERS' EQUITY		
Current liabilities:		
Accounts payable	**$586**	$549
Accrued and other current liabilities	**546**	551
Short-term borrowings and current maturities of long-term debt	**257**	—
Total current liabilities	**1,389**	1,100
Long-term debt, net	**2,051**	2,200
Accrued postretirement benefits	**400**	442
Deferred income tax liabilities	**303**	252
Other non-current accrued liabilities	**297**	347
Total liabilities	**4,440**	4,341
Commitment and Contingencies (Note 19)		
Stockholders' equity:		
Common stock — par value $0.01 per share:		
Authorized 750.0 shares, issued 192.9 and 192.3 shares in 2018 and 2017, respectively	**2**	2
Capital in excess of par value	**1,950**	1,912
Retained earnings	**1,639**	1,227
Treasury stock – at cost 13.2 shares and 12.4 shares in 2018 and 2017, respectively	**(487)**	(428)
Accumulated other comprehensive loss	**(336)**	(210)
Total stockholders' equity	**2,768**	2,503
Non-controlling interest	**14**	16
Total equity	**2,782**	2,519
Total liabilities and stockholders' equity	**$7,222**	$6,860

See accompanying notes to consolidated financial statements.

XYLEM INC. AND SUBSIDIARIES
CONSOLIDATED STATEMENTS OF CASH FLOWS (In Millions)

Year Ended December 31,	**2018**	2017	2016
Operating Activities			
Net income	**$549**	$330	$260
Adjustments to reconcile net income to net cash provided by operating activities:			
Depreciation	**117**	109	87
Amortization	**144**	125	64
Deferred income taxes	**(47)**	(33)	14
Share-based compensation	**30**	21	18
Restructuring and asset impairment charges	**22**	25	30
Loss/(gain) from sale of businesses	**—**	10	—
Other, net	**9**	19	6
Payments for restructuring	**(21)**	(28)	(16)
Contributions to postretirement benefit plans	**(41)**	(33)	(27)
Changes in assets and liabilities (net of acquisitions):			
Changes in receivables	**(103)**	(79)	(6)
Changes in inventories	**(97)**	27	(15)
Changes in accounts payable	**51**	50	61
Changes in accrued liabilities	**(6)**	28	13
Changes in accrued taxes	**—**	104	(13)
Net changes in other assets and liabilities	**(21)**	11	21
Net Cash — Operating activities	**586**	686	497
Investing Activities			
Capital expenditures	**(237)**	(170)	(124)
Proceeds from the sale of property, plant and equipment	**—**	1	1
Acquisitions of businesses and assets, net of cash acquired	**(433)**	(33)	(1,782)
Proceeds from sale of businesses	**22**	16	—
Cash received from investments	**11**	10	—
Cash paid for investments	**(11)**	(11)	—
Other, net	**5**	6	19
Net Cash — Investing activities	**(643)**	(181)	(1,886)
Financing Activities			
Short-term debt issued	**335**	—	274
Short-term debt repaid, net	**(52)**	(282)	(80)
Long-term debt issued, net	**1**	—	1,540
Long-term debt repaid	**(120)**	—	(608)
Repurchase of common stock	**(59)**	(25)	(4)
Proceeds from exercise of employee stock options	**7**	16	24
Dividends paid	**(152)**	(130)	(112)
Other, net	**—**	—	—
Net Cash — Financing activities	**(40)**	(421)	1,034
Effect of exchange rate changes on cash	**(21)**	22	(17)
Net change in cash and cash equivalents	**(118)**	106	(372)
Cash and cash equivalents at beginning of year	**414**	308	680
Cash and cash equivalents at end of year	**$296**	$414	$308
Supplemental disclosure of cash flow information:			
Cash paid during the year for:			
Interest	**$78**	$78	$49
Income taxes (net of refunds received)	**$75**	$57	$78

See accompanying notes to consolidated financial statements.

XYLEM INC. AND SUBSIDIARIES
CONSOLIDATED STATEMENTS OF CHANGES IN STOCKHOLDERS' EQUITY
(In Millions, except per share amounts)

	Common Stock	Capital in Excess of Par Value	Retained Earnings	Accumulated Other Comprehensive Income (Loss)	Treasury Stock	Non-Controlling Interest	**Total**
Balance at December 31, 2015	$ 2	$ 1,834	$ 885	$ (238)	$ (399)	$ —	$ 2,084
Net income			260				260
Other comprehensive loss, net				(80)			(80)
Dividends declared ($0.6196 per share)			(112)				(112)
Stock incentive plan activity		42					42
Repurchase of common stock					(4)		(4)
Acquisition activity						$ 17	$ 17
Balance at December 31, 2016	$ 2	$ 1,876	$ 1,033	$ (318)	$ (403)	$ 17	$ 2,207
Cumulative effect of change in accounting principle			(7)				(7)
Net income			331			(1)	330
Other comprehensive income, net				108			108
Dividends declared ($.72 per share)			(130)				(130)
Stock incentive plan activity		36			(5)		31
Repurchase of common stock					(20)		(20)
Balance at December 31, 2017	$ 2	$ 1,912	$ 1,227	$ (210)	$ (428)	$ 16	$ 2,519
Cumulative effect of change in accounting principle			**14**	**(17)**			**(3)**
Net income			**549**				**549**
Other comprehensive loss, net				**(109)**		**(2)**	**(111)**
Dividends declared ($.84 per share)			**(151)**				**(151)**
Stock incentive plan activity		**38**			**(9)**		**29**
Repurchase of common stock					**(50)**		**(50)**
Balance at December 31, 2018	**$ 2**	**$ 1,950**	**$ 1,639**	**$ (336)**	**$ (487)**	**$ 14**	**$ 2,782**

See accompanying notes to consolidated financial statements.

XYLEM INC. AND SUBSIDIARIES
NOTES TO CONSOLIDATED FINANCIAL STATEMENTS

Note 1. Summary of Significant Accounting Policies

Xylem Inc. (“Xylem” or the “Company”) is a leading equipment and service provider for water and wastewater applications with a broad portfolio of products and services addressing the full cycle of water, from collection, distribution and use to the return of water to the environment.

Xylem operates in three segments, Water Infrastructure, Applied Water and Measurement & Control Solutions. The Water Infrastructure segment focuses on the transportation and treatment of water, offering a range of products including water and wastewater pumps, treatment equipment, and controls and systems. The Applied Water segment serves many of the primary uses of water and focuses on the residential, commercial and industrial markets. The Applied Water segment’s major products include pumps, valves, heat exchangers, controls and dispensing equipment. The Measurement & Control Solutions segment focuses on developing advanced technology solutions that enable intelligent use and conservation of critical water and energy resources as well as analytical instrumentation used in the testing of water. The Measurement & Control Solutions segment's major products include smart metering, networked communications, measurement and control technologies, critical infrastructure technologies, software and services including cloud-based analytics, remote monitoring and data management, leak detection and pressure monitoring solutions and testing equipment.

On October 31, 2011 (the "Distribution Date"), ITT Corporation (“ITT”) completed the Spin-off (the “Spin-off”) of Xylem, formerly ITT’s water equipment and services businesses. The Spin-off was completed pursuant to the Distribution Agreement, dated as of October 25, 2011 (the “Distribution Agreement”), among ITT (now ITT LLC), Exelis Inc., acquired by Harris Inc. on May 29, 2015, (“Exelis”) and Xylem. Xylem Inc. was incorporated in Indiana on May 4, 2011 in connection with the Spin-off.

Hereinafter, except as otherwise indicated or unless the context otherwise requires, “Xylem,” “we,” “us,” “our” and “the Company” refer to Xylem Inc. and its subsidiaries. References in the notes to the consolidated financial statements to “ITT” or “ former parent” refers to ITT Corporation (now ITT LLC) and its consolidated subsidiaries (other than Xylem Inc.).

Basis of Presentation

The consolidated financial statements reflect our financial position and results of operations in conformity with accounting principles generally accepted in the United States of America (“GAAP”). All intercompany transactions between our businesses have been eliminated.

Use of Estimates

The preparation of financial statements in conformity with GAAP requires management to make estimates and assumptions that affect the reported amounts of assets and liabilities, the disclosure of contingent assets and liabilities at the date of the financial statements, and the reported amounts of revenue and expenses during the reporting period. Estimates are revised as additional information becomes available. Estimates and assumptions are used for, but not limited to, postretirement obligations and assets, revenue recognition, income tax contingency accruals and valuation allowances, valuation of intangible assets, goodwill and indefinite lived intangible impairment testing and contingent liabilities. Actual results could differ from these estimates.

Consolidation Principles

We consolidate companies in which we have a controlling financial interest or when Xylem is considered the primary beneficiary of a variable interest entity. We account for investments in companies over which we have the ability to exercise significant influence but do not hold a controlling financial interest under the equity method, and we record our proportionate share of income or losses in the Consolidated Income Statements. Equity method investments are reviewed for impairment when events or circumstances indicate the investment may be other than temporarily impaired. This requires significant judgment, including an assessment of the investee’s financial condition, the possibility of subsequent rounds of financing, and the investee’s historical and projected results of operations. If the actual results of operations for the investee are significantly different from projections, we may incur future charges for the impairment of these investments.

Foreign Currency Translation
The national currencies of our foreign companies are generally the functional currencies. Balance sheet accounts are translated at the exchange rate in effect at the end of each period; income statement accounts are translated at the average rates of exchange prevailing during the period. Gains and losses on foreign currency translations are reflected in the cumulative translation adjustments component of stockholders' equity. Net gains or losses from foreign currency transactions are reported currently in selling, general and administrative expenses.

Revenue Recognition
As discussed in Note 2, "Recently Issued Accounting Pronouncements", Xylem adopted the new guidance on recognizing revenue from contracts with customers as of January 1, 2018. In accordance with this new guidance Xylem recognizes revenue in a manner that depicts the transfer of promised goods and services to customers in an amount that reflects the consideration to which it expects to be entitled to for providing those goods and services. For each arrangement with a customer, we identify the contract, the associated performance obligations within the contract, determine the transaction price of that contract, allocate the transaction price to each performance obligation and recognize revenue as each performance obligation is satisfied.

The satisfaction of performance obligations in a contract is based upon when the customer obtains control over the asset. Depending on the nature of the performance obligation, control transfers either at a particular point in time, or over time which determines the recognition pattern of revenue.

For product sales, other than long-term construction-type contracts, we recognize revenue once control has passed at a point in time, which is generally when products are shipped. In instances where contractual terms include a provision for customer acceptance, revenue is recognized when either (i) we have previously demonstrated that the product meets the specified criteria based on either seller or customer specified objective criteria or (ii) upon formal acceptance received from the customer where the product has not been previously demonstrated to meet customer specified objective criteria. We recognize revenue on product sales to channel partners, including resellers, distributors or value-added solution providers at the point in time when control is transferred which is determined based on when the risks and rewards, possession, and title have transferred to the customer, which usually occurs at the point of delivery.

Revenue from performance obligations related to services is recognized over time, as the performance obligations are satisfied. In these instances, the customer consumes the benefit of the service as Xylem performs.

Certain businesses also enter into long-term construction-type sales contracts where revenue is recognized over time. In these instances, revenue is recognized using a measure of progress that applies an input method based on costs incurred in relation to total estimated costs. We also recognize revenue for certain of these arrangements using the output method and measure progress based on shipments of product where control has transferred to the customer.

If shipping and handling activities are performed after a customer obtains control of a good, we account for the shipping and handling activities as activities to fulfill a promise to transfer a good. Shipping and handling related costs are accrued as revenue is recognized.

For all contracts with customers, we determine the transaction price in the arrangement and allocate the transaction price to each performance obligation identified in the contract. Judgment is required to determine the appropriate unit of account, and we separate out the performance obligations if they are capable of being distinct and if they are distinct within the context of the contract. We base our allocation of the transaction price to the performance obligations on the relative standalone selling prices for the goods or services contained in a particular performance obligation. The standalone selling prices are determined first by reference to observable prices. In the event observable prices are not available, we estimate the stand-alone selling price by maximizing observable inputs and apply an adjusted market assessment approach, expected cost plus margin approach, or a residual approach in limited situations. Revenue in these instances is recognized on individual performance obligations within the same contract as they are satisfied.

The transaction price is adjusted for our estimate of variable consideration which may include a right of return, discounts, rebates, penalties and retainage. To estimate variable consideration, we apply the expected value or the most likely amount method, based on whichever method most appropriately predicts the amount of consideration we expect to receive. The method applied is typically based on historical experience and known trends. We constrain the amounts of variable consideration that are included in the transaction price, to the extent that it is probable that a significant reversal in the amount of cumulative revenue recognized will not occur or when uncertainties around the variable consideration are resolved.

We exclude from the measurement of the transaction price all taxes assessed by a governmental authority that are both imposed on and concurrent with specific revenue-producing transaction and collected from a customer, for example sales, use, value added and some excise taxes.

For all contracts with customers, payment received for our products and services may not necessarily follow the same pattern of revenue recognition to which it relates and are dictated by the terms and conditions of our contracts with customers. Payments received for product sales typically occur following delivery and the satisfaction of the performance obligation based upon the terms outlined in the contracts. Payments received for services typically occur following the services being rendered. For long-term construction-type projects, payments are typically made throughout the contract as progress is made.

In limited situations, contracts with customers include financing components where payment terms exceed one year, however, we believe that the financing effects are not significant to Xylem. In addition, we apply a practical expedient and do not adjust the promised amount of consideration in a contract for the effects of significant financing components when we expect payment terms to be one year or less from the time the goods or services are transferred until ultimate payment.

We offer standard warranties for our products to ensure that our products comply with agreed-upon specifications in our contracts. For standard warranties, these do not give rise to performance obligations and represent assurance-type warranties. In certain instances, product warranty terms are adjusted to account for the specific nature of the contract. In these instances, we assess the warranties to determine whether they represent service-type warranties, and should be accounted for as a separate performance obligation in the contract.

Costs to obtain a contract include incremental costs that the Company has incurred which it expects to recover. Incremental costs only include costs that the Company would not have incurred had the contract not been obtained. Costs that would have been incurred regardless of whether or not the contract was obtained are expensed as incurred, unless they are explicitly chargeable to the customer whether or not the contract is obtained.

Costs to obtain contracts are capitalized when incurred. The costs to obtain contracts are then amortized in a manner that is consistent with the pattern of transfer of the related goods or services provided in the contract. The Company elects to apply the practical expedient to expense costs to obtain contracts when the associated amortization period of those costs would be one year or less.

For annual periods prior to January 1, 2018, revenue is recognized when persuasive evidence of an arrangement exists, the price is fixed or determinable, collectability is reasonably assured and delivery has occurred or services have been rendered. For product sales, other than long-term construction-type contracts, we recognize revenue at the time title, and risks and rewards of ownership pass, which is generally when products are shipped. Certain contracts with customers require delivery, installation, testing, certification or other acceptance provisions to be satisfied before revenue is recognized. We recognize revenue on product sales to channel partners, including resellers, distributors or value-added solution providers at the time of sale when the channel partners have economic substance apart from Xylem and Xylem has completed its obligations related to the sale. Revenue from the rental of equipment is recognized over the rental period. Service revenue is recognized as services are performed.

For agreements that contain multiple deliverables, we recognize revenue based on the relative selling price if the deliverable has stand-alone value to the customer and, in arrangements that include a general right of return relative to the delivered element, performance of the undelivered element is considered probable and substantially in the Company’s control. The selling price for a deliverable is based on vendor-specific objective evidence of selling price (“VSOE”), if available, third-party evidence of selling price (“TPE”) if VSOE is not available, or best estimated selling price, if neither VSOE nor TPE is available.

The deliverables in our arrangements with multiple elements include various products and may include related services, such as installation and start-up services. Generally, these elements are satisfied within the same reporting period although certain contracts may be completed over 6 months. We allocate arrangement consideration based on the relative selling prices of the separate units of accounting determined in accordance with the hierarchy described above. For deliverables that are sold separately, we establish VSOE based on the price when the deliverable is sold separately. We establish TPE, generally for services, based on prices similarly situated customers pay for similar services from third-party vendors. For those deliverables for which we are unable to establish VSOE or TPE, we estimate the selling price considering various factors including market and pricing trends, geography, product customization, and profit objectives. Revenue for multiple element arrangements is recognized when the appropriate revenue recognition criteria for the individual deliverable have been satisfied.

Certain businesses enter into long-term construction-type sales contracts for which revenue is recognized under the percentage-of-completion method based upon percentage of costs incurred to total estimated costs.

Shipping and Handling Costs

Shipping and handling costs are recorded as a component of cost of revenue.

Share-Based Compensation

Share-based awards issued to employees and members of the Board of Directors include non-qualified stock options, restricted stock unit awards and performance share unit awards. Compensation costs resulting from share-based payment transactions are recognized primarily within selling, general and administrative expenses, at fair value over the requisite service period (typically three years) on a straight-line basis. The calculated compensation cost is adjusted based on an estimate of awards ultimately expected to vest. For performance awards, the calculated compensation cost is adjusted based on an estimate of awards ultimately expected to vest and our assessment of the probable outcome of the performance condition. The fair value of a non-qualified stock option is determined on the date of grant using a binomial lattice pricing model incorporating multiple and variable assumptions over time, including assumptions such as employee exercise patterns, stock price volatility and changes in dividends. The fair value of restricted stock unit awards is determined using the closing price of our common stock on date of grant. The fair value of Return on Invested Capital ("ROIC") performance share units at 100% target is determined using the closing price of our common stock on date of grant. The fair value of Total Shareholder Return ("TSR") performance share units is calculated on the date of grant using a Monte Carlo simulation model utilizing several key assumptions, including expected Company and peer company share price volatility, correlation coefficients between peers, the risk-free rate of return, the expected dividend yield and other award design features.

Research and Development

We conduct research and development activities, which consist primarily of the development of new products, product applications, and manufacturing processes. To the extent these activities are related to developing software that is sold to our customers, we capitalize the applicable development costs. All other research and development costs are charged to expense as incurred.

Exit and Disposal Costs

We periodically initiate management-approved restructuring activities to achieve cost savings through reduced operational redundancies and to position ourselves strategically in the market in response to prevailing economic conditions and associated customer demand. Costs associated with restructuring actions can include severance, infrastructure charges to vacate facilities or consolidate operations, contract termination costs and other related charges. For involuntary separation plans, a liability is recognized when it is probable and reasonably estimable. For voluntary separation plans, a liability is recognized when the employee irrevocably accepts the voluntary termination. For one-time termination benefits, such as additional severance pay or benefit payouts, and other exit costs, such as lease termination costs, the liability is measured and recognized initially at fair value in the period in which the liability is incurred, with subsequent changes to the liability recognized as adjustments in the period of change.

Deferred Financing Costs

Deferred financing costs represent costs incurred in conjunction with our debt financing activities and are capitalized in long-term debt and amortized over the life of the related financing arrangements. If the debt is retired early, the related unamortized deferred financing costs are written off in the period the debt is retired and are recorded in the results of operations under the caption “interest expense.”

Income Taxes

Income taxes are calculated using the asset and liability method. Deferred tax assets and liabilities are determined based on the estimated future tax effects of temporary differences between the financial statement carrying amounts and the tax bases of assets and liabilities, as measured by the current enacted tax rates.

We maintain valuation allowances when it is more likely than not that all or a portion of a deferred asset will not be realized. The valuation allowance is intended in part to provide for the uncertainty regarding the ultimate utilization of our U.S. capital loss carryforwards, U.S. foreign tax credit carryovers, and foreign net operating loss carryforwards. In determining whether a valuation allowance is warranted, we consider all positive and negative evidence and all sources of taxable income such as prior earnings history, expected future earnings, carryback and carryforward periods and tax strategies to estimate if sufficient future taxable income will be generated to realize the deferred tax asset. The assessment of the adequacy of our valuation allowance is based on our estimates of taxable income by jurisdiction in which we operate and the period over which our deferred tax assets will be recoverable. In the event that actual results differ from these estimates, or we adjust these estimates in future periods for current trends or expected changes in our estimating assumptions, we may need to modify the level of valuation allowance that could materially impact our business, financial condition and results of operations.

Due to the U.S. Tax Cuts and Jobs Act (the "Tax Act"), we have recorded net foreign withholding taxes and state income taxes on earnings that are expected to be repatriated to the U.S. parent. We have not recorded any deferred taxes on the amounts that the Company currently does not intend to repatriate as the determination of any deferred taxes on this amount is not practicable.

Tax benefits are recognized for an uncertain tax position when, in management's judgment, it is more likely than not that the position will be sustained upon examination by a taxing authority. For a tax position that meets the more-likely-than-not recognition threshold, the tax benefit is measured as the largest amount that is judged to have a greater than 50% likelihood of being realized upon ultimate settlement with a taxing authority. The liability associated with unrecognized tax benefits is adjusted periodically due to changing circumstances and when new information becomes available. Such adjustments are recognized in the period in which they are identified. The effective tax rate includes the net impact of changes in the liability for unrecognized tax benefits and subsequent adjustments as considered appropriate by management. While it is often difficult to predict the final outcome or the timing of resolution of any particular tax matter, we believe our liability for unrecognized tax benefits is adequate. We classify interest relating to unrecognized tax benefits as a component of other non-operating (expense) income, net and tax penalties as a component of income tax expense in our Consolidated Income Statements.

Earnings Per Share

We present two calculations of earnings per share ("EPS"). "Basic" EPS equals net income divided by weighted average shares outstanding during the period. "Diluted" EPS equals net income divided by the sum of weighted average common shares outstanding during the period plus potentially dilutive shares. Potentially dilutive common shares that are anti-dilutive are excluded from diluted EPS.

Cash Equivalents

We consider all liquid investments purchased with an original maturity of three months or less to be cash equivalents.

Receivables and Allowance for Doubtful Accounts and Discounts

Receivables primarily comprise uncollected amounts owed to us from transactions with customers and are presented net of allowances for doubtful accounts, returns and early payment discounts.

We determine our allowance for doubtful accounts using a combination of factors to reduce our trade receivable balances to their estimated net realizable amount. We maintain an allowance for doubtful accounts based on a variety of factors, including the length of time receivables are past due, macroeconomic trends and conditions, significant one-time events, historical experience and the financial condition of customers. In addition, we record a specific reserve for individual accounts when we become aware of specific customer circumstances, such as in the case of bankruptcy filings or deterioration in the customer's operating results or financial position. The past due or delinquency status of a receivable is based on the contractual payment terms of the receivable. If circumstances related to the specific customer change, we adjust estimates of the recoverability of receivables as appropriate. We determine our allowance for early payment discounts primarily based on historical experience with customers.

Credit risk with respect to accounts receivable is generally diversified due to the large number of entities comprising our customer base and their dispersion across many different geographical regions. We perform ongoing credit evaluations of the financial condition of our third-party distributors, resellers and other customers and require collateral, such as letters of credit and bank guarantees, in certain circumstances. As of December 31, 2018 and 2017 we do not believe we have any significant concentrations of credit risk.

Inventories

Inventories, which include the costs of material, labor and overhead, are stated at the lower of cost or net realizable value using the first in, first out ("FIFO") method. Estimated losses from obsolete and slow-moving inventories are recorded to reduce inventory values to their estimated net realizable value. Our manufacturing operations recognize costs of sales using standard costs with full overhead absorption, which generally approximates actual cost.

Property, Plant and Equipment
These assets are recorded at historical cost and are depreciated using the straight-line method of depreciation over the estimated useful lives as follows:

	Estimated Life
Buildings and improvements	5 to 40 years
Machinery and equipment	2 to 10 years
Furniture and fixtures	3 to 7 years
Equipment held for lease or rental	2 to 10 years

Leasehold improvements are depreciated over the shorter of their estimated useful life or the term of the lease. Costs related to maintenance and repairs that do not prolong the assets' useful lives are expensed as incurred.

Goodwill and Intangible Assets
Goodwill represents purchase consideration paid in a business combination that exceeds the values assigned to the net assets of acquired businesses. Intangible assets include customer relationships, proprietary technology, brands and trademarks, patents, software and other intangible assets. Intangible assets with a finite life are amortized on a straight-line basis over an estimated economic useful life which ranges from 1 to 25 years and is included in cost of revenue or selling, general and administrative expense. Certain of our intangible assets, namely certain brands and trademarks, as well as FCC licenses, have an indefinite life and are not amortized.

Long-Lived Asset Impairment
Long-lived assets, including intangible assets with finite lives, are amortized and tested for impairment whenever events or changes in circumstances indicate their carrying value may not be recoverable. We assess the recoverability of long-lived assets based on the undiscounted future cash flow the assets are expected to generate and recognize an impairment loss when estimated undiscounted future cash flows expected to result from the use of the asset plus net proceeds expected from disposition of the asset, if any, are less than the carrying value of the asset. When an impairment is identified, we reduce the carrying amount of the asset to its estimated fair value based on a discounted cash flow approach or, when available and appropriate, to comparable market values.

Goodwill and indefinite-lived intangible assets are not amortized, but rather are tested for impairment annually (or more frequently if impairment indicators arise, such as changes to the reporting unit structure, significant adverse changes in the business climate or an adverse action or assessment by a regulator). We conduct our annual impairment testing on the first day of our fourth quarter. For goodwill, the estimated fair value of each reporting unit is compared to the carrying value of the net assets assigned to that reporting unit. If the estimated fair value of the reporting unit exceeds its carrying value, goodwill is not impaired. If the carrying value of the reporting unit exceeds its estimated fair value, then an impairment charge is recognized for that excess up to the amount of recorded goodwill. We estimate the fair value of our reporting units using an income approach. We estimate the fair value of our intangible assets with indefinite lives using either the income approach or the market approach. Under the income approach, we calculate fair value based on the present value of estimated future cash flows. Under the market approach, we calculate fair value based on recent sales and selling prices of similar assets.

Product Warranties
For assurance-type warranties, we accrue for the estimated cost of product warranties at the time revenue is recognized and record it as a component of cost of revenue. Our product warranty liability reflects our best estimate of probable liability under the terms and conditions of our product warranties offered to customers. We estimate the liability based on our standard warranty terms, the historical frequency of claims and the cost to replace or repair our products under warranty. Factors that impact our warranty liability include the number of units sold, the length of warranty term, historical and anticipated rates of warranty claims and cost per claim. We also record a warranty liability for specific matters. We assess the adequacy of our recorded warranty liabilities quarterly and adjust amounts as necessary.

For service-type warranties (i.e. non-standard warranties) costs incurred to fulfill the extended or service warranty are recognized/recorded as the costs are incurred.

Postretirement Benefit Plans

The determination of defined benefit pension and postretirement plan obligations and their associated costs requires the use of actuarial computations to estimate participant plan benefits to which the employees wil l be entitled. The significant assumptions primarily relate to discount rates, expected long-term rates of return on plan assets, rate of future compensation increases, mortality, years of service and other factors. We develop each assumption using relevant company experience in conjunction with market-related data for each individual country in which such plans exist. All actuarial assumptions are reviewed annually with third-party consultants and adjusted as necessary. For the recognition of net periodic postretirement cost, the calculation of the expected return on plan assets is generally derived by applying the expected long-term rate of return on the market-related value of plan assets. The market-related value of plan assets is based on average asset values at the measurement date over the last five years. Actual results that differ from our assumptions are accumulated and amortized on a straight-line basis only to the extent they exceed 10% of the higher of the market-related value or the projected benefit obligation, over the average remaining service period of active participants, or for plans with all or substantially all inactive participants, over the average remaining life expectancy. The fair value of plan assets is determined based on market prices or estimated fair value at the measurement date.

We consider changes to a plan's benefit formula that eliminate the accrual for future service but continue to allow for future salary increases (i.e. "soft freeze") to be a curtailment.

Business Combinations

We allocate the purchase price of acquisitions to the tangible and intangible assets acquired, liabilities assumed, and non-controlling interests in the acquiree based on their estimated fair value at the acquisition date. The excess of the acquisition price over those estimated fair values is recorded as goodwill. Changes to the acquisition date provisional fair values prior to the expiration of the measurement period, a period not to exceed 12 months from date of acquisition, are recorded as an adjustment to the associated goodwill. Acquisition-related expenses and restructuring costs, if any, are recognized separately from the business combination and are expensed as incurred.

Derivative Financial Instruments

We record all derivatives on the balance sheet at fair value. The accounting for changes in the fair value of derivatives depends on whether we have elected to designate a derivative in a hedging relationship and apply hedge accounting and whether the hedging relationship has satisfied the criteria necessary to apply hedge accounting. Derivatives designated and qualifying as a hedge of the exposure to changes in the fair value of an asset, liability, or firm commitment attributable to a particular risk are considered fair value hedges. Derivatives designated and qualifying as a hedge of the exposure to variability in expected future cash flows, including forecasted transactions, are considered cash flow hedges. Derivatives may also be designated as hedges of the foreign currency exposure of a net investment in a foreign operation. Hedge accounting generally provides for the matching of the timing of gain or loss recognition on the hedging instrument with the recognition of the changes in the fair value of the hedged asset or liability that are attributable to the hedged risk in a fair value hedge or the earnings effect of the hedged forecasted transactions in a cash flow hedge. We may enter into derivative contracts that are intended to hedge certain risks economically, even though hedge accounting does not apply or we elect not to apply hedge accounting.

During the fourth quarter of 2018 we adopted new accounting guidance that eliminates the concept of ineffectiveness for cash flow and net investment hedges (refer to Note 2, "Recently Issued Accounting Pronouncements"). Prior to this adoption, the effective portion of changes in the fair value of derivatives designated and that qualify as cash flow hedges of foreign exchange risk was recorded in other comprehensive income ("OCI") and was subsequently reclassified into either revenue or cost of revenue (hedge of sales classified into revenue and hedge of purchases classified into cost of revenue) in the period that the hedged forecasted transaction affects earnings. Any ineffective portion of the change in fair value of the derivative was recognized directly in selling, general and administrative expenses. Our policy was to de-designate cash flow hedges at the time forecasted transactions are recognized as assets or liabilities on a business unit's balance sheet and report subsequent changes in fair value through selling, general and administrative expenses where the gain or loss due to movements in currency rates on the underlying asset or liability is revalued. If it became probable that the originally forecasted transaction would not occur, the gain or loss related to the hedge recorded within accumulated other comprehensive income ("AOCI") was immediately recognized into net income.

Prior to the adoption of the new guidance, changes in the fair value of derivatives designated and that qualify as net investment hedges of foreign exchange risk were recorded in OCI. Amounts in AOCI were reclassified into earnings at the time the hedged net investment is sold or substantially liquidated. Effectiveness of derivatives designated as net investment hedges was assessed using the forward method.

Subsequent to adopting the new hedge guidance, changes in the fair value of derivatives designated and that qualify as cash flow hedges of foreign exchange risk are recorded in other comprehensive income ("OCI") and are subsequently reclassified into either revenue or cost of revenue (hedge of sales classified into revenue and hedge of purchases classified into cost of revenue) in the period that the hedged forecasted transaction affects earnings. Our policy is to de-designate cash flow hedges at the time forecasted transactions are recognized as assets or liabilities on a business unit’s balance sheet and report subsequent changes in fair value through selling, general and administrative expenses where the gain or loss due to movements in currency rates on the underlying asset or liability is revalued. If it becomes probable that the originally forecasted transaction will not occur, the gain or loss related to the hedge recorded within accumulated other comprehensive income ("AOCI") is immediately recognized into net income.

Subsequent to adopting the new hedge guidance effectiveness of derivatives designated as net investment hedges is assessed using the spot method. The changes in the fair value of these derivatives due to movements in spot exchange rates are recorded in OCI. Amounts in AOCI are reclassified into earnings at the time the hedged net investment is sold or substantially liquidated. Furthermore, we will recognize interest income based on the interest rate differential embedded in the derivative instrument.

Commitments and Contingencies