EDGAR® pro
by EDGAR® Online®

ITRON INC /WA/

FORM 10-K

(Annual Report)

Filed 03/01/17 for the Period Ending 12/31/16

Address	2111 N MOLTER ROAD LIBERTY LAKE, WA 99019
Telephone	5099249900
CIK	0000780571
Symbol	ITRI
SIC Code	3825 - Instruments for Measuring and Testing of Electricity and Electrical Signals
Industry	Electrical Components & Equipment
Sector	Industrials
Fiscal Year	12/31

Powered By EDGAR Online
http://www.edgar-online.com
© Copyright 2017, EDGAR Online, Inc. All Rights Reserved.
Distribution and use of this document restricted under EDGAR Online, Inc. Terms of Use.

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

FORM 10-K

☒ **ANNUAL REPORT PURSUANT TO SECTION 13 OR 15(d) OF THE SECURITIES EXCHANGE ACT OF 1934**
For the fiscal year ended December 31, 2016

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 000-22418

ITRON, INC.
(Exact name of registrant as specified in its charter)

Washington	91-1011792
(State of Incorporation)	(I.R.S. Employer Identification Number)

2111 N Molter Road, Liberty Lake, Washington 99019
(509) 924-9900
(Address and telephone number of registrant's principal executive offices)

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

Title of each class	Name of each exchange on which registered
Common stock, no par value	NASDAQ Global Select Market

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 ☐ No ☒

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

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

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

Indicate by check mark if disclosure of delinquent filers pursuant to Item 405 of Regulation S-K (§ 229.405 of this chapter) is not contained herein, and will not be contained, to the best of registrant's knowledge, in definitive proxy or information statements incorporated by reference in Part III of this Form 10-K or any amendment to this Form 10-K. ☒

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

Large accelerated filer	☒	Accelerated filer	☐
Non-accelerated filer	☐ (Do not check if a smaller reporting company)	Smaller reporting company	☐

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

As of June 30, 2016 (the last business day of the registrant's most recently completed second fiscal quarter), the aggregate market value of the shares of common stock held by non-affiliates of the registrant (based on the closing price for the common stock on the NASDAQ Global Select Market) was $1,632,121,446 .

As of January 31, 2017 there were outstanding 38,327,719 shares of the registrant's common stock, no par value, which is the only class of common stock of the registrant.

DOCUMENTS INCORPORATED BY REFERENCE

The information called for by Part III is incorporated by reference to the definitive Proxy Statement for the Annual Meeting of Shareholders of the Company to be held on May 12, 2017.

Itron, Inc.

Table of Contents

			Page
PART I			
	ITEM 1:	BUSINESS	1
	ITEM 1A:	RISK FACTORS	6
	ITEM 1B:	UNRESOLVED STAFF COMMENTS	15
	ITEM 2:	PROPERTIES	15
	ITEM 3:	LEGAL PROCEEDINGS	15
	ITEM 4:	MINE SAFETY DISCLOSURES	16
PART II			
	ITEM 5:	MARKET FOR REGISTRANT'S COMMON EQUITY, RELATED STOCKHOLDER MATTERS AND ISSUER PURCHASES OF EQUITY SECURITIES	17
	ITEM 6:	SELECTED CONSOLIDATED FINANCIAL DATA	19
	ITEM 7:	MANAGEMENT'S DISCUSSION AND ANALYSIS OF FINANCIAL CONDITION AND RESULTS OF OPERATIONS	20
	ITEM 7A:	QUANTITATIVE AND QUALITATIVE DISCLOSURES ABOUT MARKET RISK	40
	ITEM 8:	FINANCIAL STATEMENTS AND SUPPLEMENTARY DATA	42
		Consolidated Statements of Operations	45
		Consolidated Statements of Comprehensive Income (Loss)	46
		Consolidated Balance Sheets	47
		Consolidated Statements of Equity	48
		Consolidated Statements of Cash Flows	49
		Notes to Consolidated Financial Statements	50
	ITEM 9:	CHANGES IN AND DISAGREEMENTS WITH ACCOUNTANTS ON ACCOUNTING AND FINANCIAL DISCLOSURE	90
	ITEM 9A:	CONTROLS AND PROCEDURES	90
	ITEM 9B:	OTHER INFORMATION	93
PART III			
	ITEM 10:	DIRECTORS, EXECUTIVE OFFICERS AND CORPORATE GOVERNANCE	95
	ITEM 11:	EXECUTIVE COMPENSATION	95
	ITEM 12:	SECURITY OWNERSHIP OF CERTAIN BENEFICIAL OWNERS AND MANAGEMENT AND RELATED STOCKHOLDER MATTERS	95
	ITEM 13:	CERTAIN RELATIONSHIPS AND RELATED TRANSACTIONS, AND DIRECTOR INDEPENDENCE	95
	ITEM 14:	PRINCIPAL ACCOUNTING FEES AND SERVICES	96
PART IV			
	ITEM 15:	EXHIBITS, FINANCIAL STATEMENT SCHEDULE	97
SIGNATURES			100
SCHEDULE II:		VALUATION AND QUALIFYING ACCOUNTS	101

In this Annual Report on Form 10-K, the terms "we," "us," "our," "Itron," and the "Company" refer to Itron, Inc.

Certain Forward-Looking Statements

This document contains forward-looking statements concerning our operations, financial performance, revenues, earnings growth, liquidity, and other items. This document reflects our current plans and expectations and is based on information currently available as of the date of this Annual Report on Form 10-K. When we use the words "expect," "intend," "anticipate," "believe," "plan," "project," "estimate," "future," "objective," "may," "will," "will continue," and similar expressions, they are intended to identify forward-looking statements. Forward-looking statements rely on a number of assumptions and estimates. These assumptions and estimates could be inaccurate and cause our actual results to vary materially from expected results. Risks and uncertainties include 1) the rate and timing of customer demand for our products, 2) rescheduling or cancellations of current customer orders and commitments, 3) changes in estimated liabilities for product warranties, litigation, and costs to deliver and implement network solutions, 4) our dependence on customers' acceptance of new products and their performance, 5) competition, 6) changes in domestic and international laws and regulations, 7) changes in foreign currency exchange rates and interest rates, 8) international business risks, 9) our own and our customers' or suppliers' access to and cost of capital, 10) future business combinations, 11) implementation of restructuring projects, and 12) other factors. You should not solely rely on these forward-looking statements as they are only valid as of the date of this Annual Report on Form 10-K. We do not have any obligation to publicly update or revise any forward-looking statement in this document. For a more complete description of these and other risks, refer to Item 1A: "Risk Factors" included in this Annual Report on Form 10-K.

PART I

ITEM 1: BUSINESS

Available Information

Documents we provide to the Securities and Exchange Commission (SEC) are available free of charge under the Investors section of our website at *www.itron.com* as soon as practicable after they are filed with or furnished to the SEC. In addition, these documents are available at the SEC's website (*http://www.sec.gov*) and at the SEC's Headquarters at 100 F Street, NE, Washington, DC 20549, or by calling 1-800-SEC-0330.

General

Itron is among the leading technology and services companies dedicated to the resourceful use of electricity, natural gas, and water. We provide comprehensive solutions that measure, manage, and analyze energy and water use. Our broad product portfolio helps utilities responsibly and efficiently manage resources.

With increasing populations and resource consumption, there continues to be growing demand for electricity, natural gas, and water. This demand comes at a time when utilities are challenged by cost constraints, regulatory requirements, and environmental concerns. Our solution is to provide utilities with the knowledge they need to optimize their resources and to better understand and serve their customers - knowledge that gives their customers control over their energy and water needs and allows for better management and conservation of valuable resources.

We were incorporated in 1977 with a focus on meter reading technology. In 2004, we entered the electricity meter manufacturing business with the acquisition of Schlumberger Electricity Metering. In 2007, we expanded our presence in global meter manufacturing and systems with the acquisition of Actaris Metering Systems SA.

The following is a discussion of our major products, our markets, and our operating segments. Refer to Item 8: "Financial Statements and Supplementary Data" included in this Annual Report on Form 10-K for specific segment results.

Our Business

We offer solutions that enable electric and natural gas utilities to build smart grids to manage assets, secure revenue, lower operational costs, improve customer service, and enable demand response. Our solutions include standard meters and next-generation smart metering products, metering systems, and services, which ultimately empower and benefit consumers.

We supply comprehensive solutions to address the unique challenges facing the water industry, including increasing demand and resource scarcity. We offer a complete product portfolio, including standard meters and smart metering products, systems, and services, for applications in the residential and commercial industrial markets for water and heat.

We offer a portfolio of services to our customers from standalone services to end-to-end solutions. These include licensing meter data management and analytics software, managed services, software-as-a-service (hosted software), technical support services, licensing hardware technology, and consulting services.

We classify metering systems into two categories: standard metering systems and smart metering solutions. These categories are described in more detail below:

Standard Metering Systems

Standard metering systems employ a standard meter, which measures electricity, natural gas, water, or thermal energy by mechanical, electromechanical, or electronic means, with no built-in remote-reading communication capability. Standard meters require manual reading, which is typically performed by a utility representative or meter reading service provider. Worldwide, we produce standard residential, commercial and industrial (C&I), and transmission and distribution (T&D) electricity, natural gas, water, and heat meters.

Smart Metering Solutions

Smart metering solutions employ meters or modules with one-way or two-way communication capability embedded in or attached to a meter to collect and store meter data, which is transmitted to handheld computers, mobile units, telephone, radio frequency (RF), cellular, power line carrier (PLC), fixed networks, or through adaptive communication technology (ACT). ACT enables dynamic selection of the optimal communications path, utilizing RF or PLC, based on network operating conditions, data attributes and application requirements. This allows utilities to collect and analyze meter data to optimize operations,, store interval data, remotely connect and disconnect service to the meter, send data, receive commands, and interface with other devices, such as in-home displays, smart thermostats and appliances, home area networks, and advanced control systems.

Bookings and Backlog of Orders

Bookings for a reported period represent customer contracts and purchase orders received during the period for hardware, software, and services that have met certain conditions, such as regulatory and/or contractual approval. Total backlog represents committed but undelivered contracts and purchase orders at period-end. Twelve-month backlog represents the portion of total backlog that we estimate will be recognized as revenue over the next 12 months. Backlog is not a complete measure of our future revenues as we also receive significant book-and-ship orders. Bookings and backlog may fluctuate significantly due to the timing of large project awards. In addition, annual or multi-year contracts are subject to rescheduling and cancellation by customers due to the long-term nature of the contracts. Beginning total backlog, plus bookings, minus revenues, will not equal ending total backlog due to miscellaneous contract adjustments, foreign currency fluctuations, and other factors.

Year Ended	Annual Bookings	Total Backlog	12-Month Backlog
		(in millions)	
December 31, 2016	$ 2,066	$ 1,652	$ 761
December 31, 2015	1,981	1,575	836
December 31, 2014	2,385	1,516	737

Information on bookings by our operating segments is as follows:

Year Ended	Total Bookings	Electricity	Gas	Water
		(in millions)		
December 31, 2016	$ 2,066	$ 1,013	$ 567	$ 486
December 31, 2015	1,981	958	577	446
December 31, 2014	2,385	1,074	753	558

Our Operating Segments

We operate under the Itron brand worldwide and manage and report under three operating segments, Electricity, Gas, and Water. Our Water operating segment includes both our global water and heat solutions. This structure allows each segment to develop its own go-to-market strategy, prioritize its marketing and product development requirements, and focus on its strategic investments. Our sales, marketing, and delivery functions are managed under each segment. Our product development and manufacturing operations are managed on a worldwide basis to promote a global perspective in our operations and processes and yet still maintain alignment with the segments.

Sales and Distribution

We use a combination of direct and indirect sales channels in our operating segments. A direct sales force is utilized for large electric, natural gas, and water utilities, with which we have long-established relationships. For smaller utilities, we typically use an indirect sales force that consists of distributors, sales representatives, partners, and meter manufacturer representatives.

No single customer represented more than 10% of total revenues for the years ended December 31, 2016 , 2015 , and 2014 . Our 10 largest customers in each of the years ended December 31, 2016 , 2015 , and 2014 , accounted for approximately 31% , 22% , and 19% of total revenues, respectively.

Raw Materials

Our products require a wide variety of components and materials, which are subject to price and supply fluctuations. We enter into standard purchase orders in the ordinary course of business, which can include purchase orders for specific quantities based on market prices, as well as open-ended agreements that provide for estimated quantities over an extended shipment period, typically up to one year at an established unit cost. Although we have multiple sources of supply for most of our material requirements, certain components and raw materials are supplied by sole-source vendors, and our ability to perform certain contracts depends on the availability of these materials. Refer to Item 1A: "Risk Factors", included in this Annual Report on Form 10-K, for further discussion related to supply risks.

Partners

In connection with delivering products and systems to our customers, we may partner with third party vendors to provide hardware, software, or services, e.g., meter installation and communication network equipment and infrastructure. Our ability to perform on our contractual obligations with our customers is dependent on these partners meeting their obligations to us.

Product Development

Our product development is focused on both improving existing technology and developing innovative new technology for electricity, natural gas, water and heat meters, sensing and control devices, data collection software, communication technologies, data warehousing, and software applications. We invested approximately $168 million , $162 million , and $176 million in product development in 2016 , 2015 and 2014 , which represented 8% of total revenues for 2016, and 9% of total revenues in 2015 and 2014.

Workforce

As of December 31, 2016 , we had approximately 7,300 people in our workforce, including 6,200 permanent employees. We have not experienced significant work stoppages and consider our employee relations to be good.

Competition

We provide a broad portfolio of products, solutions, software, and services to electric, gas, and water utility customers globally. Consequently, we operate within a large and complex competitive landscape. Some of our competitors have diversified product portfolios and participate in multiple geographic markets, while others focus on specific regional markets and/or certain types of products, including some low-cost suppliers based in China and India. Our competitors in China have an increasing presence in other markets around the world, however, this does not represent a major market share in any one of our global operating regions. Our competitors range from small to large established companies. Our primary competitors for each operating segment are discussed below.

We believe that our competitive advantage is based on our in-depth knowledge of the utility industries, our capacity to innovate, our ability to provide complete end-to-end integrated solutions (including metering, network communications, data collection systems, meter data management software, and other metering software applications), our established customer relationships, and our track record of delivering reliable, accurate, and long-lived products and services. Refer to Item 1A: "Risk Factors" included in this Annual Report on Form 10-K for a discussion of the competitive pressures we face.

Electricity

We are among the leading global suppliers of electricity metering solutions, including standard meters and smart metering solutions. Within the electricity business line, our primary global competitors include Aclara (Sun Capital Partners), Elster (Honeywell International Inc.), Landis+Gyr (Toshiba Corporation), and Silver Spring Networks. On a regional basis, other major competitors include OSAKI Group, Sagemcom Energy & Telecom (Charterhouse Capital Partners), Sensus (Xylem, Inc.), and Trilliant Networks.

Gas

We are among the leading global suppliers of gas metering solutions, including standard meters and smart metering solutions. Our primary global competitor is Elster. On a regional basis, other major competitors include Aclara, Apator, Landis+Gyr, LAO Industria, and Sensus.

Water

We are among the leading global suppliers of standard and smart water meters and communication modules. Our primary global competitors include Apator, Diehl Metering (Diehl Stiftung & Co. KG), Elster, Sensus, and Zenner Performance (Zenner International GmbH & Co. KG). On a regional basis, other major competitors include Badger Meter, LAO Industria, Kamstrup Water Metering L.L.C., and Neptune Technologies (Roper Technologies, Inc.).

Strategic Alliances

We pursue strategic alliances with other companies in areas where collaboration can produce product advancement and acceleration of entry into new markets. The objectives and goals of a strategic alliance can include one or more of the following: technology exchange, product development, joint sales and marketing, or access to new geographic markets. Refer to Item 1A: “Risk Factors” included in this Annual Report on Form 10-K for a discussion of risks associated with strategic alliances.

Intellectual Property

Our patents and patent applications cover a range of technologies, which relate to standard metering, smart metering solutions and technology, meter data management software, and knowledge application solutions. We also rely on a combination of copyrights, patents, and trade secrets to protect our products and technologies. Disputes over the ownership, registration, and enforcement of intellectual property rights arise in the ordinary course of our business. While we believe patents and trademarks are important to our operations and, in aggregate, constitute valuable assets, no single patent or trademark, or group of patents or trademarks, is critical to the success of our business. We license some of our technology to other companies, some of which are our competitors.

Environmental Regulations

In the ordinary course of our business we use metals, solvents, and similar materials that are stored on-site. We believe we are in compliance with environmental laws, rules, and regulations applicable to the operation of our business.

EXECUTIVE OFFICERS

Set forth below are the names, ages, and titles of our executive officers as of February 28, 2017 .

Name	Age	Position
Philip C. Mezey	57	President and Chief Executive Officer
W. Mark Schmitz	65	Executive Vice President and Chief Financial Officer
Thomas L. Deitrich	50	Executive Vice President and Chief Operating Officer
Michel C. Cadieux	59	Senior Vice President, Human Resources
Shannon M. Votava	56	Senior Vice President, General Counsel and Corporate Secretary

Philip C. Mezey is President and Chief Executive Officer and a member of our Board of Directors. Mr. Mezey was appointed to his current position and to the Board of Directors in January 2013. Mr. Mezey joined Itron in March 2003, and in 2007 Mr. Mezey became Senior Vice President and Chief Operating Officer, Itron North America. Mr. Mezey served as President and Chief Operating Officer, Energy from March 2011 through December 2012.

W. Mark Schmitz is Executive Vice President and Chief Financial Officer. Mr. Schmitz was appointed to this role in September 2014. Prior to joining Itron, Mr. Schmitz was Chief Financial Officer of Alghanim Industries from 2009 to 2013. Mr. Schmitz served as the Executive Vice President and Chief Financial Officer of The Goodyear Tire and Rubber Company from 2007 to 2008 and as Vice President and Chief Financial Officer of Tyco International Limited's Fire and Security Segment from 2003 to 2007.

Thomas L. Deitrich is Executive Vice President and Chief Operating Officer. Mr. Deitrich joined Itron in October 2015. From 2012 to September 2015, Mr. Deitrich was Senior Vice President and General Manager for Digital Networking at Freescale Semiconductor, Inc. (Freescale), and he served as the Senior Vice President and General Manager of Freescale's RF, Analog, Sensor, and Cellular Products Group from 2009 to 2012. Mr. Deitrich had other roles of increasing responsibility at Freescale from 2006 to 2009. Prior to Freescale, Mr. Deitrich worked for Flextronics, Sony-Ericsson/Ericsson, and GE.

Michel C. Cadieux is Senior Vice President, Human Resources and has been so since joining Itron in February 2014. From 2008 to 2012, Mr. Cadieux was Senior Vice President of Human Resources and Security at Freescale Semiconductor, Inc.

Shannon M. Votava is Senior Vice President, General Counsel and Corporate Secretary. Ms. Votava was promoted to this role in March 2016. Ms. Votava joined Itron in May 2010 as Assistant General Counsel and was promoted to Vice President and General Counsel in January 2012. She assumed the responsibilities of Corporate Secretary in January 2013. Before joining Itron, Ms. Votava served as Associate General Counsel, Commercial at Cooper Industries plc from October 2008 to April 2010, and as General Counsel for Honeywell's Electronic Materials business from 2003 to 2008.

ITEM 1A: RISK FACTORS

We are dependent on the utility industry, which has experienced volatility in capital spending.

We derive the majority of our revenues from sales of products and services to utilities. Purchases of our products may be deferred as a result of many factors, including economic downturns, slowdowns in new residential and commercial construction, customers' access to capital upon acceptable terms, the timing and availability of government subsidies or other incentives, utility specific financial circumstances, mergers and acquisitions, regulatory decisions, weather conditions, and fluctuating interest rates. We have experienced, and may in the future experience, variability in operating results on an annual and a quarterly basis as a result of these factors.

We depend on our ability to develop new competitive products.

Our future success will depend, in part, on our ability to continue to design and manufacture new competitive products, and to enhance and sustain our existing products, keep pace with technological advances and changing customer requirements, gain international market acceptance, and manage other factors in the markets in which we sell our products. Product development will require continued investment in order to maintain our competitive position, and the periods in which we incur significant product development costs may drive variability in our quarterly results. We may not have the necessary capital, or access to capital at acceptable terms, to make these investments. We have made, and expect to continue to make, substantial investments in technology development. However, we may experience unforeseen problems in the development or performance of our technologies or products, which can prevent us from meeting our product development schedules. New products often require certifications or regulatory approvals before the products can be used and we cannot be certain that our new products will be approved in a timely manner. Finally, we may not achieve market acceptance of our new products and services.

Utility industry sales cycles can be lengthy and unpredictable.

The utility industry is subject to substantial government regulation. Regulations have often influenced the frequency of meter replacements. Sales cycles for standalone meter products have typically been based on annual or biennial bid-based agreements. Utilities place purchase orders against these agreements as their inventories decline, which can create fluctuations in our sales volumes.

Sales cycles for smart metering solutions are generally long and unpredictable due to several factors, including budgeting, purchasing, and regulatory approval processes that can take several years to complete. Our utility customers typically issue requests for quotes and proposals, establish evaluation processes, review different technical options with vendors, analyze performance and cost/benefit justifications, and perform a regulatory review, in addition to applying the normal budget approval process. Today, governments around the world are implementing new laws and regulations to promote increased energy efficiency, slow or reverse growth in the consumption of scarce resources, reduce carbon dioxide emissions, and protect the environment. Many of the legislative and regulatory initiatives encourage utilities to develop a smart grid infrastructure, and some of these initiatives provide for government subsidies, grants, or other incentives to utilities and other participants in their industry to promote transition to smart grid technologies. If government regulations regarding the smart grid and smart metering are delayed, revised to permit lower or different investment levels in metering infrastructure, or terminated altogether, this could have a material adverse effect on our results of operation, cash flow, and financial condition.

Our quarterly results may fluctuate substantially due to several factors.

We have experienced variability in quarterly results, including losses, and believe our quarterly results will continue to fluctuate as a result of many factors, including those risks and events included throughout this section. Additional factors that may cause our results to vary include:

- a higher proportion of products sold with fewer features and functionality, resulting in lower revenues and gross margins;
- a shift in sales channel mix, which could impact the revenue received and commissions paid;
- a decrease in sales volumes, which could result in lower gross margins as driven by lower absorption of manufacturing costs;
- a change in accounting standards or practices that may impact us to a greater degree than other companies;
- a change in existing taxation rules or practices due to our specific operating structure that may not be comparable to other companies; and
- a shortfall in sales without a proportional decrease in expenses.

Our customer contracts are complex and contain provisions that could cause us to incur penalties, be liable for damages, and/or incur unanticipated expenses with respect to the functionality, deployment, operation, and availability of our products and services.

In addition to the risk of unanticipated warranty or recall expenses, our customer contracts may contain provisions that could cause us to incur penalties, be liable for damages, including liquidated damages, or incur other expenses if we experience difficulties with respect to the functionality, deployment, operation, and availability of our products and services. Some of these contracts contain long-term commitments to a set schedule of delivery or performance. If we failed in our estimated schedule or we fail in our management of the project, this may cause delays in completion. In the event of late deliveries, late or improper installations or operations, failure to meet product or performance specifications or other product defects, or interruptions or delays in our managed service offerings, our customer contracts may expose us to penalties, liquidated damages, and other liabilities. In the event we were to incur contractual penalties, such as liquidated damages or other related costs that exceed our expectations, our business, financial condition, and operating results could be materially and adversely affected. Further, we could be required to recognize a current-period reduction of revenue related to a specific component of a customer contract at the time we determine the products and/or services to be delivered under that component would result in a loss due to expected revenues estimated to be less than expected costs. Depending on the amounts of the associated revenues (if any) and the costs, this charge could be material to our results of operations in the period it is recognized.

We face increasing competition.

We face competitive pressures from a variety of companies in each of the markets we serve. Some of our present and potential future competitors have, or may have, substantially greater financial, marketing, technical, or manufacturing resources and, in some cases, have greater name recognition, customer relationships, and experience. Some competitors may enter markets we serve and sell products at lower prices in order to gain or grow market share. Our competitors may be able to respond more quickly to new or emerging technologies and changes in customer requirements. They may also be able to devote greater resources to the development, promotion, and sale of their products and services than we can. Some competitors have made, and others may make, strategic acquisitions or establish cooperative relationships among themselves or with third parties that enhance their ability to address the needs of our prospective customers. It is possible that new competitors or alliances among current and new competitors may emerge and rapidly gain significant market share. Other companies may also drive technological innovation and develop products that are equal in quality and performance or superior to our products, which could put pressure on our market position, reduce our overall sales, and require us to invest additional funds in new technology development. In addition, there is a risk that low-cost providers will expand their presence in our markets, improve their quality, or form alliances or cooperative relationships with our competitors, thereby contributing to future price erosion. Some of our products and services may become commoditized, and we may have to adjust the prices of some of our products to stay competitive. Further, some utilities may purchase meters separately from the communication devices. The specifications for such meters may require interchangeability, which could lead to further commoditization of the meter, driving prices lower and reducing margins. Should we fail to compete successfully with current or future competitors, we could experience material adverse effects on our business, financial condition, results of operations, and cash flows.

We may face adverse publicity, consumer or political opposition, or liability associated with our products.

The safety and security of the power grid and natural gas and water supply systems, the accuracy and protection of the data collected by meters and transmitted via the smart grid, concerns about the safety and perceived health risks of using radio frequency communications, and privacy concerns of monitoring home appliance energy usage have been the focus of recent adverse publicity. Negative publicity and consumer opposition may cause utilities or their regulators to delay or modify planned smart grid initiatives. Smart grid projects may be, or may be perceived as, unsuccessful.

Our products are complex and may contain defects or experience failures due to any number of issues in design, materials, deployment, and/or use. If any of our products contain a defect, a compatibility or interoperability issue, or other types of errors, we may have to devote significant time and resources to identify and correct the issue. We provide product warranties for varying lengths of time and establish allowances in anticipation of warranty expenses. In addition, we recognize contingent liabilities for additional product-failure related costs. These warranty and related product-failure allowances may be inadequate due to product defects and unanticipated component failures, as well as higher than anticipated material, labor, and other costs we may incur to replace projected product failures. A product recall or a significant number of product returns could be expensive; damage our reputation and relationships with utilities, meter and communication vendors, and other third-party vendors; result in the loss of business to competitors; or result in litigation. We may incur additional warranty expenses in the future with respect to new or established products, which could materially and adversely affect our operations and financial position.

We may be subject to claims that there are adverse health effects from the radio frequencies utilized in connection with our products. If these claims prevail, our customers could suspend implementation or purchase substitute products, which could cause a loss of sales.

Changes in tax laws, valuation allowances, and unanticipated tax liabilities could adversely affect our effective income tax rate and profitability.

We are subject to income tax in the United States and numerous foreign jurisdictions. Significant judgment is required in evaluating our tax positions and determining our provision for income taxes. During the ordinary course of business, there are many transactions and calculations for which the ultimate tax determination is uncertain. We establish reserves for tax-related uncertainties based on estimates of whether, and the extent to which, additional taxes will be due. These reserves may be established when we believe that certain positions might be challenged despite our belief that our tax return positions are fully supportable. We adjust these reserves in light of changing facts and circumstances. The provision for income taxes includes the impact of reserve positions and changes to reserves that are considered appropriate, as well as valuation allowances when we determine it is more likely than not that a deferred tax asset cannot be realized. In addition, future changes in tax laws in the jurisdictions in which we operate could have a material impact on our effective income tax rate and profitability. We regularly assess all of these matters to determine the adequacy of our tax provision, which is subject to significant judgment.

The Organization for Economic Cooperation and Development guidance under the Base Erosion and Profit Shifting (BEPS) initiatives aim to minimize perceived tax abuses and modernize global tax policy. More countries are beginning to implement legislative changes based on these BEPS recommendations. Additionally, proposed U.S. tax legislative reforms are wide ranging and include potential changes to the corporate income tax rate, altering the deductibility or timing of financing costs or capitalized assets, taxation of non-U.S. activities, as well as the impacts of proposed border adjusted destination based tax proposals. While it is not possible to predict what changes, if any, will become law, the uncertainty around these proposals and the impact to Itron's effective tax rate could be material though at this time it is not possible to determine if it would be a benefit or detriment.

Disruption and turmoil in global credit and financial markets, which may be exacerbated by the inability of certain countries to continue to service their sovereign debt obligations, and the possible negative implications of such events for the global economy, may negatively impact our business, liquidity, operating results, and financial condition.

The current economic conditions, including volatility in the availability of credit and foreign exchange rates and extended economic slowdowns, have contributed to the instability in some global credit and financial markets. Additionally, at-risk financial institutions in certain countries may, without forewarning, seize a portion of depositors' account balances. The seized funds would be used to recapitalize the at-risk financial institution and would no longer be available for the depositors' use. If such seizure were to occur at financial institutions where we have funds on deposit, it could have a significant impact on our overall liquidity. While the ultimate outcome of these events cannot be predicted, it is possible that such events may have a negative impact on the global economy and our business, liquidity, operating results, and financial condition.

We are subject to international business uncertainties, obstacles to the repatriation of earnings, and foreign currency fluctuations.

A substantial portion of our revenues is derived from operations conducted outside the United States. International sales and operations may be subjected to risks such as the imposition of government controls, government expropriation of facilities, lack of a well-established system of laws and enforcement of those laws, access to a legal system free of undue influence or corruption, political instability, terrorist activities, restrictions on the import or export of critical technology, currency exchange rate fluctuations, and adverse tax burdens. Lack of availability of qualified third-party financing, generally longer receivable collection periods than those commonly practiced in the United States, trade restrictions, changes in tariffs, labor disruptions, difficulties in staffing and managing international operations, difficulties in imposing and enforcing operational and financial controls at international locations, potential insolvency of international distributors, preference for local vendors, burdens of complying with different permitting standards and a wide variety of foreign laws, and obstacles to the repatriation of earnings and cash all present additional risk to our international operations. Fluctuations in the value of international currencies may impact our operating results due to the translation to the U.S. dollar as well as our ability to compete in international markets. International expansion and market acceptance depend on our ability to modify our technology to take into account such factors as the applicable regulatory and business environment, labor costs, and other economic conditions. In addition, the laws of certain countries do not protect our products or technologies in the same manner as the laws of the United States. Further, foreign regulations or restrictions, e.g., opposition from unions or works councils, could delay, limit, or disallow significant operating decisions made by our management, including decisions to exit certain businesses, close certain manufacturing locations, or other restructuring actions. There can be no assurance that these factors will not have a material adverse effect on our future international sales and, consequently, on our business, financial condition, and results of operations.

We depend on certain key vendors and components.

Certain of our products, subassemblies, and system components are procured from limited sources. Our reliance on such limited sources involves certain risks, including the possibility of shortages and reduced control over delivery schedules, quality, costs, and our vendors' access to capital upon acceptable terms. Any adverse change in the supply, or price, of these components could adversely affect our business, financial condition, and results of operations. In addition, we depend on a small number of contract manufacturing vendors for a large portion of our low-volume manufacturing business and all of our repair services for our domestic handheld meter reading units. Should any of these vendors become unable to perform up to their responsibilities, our operations could be materially disrupted.

We may engage in future restructuring activities and incur additional charges in our efforts to improve profitability. We also may not achieve the anticipated savings and benefits from current or any future restructuring projects.

We have implemented multiple restructuring projects to adjust our cost structure, and we may engage in similar restructuring activities in the future. These restructuring activities reduce our available employee talent, assets, and other resources, which could slow product development, impact ability to respond to customers, increase quality issues, temporarily reduce manufacturing efficiencies, and limit our ability to increase production quickly. In addition, delays in implementing restructuring projects, unexpected costs, unfavorable negotiations with works councils, changes in governmental policies, or failure to meet targeted improvements could change the timing or reduce the overall savings realized from the restructuring project.

Business interruptions could adversely affect our business.

Our worldwide operations could be subject to hurricanes, tornadoes, earthquakes, floods, fires, extreme weather conditions, medical epidemics or pandemics, or other natural or man-made disasters or business interruptions. The occurrence of any of these business disruptions could seriously harm our business, financial condition, and results of operations.

Our key manufacturing facilities are concentrated, and, in the event of a significant interruption in production at any of our manufacturing facilities, considerable expense, time, and effort could be required to establish alternative production lines to meet contractual obligations, which would have a material adverse effect on our business, financial condition, and results of operations.

We may encounter strikes or other labor disruptions that could adversely affect our financial condition and results of operations.

We have significant operations throughout the world. In a number of countries outside the U.S., our employees are covered by collective bargaining agreements. As the result of various corporate or operational actions, which our management has undertaken or may be made in the future, we could encounter labor disruptions. These disruptions may be subject to local media coverage, which could damage our reputation. Additionally, the disruptions could delay our ability to meet customer orders and could adversely affect our results of operations. Any labor disruptions could also have an impact on our other employees. Employee morale and productivity could suffer, and we may lose valued employees whom we wish to retain.

Asset impairment could result in significant changes that would adversely impact our future operating results.

We have significant intangible assets, long-lived assets, and goodwill that are susceptible to valuation adjustments as a result of changes in various factors or conditions, which could impact our results of operations or and financial condition.

Factors that could trigger an impairment of such assets include the following:

- underperformance relative to projected future operating results;
- changes in the manner or use of the acquired assets or the strategy for our overall business;
- negative industry or economic trends;
- decline in our stock price for a sustained period or decline in our market capitalization below net book value; and
- changes in our organization or management reporting structure, which could result in additional reporting units, requiring greater aggregation or disaggregation in our analysis by reporting unit and potentially alternative methods/assumptions of estimating fair values.

We are subject to a variety of litigation that could adversely affect our results of operations, financial condition, and cash flows.

From time to time, we are involved in litigation that arises from our business. In addition, these entities may bring claims against our customers, which, in some instances, could result in an indemnification of the customer. Litigation may also relate to, among other things, product failure or product liability claims, contractual disputes, employment matters, or securities litigation. Litigation can be expensive to defend and can divert the attention of management and other personnel for long periods of time, regardless of the ultimate outcome. We may be required to pay damage awards or settlements or become subject to equitable remedies that could adversely affect our financial condition and results of operations. While we currently maintain insurance coverage, such insurance may not provide adequate coverage against potential claims.

We may face losses associated with alleged unauthorized use of third party intellectual property.

We may be subject to claims or inquiries regarding alleged unauthorized use of a third party's intellectual property. An adverse outcome in any intellectual property litigation or negotiation could subject us to significant liabilities to third parties, require us to license technology or other intellectual property rights from others, require us to comply with injunctions to cease marketing or the use of certain products or brands, or require us to redesign, re-engineer, or rebrand certain products or packaging, any of which could affect our business, financial condition, and results of operations. If we are required to seek licenses under patents or other intellectual property rights of others, we may not be able to acquire these licenses at acceptable terms, if at all. In addition, the cost of responding to an intellectual property infringement claim, in terms of legal fees, expenses, and the diversion of management resources, whether or not the claim is valid, could have a material adverse effect on our business, financial condition, and results of operations.

If our products infringe the intellectual property rights of others, we may be required to indemnify our customers for any damages they suffer. We generally indemnify our customers with respect to infringement by our products of the proprietary rights of third parties. Third parties may assert infringement claims against our customers. These claims may require us to initiate or defend protracted and costly litigation on behalf of our customers, regardless of the merits of these claims. If any of these claims succeed, we may be forced to pay damages on behalf of our customers or may be required to obtain licenses for the products they use. If we cannot obtain all necessary licenses on commercially reasonable terms, our customers may be forced to stop using our products.

We are affected by the availability and regulation of radio spectrum and interference with the radio spectrum that we use.

A significant number of our products use radio spectrum, which are subject to regulation by the Federal Communications Commission (FCC) in the United States. The FCC may adopt changes to the rules for our licensed and unlicensed frequency bands that are incompatible with our business. In the past, the FCC has adopted changes to the requirements for equipment using radio spectrum, and it is possible that the FCC or the U.S. Congress will adopt additional changes.

Although radio licenses are generally required for radio stations, Part 15 of the FCC's rules permits certain low-power radio devices (Part 15 devices) to operate on an unlicensed basis. Part 15 devices are designed for use on frequencies used by others. These other users may include licensed users, which have priority over Part 15 users. Part 15 devices cannot cause harmful interference to licensed users and must be designed to accept interference from licensed radio devices. In the United States, our smart metering solutions are typically Part 15 devices that transmit information to (and receive information from, if applicable) handheld, mobile, or fixed network systems pursuant to these rules.

We depend upon sufficient radio spectrum to be allocated by the FCC for our intended uses. As to the licensed frequencies, there is some risk that there may be insufficient available frequencies in some markets to sustain our planned operations. The unlicensed frequencies are available for a wide variety of uses and may not be entitled to protection from interference by other users who operate in accordance with FCC rules. The unlicensed frequencies are also often the subject of proposals to the FCC requesting a change in the rules under which such frequencies may be used. If the unlicensed frequencies become crowded to unacceptable levels, restrictive, or subject to changed rules governing their use, our business could be materially adversely affected.

We have committed, and will continue to commit, significant resources to the development of products that use particular radio frequencies. Action by the FCC could require modifications to our products. 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 future business, financial condition, and results of operations.

Outside of the United States, certain of our products require the use of RF and are subject to regulations in those jurisdictions where we have deployed such equipment. In some jurisdictions, radio station licensees are generally required to operate a radio transmitter and such licenses may be granted for a fixed term and must be periodically renewed. In other jurisdictions, the rules permit certain low power devices to operate on an unlicensed basis. Our smart metering solutions typically transmit to (and receive

information from, if applicable) handheld, mobile, or fixed network reading devices in license-exempt bands pursuant to rules regulating such use. In Europe, we generally use the 169 megahertz (MHz), 433 MHz, and 868 MHz bands. In the rest of the world, we primarily use the 433 MHz and 2.4000-2.4835 gigahertz (GHz) bands, as well as other local license-exempt bands. 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. In addition, new consumer products may create interference with the performance of our products, which could lead to claims against us.

We may be unable to adequately protect our intellectual property.

While we believe that our patents and other intellectual property have significant value, it is uncertain that this intellectual property or any intellectual property acquired or developed by us in the future will provide meaningful competitive advantages. There can be no assurance that our patents or pending applications will not be challenged, invalidated, or circumvented by competitors or that rights granted thereunder will provide meaningful proprietary protection. Moreover, competitors may infringe our patents or successfully avoid them through design innovation. To combat infringement or unauthorized use of our intellectual property, we may need to commence litigation, which can be expensive and time-consuming. In addition, in an infringement proceeding a court may decide that a patent or other intellectual property right of ours is not valid or is unenforceable, or may refuse to stop the other party from using the technology or other intellectual property right at issue on the grounds that it is non-infringing or the legal requirements for an injunction have not been met. Policing unauthorized use of our intellectual property is difficult and expensive, and we cannot provide assurance that we will be able to prevent misappropriation of our proprietary rights, particularly in countries that do not protect such rights in the same manner as in the United States.

We have pension benefit obligations, which could have a material impact on our earnings, liabilities, and shareholders' equity and could have significant adverse impacts in future periods.

We sponsor both funded and unfunded defined benefit pension plans for our international employees, primarily in Germany, France, Italy, Indonesia, Brazil, and Spain. Our general funding policy for these qualified pension plans is to contribute amounts sufficient to satisfy regulatory funding standards of the respective countries for each plan.

The determination of pension plan expense, benefit obligation, and future contributions depends heavily on market factors such as the discount rate and the actual return on plan assets. We estimate pension plan expense, benefit obligation, and future contributions to these plans using assumptions with respect to these and other items. Changes to those assumptions could have a significant effect on future contributions as well as on our annual pension costs and/or result in a significant change to shareholders' equity.

A number of key personnel are critical to the success of our business.

Our success depends in large part on the efforts of our highly qualified technical and management personnel and highly skilled individuals in all disciplines. The loss of one or more of these employees and the inability to attract and retain qualified replacements could have a material adverse effect on our business.

If we are unable to protect our information technology infrastructure and network against data corruption, cyber-based attacks or network security breaches, we could be exposed to customer liability and reputational risk.

We rely on various information technology systems to capture, process, store, and report data and interact with customers, vendors, and employees. Despite security steps we have taken to secure all information and transactions, our information technology systems, and those of our third-party providers, may be subject to cyber attacks. Any data breaches could result in misappropriation of data or disruption of operations. In addition, hardware and operating system software and applications that we procure from third parties may contain defects in design or manufacture that could interfere with the operation of the systems. Misuse of internal applications; theft of intellectual property, trade secrets, or other corporate assets; and inappropriate disclosure of confidential information could stem from such incidents.

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 attacks, the potential for an attack remains. A successful attack may result in inappropriate access to information or an inability for our products to function properly.

Any such operational disruption and/or misappropriation of information could result in lost sales, negative publicity, or business delays and could have a material adverse effect on our business.

We may not realize the expected benefits from strategic alliances.

We have several strategic alliances with large and complex organizations and other companies with which we work to offer complementary products and services. There can be no assurance we will realize the expected benefits from these strategic alliances. If successful, these relationships may be mutually beneficial and result in shared growth. However, alliances carry an element of risk because, in most cases, we must both compete and collaborate with the same company from one market to the next. Should our strategic partnerships fail to perform, we could experience delays in product development or experience other operational difficulties.

We rely on information technology systems.

Our industry requires the continued operation of sophisticated information technology systems and network infrastructures, which may be subject to disruptions arising from events that are beyond our control. We are dependent on information technology systems, including, but not limited to, networks, applications, and outsourced services. We continually enhance and implement new systems and processes throughout our global operations.

We offer managed services and software utilizing several data center facilities located worldwide. Any damage to, or failure of, these systems could result in interruptions in the services we provide to our utility customers. As we continue to add capacity to our existing and future data centers, we may move or transfer data. Despite precautions taken during this process, any delayed or unsuccessful data transfers may impair the delivery of our services to our utility customers. We also sell vending and pre-payment systems with security features that, if compromised, may lead to claims against us.

We are completing a phased upgrade of our primary enterprise resource planning (ERP) systems to allow for greater depth and breadth of functionality worldwide. System conversions are expensive and time consuming undertakings that impact all areas of the Company. While successful implementations of each phase will provide many benefits to us, an unsuccessful or delayed implementation of any particular phase may cost us significant time and resources.

The failure of these systems to operate effectively, problems with transitioning to upgraded or replacement systems, or a breach in security of these systems due to computer viruses, hacking, acts of terrorism, and other causes could materially and adversely affect our business, financial condition, and results of operations by harming our ability to accurately forecast sales demand, manage our supply chain and production facilities, achieve accuracy in the conversion of electronic data and records, and report financial and management information on a timely and accurate basis. In addition, due to the systemic internal control features within ERP systems, we may experience difficulties that could affect our internal control over financial reporting.

Changes in environmental regulations, violations of such regulations, or future environmental liabilities could cause us to incur significant costs and could adversely affect our operations.

Our business and our facilities are subject to numerous laws, regulations, and ordinances governing, among other things, the storage, discharge, handling, emission, generation, manufacture, disposal, remediation of, and exposure to toxic or other hazardous substances, and certain waste products. Many of these environmental laws and regulations subject current or previous owners or operators of land to liability for the costs of investigation, removal, or remediation of hazardous materials. In addition, these laws and regulations typically impose liability regardless of whether the owner or operator knew of, or was responsible for, the presence of any hazardous materials and regardless of whether the actions that led to the presence were conducted in compliance with the law. In the ordinary course of our business, we use metals, solvents, and similar materials, which are stored on-site. The waste created by the use of these materials is transported off-site on a regular basis by unaffiliated waste haulers. Many environmental laws and regulations require generators of waste to take remedial actions at, or in relation to, the off-site disposal location even if the disposal was conducted in compliance with the law. The requirements of these laws and regulations are complex, change frequently, and could become more stringent in the future. Failure to comply with current or future environmental regulations could result in the imposition of substantial fines, suspension of production, alteration of our production processes, cessation of operations, or other actions, which could materially and adversely affect our business, financial condition, and results of operations. There can be no assurance that a claim, investigation, or liability will not arise with respect to these activities, or that the cost of complying with governmental regulations in the future will not have a material adverse effect on us.

Our credit facility limits our ability and the ability of many of our subsidiaries to take certain actions.

Our credit facility places restrictions on our ability, and the ability of many of our subsidiaries, dependent on meeting specified financial ratios, to, among other things:

- incur more debt;
- make certain investments;
- enter into transactions with affiliates;
- merge or consolidate;
- pay dividends, make distributions, and repurchase capital stock;
- create liens;
- enter into sale lease-back transactions;
- transfer or sell assets.

Our credit facility contains other customary covenants, including the requirement to meet specified financial ratios and provide periodic financial reporting. Our ability to borrow under our credit facility will depend on the satisfaction of these covenants. Events beyond our control can affect our ability to meet those covenants. Our failure to comply with obligations under our borrowing arrangements may result in declaration of an event of default. An event of default, if not cured or waived, may permit acceleration of required payments against such indebtedness. We cannot be certain we will be able to remedy any such defaults. If our required payments are accelerated, we cannot be certain that we will have sufficient funds available to pay the indebtedness or that we will have the ability to raise sufficient capital to replace the indebtedness on terms favorable to us or at all. In addition, in the case of an event of default under our secured indebtedness such as our credit facility, the lenders may be permitted to foreclose on our assets securing that indebtedness.

Our ability to service our indebtedness is dependent on our ability to generate cash, which is influenced by many factors beyond our control.

Our ability to make payments on or refinance our indebtedness, fund planned capital expenditures, and continue research and development will depend on our ability to generate cash in the future. This is dependent on the degree to which we succeed in executing our business plans, which is influenced, in part, by general economic, financial, competitive, legislative, regulatory, counterparty, and other risks that are beyond our control. We may need to refinance all or a portion of our indebtedness on or before maturity. We cannot provide assurance that we will be able to refinance any of our indebtedness on commercially reasonable terms or at all.

Our acquisitions of and investments in third parties have risks.

We may complete additional acquisitions or make investments in the future, both within and outside of the United States. In order to finance future acquisitions, we may need to raise additional funds through public or private financings, and there are no assurances that such financing would be available at acceptable terms. Acquisitions and investments involve numerous risks such as the diversion of senior management's attention; unsuccessful integration of the acquired entity's personnel, operations, technologies, and products; incurrence of significant expenses to meet an acquiree's customer contractual commitments; lack of market acceptance of new services and technologies; or difficulties in operating businesses in international legal jurisdictions. Failure to properly or adequately address these issues could result in the diversion of management's attention and resources and materially and adversely impact our ability to manage our business. In addition, acquisitions and investments in third parties may involve the assumption of obligations, significant write-offs, or other charges associated with the acquisition. Impairment of an investment, goodwill, or an intangible asset may result if these risks were to materialize. For investments in entities that are not wholly owned by Itron, such as joint ventures, a loss of control as defined by U.S. generally accepted accounting principles (GAAP) could result in a significant change in accounting treatment and a change in the carrying value of the entity. There can be no assurances that an acquired business will perform as expected, accomplish our strategic objectives, or generate significant revenues, profits, or cash flows.

We are exposed to counterparty default risks with our financial institutions and insurance providers.

If one or more of the depository institutions in which we maintain significant cash balances were to fail, our ability to access these funds might be temporarily or permanently limited, and we could face material liquidity problems and financial losses.

The lenders of our credit facility consist of several participating financial institutions. Our revolving line of credit allows us to provide letters of credit in support of our obligations for customer contracts and provides additional liquidity. If our lenders are not able to honor their line of credit commitments due to the loss of a participating financial institution or other circumstance, we would need to seek alternative financing, which may not be under acceptable terms, and therefore could adversely impact our ability to successfully bid on future sales contracts and adversely impact our liquidity and ability to fund some of our internal initiatives or future acquisitions.

Our international sales and operations are subject to complex laws relating to foreign corrupt practices and anti-bribery laws, among many others, and a violation of, or change in, these laws could adversely affect our operations.

The Foreign Corrupt Practices Act in the United States requires United States companies to comply with an extensive legal framework to prevent bribery of foreign officials. The laws are complex and require that we closely monitor local practices of our overseas offices. The United States Department of Justice has recently heightened enforcement of these laws. In addition, other countries continue to implement similar laws that may have extra-territorial effect. In the United Kingdom, where we have operations, the U.K. Bribery Act imposes significant oversight obligations on us and could impact our operations outside of the United Kingdom. The costs for complying with these and similar laws may be significant and could require significant management time and focus. Any violation of these or similar laws, intentional or unintentional, could have a material adverse effect on our business, financial condition, or results of operations.

If we fail to maintain an effective system of internal controls, we may not be able to accurately report our financial results, prevent fraud, or maintain investor confidence.

Effective internal controls are necessary for us to provide reliable and accurate financial reports and effectively prevent fraud. We have devoted significant resources and time to comply with the internal control over financial reporting requirements of the Sarbanes-Oxley Act. In addition, Section 404 under the Sarbanes-Oxley Act requires that our auditors attest to the design and operating effectiveness of our controls over financial reporting. Our compliance with the annual internal control report requirement for each fiscal year will depend on the effectiveness of our financial reporting, data systems, and controls across our operating subsidiaries. Furthermore, an important part of our growth strategy has been, and will likely continue to be, the acquisition of complementary businesses, and we expect these systems and controls to become increasingly complex to the extent that we integrate acquisitions and our business grows. Likewise, the complexity of our transactions, systems, and controls may become more difficult to manage. In addition, new accounting standards may have a significant impact on our financial statements in future periods, requiring new or enhanced controls. We cannot be certain that we will ensure that we design, implement, and maintain adequate controls over our financial processes and reporting in the future, especially for acquisition targets that may not have been required to be in compliance with Section 404 of the Sarbanes-Oxley Act at the date of acquisition.

Failure to implement new controls or enhancements to controls, difficulties encountered in control implementation or operation, or difficulties in the assimilation of acquired businesses into our control system could result in additional errors, material misstatements, or delays in our financial reporting obligations. Inadequate internal controls could also cause investors to lose confidence in our reported financial information, which could have a negative effect on the trading price of our stock and our access to capital.

Our failure to prepare and timely file our periodic reports with the SEC limits our access to the public markets to raise debt or equity capital.

We did not file our 2015 Annual Report on Form 10-K or our Quarterly Reports on Form 10-Q for the quarters ended March 31, 2016 and June 30, 2016 within the time frame required by SEC rules. As a result, we are currently ineligible to use SEC Form S-3, which is a short-form registration statement, to register our securities for public offer and sale, until we have timely filed all periodic reports under the Securities Exchange Act of 1934, as amended, for a period of twelve months from the due date of the last timely report. Our inability to use Form S-3 limits our ability to access the public capital markets rapidly, including in reaction to changing business needs or market conditions. While we may currently register an offering of our securities on Form S-1, doing so would likely increase transaction costs and adversely impact our ability to raise capital or complete any related transaction, such as an acquisition, in a timely manner. We filed our Quarterly Report on Form 10-Q for the quarter ended September 30, 2016 within the time frame required by SEC rules. We anticipate regaining eligibility to file SEC Form S-3 on November 9, 2017 assuming all periodic reports are filed within the time frames required by the SEC.

We are subject to regulatory compliance.

We are subject to various governmental regulations in all of the jurisdictions in which we conduct business. Failure to comply with current or future regulations could result in the imposition of substantial fines, suspension of production, alteration of our production processes, cessation of operations, or other actions, which could materially and adversely affect our business, financial condition, and results of operations.

Regulations related to "conflict minerals" may force us to incur additional expenses, may result in damage to our business reputation, and may adversely impact our ability to conduct our business.

In August 2012, under the Dodd-Frank Wall Street Reform and Consumer Protection Act of 2010, the SEC adopted requirements for companies that use certain minerals and derivative metals (referred to as "conflict minerals," regardless of their actual country of origin) in their products. Some of these metals are commonly used in electronic equipment and devices, including our products. These requirements require companies to investigate, disclose and report whether or not such metals originated from the Democratic Republic of Congo or adjoining countries and required due diligence efforts. There may be increased costs associated with complying with these disclosure requirements, including for diligence to determine the sources of conflict minerals used in our products and other potential changes to products, processes or sources of supply as a consequence of such verification activities. Further interpretation and implementation of these rules could adversely affect the sourcing, supply, and pricing of materials used in our products.

ITEM 1B: UNRESOLVED STAFF COMMENTS

None.

ITEM 2: PROPERTIES

We own our headquarters facility, which is located in Liberty Lake, Washington.

Our Gas and Water manufacturing facilities are located throughout the world, while our Electricity manufacturing facilities are located primarily in Europe, Middle East, and Africa (EMEA) and North America. The following table lists our major manufacturing facilities by the location and product line.

	Product Line			
Region	**Electricity**	**Gas**	**Water**	**Multiple Product Lines**
North America	Oconee, SC (O)	Owenton, KY (O)	None	Waseca, MN - G,W (L)
EMEA	Chasseneuil, France (O) Godollo, Hungary (O)	Argenteuil, France (L) Reims, France (O) Karlsruhe, Germany (O)	Massy, France (L) Macon, France (O) Haguenau, France (O) Oldenburg, Germany (O) Asti, Italy (O)	None
Asia/Pacific	None	Wujiang, China (L)	Suzhou, China (L) Dehradun, India (L)	Bekasi, Indonesia - E,W (O)
Latin America	None	Buenos Aires, Argentina (O)	Americana, Brazil (O)	None

(O) - Manufacturing facility is owned
(L) - Manufacturing facility is leased
E - Electricity manufacturing facility, G - Gas manufacturing facility, W - Water manufacturing facility

Our principal properties are in good condition, and we believe our current facilities are sufficient to support our operations. Our major manufacturing facilities are owned, while smaller factories are typically leased.

In addition to our manufacturing facilities, we have numerous sales offices, product development facilities, and distribution centers, which are located throughout the world.

ITEM 3: LEGAL PROCEEDINGS

Please refer to Item 8: "Financial Statements and Supplementary Data, Note 12: Commitments and Contingencies" included in this Annual Report on Form 10-K. Except as described therein, there were no material pending legal proceedings, as defined by Item 103 of Regulation S-K, at December 31, 2016 .

ITEM 4: MINE SAFETY DISCLOSURES

Not applicable.

PART II

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

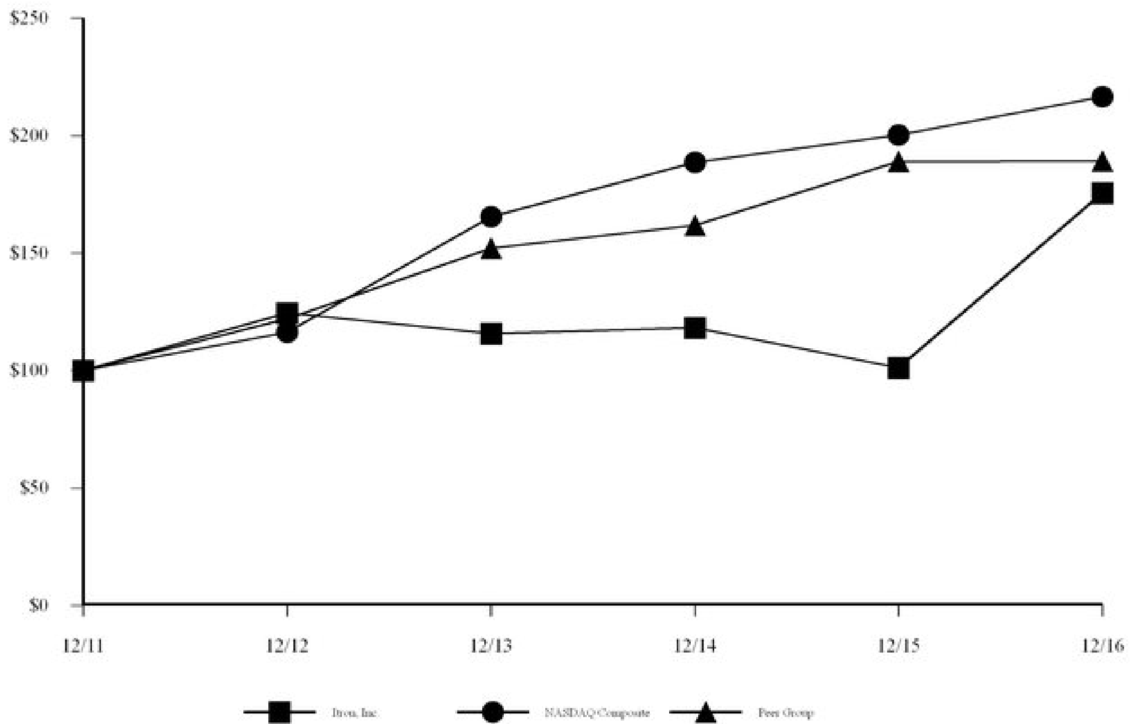
Market Information for Common Stock

Our common stock is traded on the NASDAQ Global Select Market. The following table reflects the range of high and low common stock sales prices for the four quarters of 2016 and 2015 as reported by the NASDAQ Global Select Market.

	2016		2015	
	High	Low	High	Low
First Quarter	$ 43.00	$ 30.31	$ 41.86	$ 35.05
Second Quarter	$ 45.51	$ 39.78	$ 37.81	$ 34.44
Third Quarter	$ 56.23	$ 42.34	$ 33.91	$ 28.30
Fourth Quarter	$ 65.75	$ 51.90	$ 37.53	$ 31.75

Performance Graph

The following graph compares the five-year cumulative total return to shareholders on our common stock with the five-year cumulative total return of our peer group of companies used for the year ended December 31, 2016 and the NASDAQ Composite Index.



* $100 invested on 12/31/11 in stock or index, including reinvestment of dividends.
Fiscal years ending December 31.

The performance graph above is being furnished solely to accompany this Report pursuant to Item 201(e) of Regulation S-K, and is not being filed for purposes of Section 18 of the Securities Exchange Act of 1934, as amended, and is not to be incorporated by reference into any of our filings, whether made before or after the date hereof, regardless of any general incorporation language in such filing.

The above presentation assumes $100 invested on December 31, 2011 in the common stock of Itron, Inc., the peer group, and the NASDAQ Composite Index, with all dividends reinvested. With respect to companies in the peer group, the returns of each such corporation have been weighted to reflect relative stock market capitalization at the beginning of each annual period plotted. The stock prices shown above for our common stock are historical and not necessarily indicative of future price performance.

Each year, we reassess our peer group to identify global companies that are either direct competitors or have similar industry and business operating characteristics. Our 2016 peer group includes the following publicly traded companies: Badger Meter, Inc., Echelon Corporation, National Instruments Corporation, Roper Technologies, Inc., and Silver Spring Networks, Inc.

Issuer Repurchase of Equity Securities

No shares of our common stock were repurchased during the quarter ended December 31, 2016 .

Holders

At January 31, 2017 , there were 218 holders of record of our common stock.

Dividends

Since the inception of the Company, we have not declared or paid cash dividends. We intend to retain future earnings for the development of our business and do not anticipate paying cash dividends in the foreseeable future.

ITEM 6: SELECTED CONSOLIDATED FINANCIAL DATA

The selected consolidated financial data below is derived from our consolidated financial statements. Information included in the table below from fiscal years 2013 through 2016 Consolidated Statements of Operations and Consolidated Statements of Cash Flows, and the Consolidated Balance Sheets for 2014 through 2016, have been audited by an independent registered public accounting firm.

These selected consolidated financial and other data represent portions of our financial statements. You should read this information together with Item 7: "Management's Discussion and Analysis of Financial Condition and Results of Operations" and Item 8: "Financial Statements and Supplementary Data" included in this Annual Report on Form 10-K. Historical results are not necessarily indicative of future performance.

	Year Ended December 31,				
	2016 (5)	**2015**	**2014 (4)**	**2013 (3)**	**2012 (2)**
	(in thousands, except per share data)				
Consolidated Statements of Operations Data					
Revenues	$ 2,013,186	$ 1,883,533	$ 1,947,616	$ 1,938,025	$ 2,156,365
Cost of revenues	1,352,866	1,326,848	1,333,566	1,323,257	1,448,753
Gross profit	660,320	556,685	614,050	614,768	707,612
Operating income (loss)	96,211	52,846	480	(139,863)	139,153
Net income (loss) attributable to Itron, Inc.	31,770	12,678	(23,670)	(153,153)	99,839
Earnings (loss) per common share - Basic	$ 0.83	$ 0.33	$ (0.60)	$ (3.90)	$ 2.52
Earnings (loss) per common share - Diluted	$ 0.82	$ 0.33	$ (0.60)	$ (3.90)	$ 2.50
Weighted average common shares outstanding - Basic	38,207	38,224	39,184	39,281	39,625
Weighted average common shares outstanding - Diluted	38,643	38,506	39,184	39,281	39,934
Consolidated Balance Sheets Data					
Working capital (1)	$ 319,420	$ 281,166	$ 262,393	$ 338,476	$ 338,985
Total assets (6)	1,577,811	1,680,316	1,751,085	1,906,025	2,109,134
Total debt (6)	304,523	370,165	323,307	377,596	415,809
Total Itron, Inc. shareholders' equity	631,604	604,758	681,001	839,011	982,253
Other Financial Data					
Cash provided by operating activities	$ 115,842	$ 73,350	$ 132,973	$ 105,421	$ 205,090
Cash used in investing activities	(47,528)	(48,951)	(41,496)	(56,771)	(125,445)
Cash provided by (used in) financing activities	(63,023)	7,740	(91,877)	(57,438)	(77,528)
Capital expenditures	(43,543)	(43,918)	(44,495)	(60,020)	(50,543)

(1) Working capital represents current assets less current liabilities.

(2) On May 1, 2012, we completed our acquisition of SmartSynch, Inc. for $77.7 million in cash (net of $6.7 million of cash and cash equivalents acquired).

(3) During 2013, we incurred a goodwill impairment charge of $174.2 million. In addition, we incurred costs of $36.3 million in 2013 related to restructuring projects to increase efficiency.

(4) During 2014, we incurred costs of $49.5 million related to restructuring projects to improve operational efficiencies and reduce expenses. Refer to Item 8: "Financial Statements and Supplementary Data, Note 13: Restructuring" included in this Annual Report on Form 10-K for further disclosures regarding the restructuring charges.

(5) During 2016, we incurred costs of $49.1 million related to restructuring projects to restructure various company activities in order to improve operational efficiencies, reduce expenses and improve competiveness. Refer to Item 8: "Financial Statements and Supplementary Data, Note 13: Restructuring" included in this Annual Report on Form 10-K for further disclosures regarding the restructuring charges.

(6) Total assets and total debt for all periods presented were adjusted for the adoption of Accounting Standards Update 2015-03, *Interest - Imputation of Interest* . Refer to Item 8: "Financial Statements and Supplementary Data, Note 1: Summary of Significant Accounting Policies" included in this Annual Report on Form 10-K for further disclosures regarding accounting pronouncements.

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

The following discussion and analysis should be read in conjunction with Item 8: “Financial Statements and Supplementary Data” included in this Annual Report on Form 10-K.

Overview

We are a technology company, offering end-to-end solutions to enhance productivity and efficiency, primarily focused on utilities and municipalities around to globe. Our solutions generally include robust industrial grade networks, smart meters, meter data management software, and knowledge application solutions, which bring additional value to the customer. Our professional services help our customers project-manage, install, implement, operate, and maintain their systems. We operate under the Itron brand worldwide and manage and report under three operating segments, Electricity, Gas, and Water. Our Water operating segment includes both our global water and heat solutions. This structure allows each segment to develop its own go-to-market strategy, prioritize its marketing and product development requirements, and focus on its strategic investments. Our sales, marketing, and delivery functions are managed under each segment. Our product development and manufacturing operations are managed on a worldwide basis to promote a global perspective in our operations and processes and yet maintain responsiveness to the market.

We have three measures of segment performance: revenues, gross profit (margin), and operating income (margin). Intersegment revenues are minimal. Certain operating expenses are allocated to the operating segments based upon internally established allocation methodologies. Interest income, interest expense, other income (expense), income tax provision, and certain corporate operating expenses are neither allocated to the segments nor included in the measures of segment performance.

The following discussion includes financial information prepared in accordance with accounting principles generally accepted in the United States (GAAP), as well as certain adjusted or non-GAAP financial measures such as constant currency, free cash flow, non-GAAP operating expenses, non-GAAP operating income, non-GAAP net income, adjusted EBITDA, and non-GAAP diluted earnings per share (EPS). We believe that non-GAAP financial measures, when reviewed in conjunction with GAAP financial measures, can provide more information to assist investors in evaluating current period performance and in assessing future performance. For these reasons, our internal management reporting also includes non-GAAP measures. We strongly encourage investors and shareholders to review our financial statements and publicly-filed reports in their entirety and not to rely on any single financial measure. Non-GAAP measures as presented herein may not be comparable to similarly titled measures used by other companies.

In our discussions of the operating results below, we sometimes refer to the impact of foreign currency exchange rate fluctuations, which are references to the differences between the foreign currency exchange rates we use to convert operating results from local currencies into U.S. dollars for reporting purposes. We also use the term “ constant currency, ” which represents results adjusted to exclude foreign currency exchange rate impacts. We calculate the constant currency change as the difference between the current period results translated using the current period currency exchange rates and the comparable prior period’s results restated using current period currency exchange rates. We believe the reconciliations of changes in constant currency provide useful supplementary information to investors in light of fluctuations in foreign currency exchange rates.

Refer to the *Non-GAAP Measures* section below on pages 38-40 for information about these non-GAAP measures and the detailed reconciliation of items that impacted free cash flow, non-GAAP operating expenses, non-GAAP operating income, non-GAAP net income, adjusted EBITDA, and non-GAAP diluted EPS in the presented periods.

Total Company Highlights

Highlights and significant developments for the twelve months ended December 31, 2016

- Revenues were $2.0 billion compared with $1.9 billion in the same period last year, an increase of $129.7 million , or 7% .
- Gross margin was 32.8% compared with 29.6% in the same period last year. The increase of 320 basis points included improvements in all segments.
- Operating expenses were $60.3 million higher compared with the same period last year, primarily due to increased restructuring expense.
- Net income attributable to Itron, Inc. was $31.8 million compared with $12.7 million for the same period in 2015.
- Adjusted EBITDA increased $99.1 million , or 91% compared with the same period in 2015.
- GAAP diluted EPS was $0.82 , a $0.49 improvement compared with the same period in 2015.
- Non-GAAP diluted EPS improved $1.81 to $2.54 compared with the same period last year.
- Total backlog was $1.7 billion and twelve-month backlog was $761 million at December 31, 2016 .

On September 1, 2016, we announced projects (2016 Projects) to restructure various company activities in order to improve operational efficiencies, reduce expenses and improve competiveness. We expect to close or consolidate several facilities and reduce our global workforce as a result of the 2016 Projects. We recognized $47.8 million of restructuring expense related to the 2016 Projects during the year ended December 31, 2016.

We expect to substantially complete the 2016 Projects by the end of 2018. Many of the affected employees are represented by unions or works councils, which requires consultation, and potential restructuring projects may be subject to regulatory approval, both of which could impact the timing of charges, total expected charges, costs recognized, and planned savings in certain jurisdictions. We estimate pre-tax restructuring charges of approximately $68 million , with expected annualized savings of approximately $40 million upon completion.

Total Company GAAP and Non-GAAP Highlights and Unit Shipments

	Year Ended December 31,				
	2016	% Change	2015	% Change	2014
	(in thousands, except margin and per share data)				
GAAP					
Revenues	$ 2,013,186	7 %	$ 1,883,533	(3)%	$ 1,947,616
Gross profit	660,320	19 %	556,685	(9)%	614,050
Operating expenses	564,109	12 %	503,839	(18)%	613,570
Operating income	96,211	82 %	52,846	10,910 %	480
Other income (expense)	(11,584)	(26)%	(15,744)	(16)%	(18,745)
Income tax provision	(49,574)	124 %	(22,099)	448 %	(4,035)
Net income (loss) attributable to Itron, Inc.	31,770	151 %	12,678	N/A	(23,670)
Non-GAAP [1]					
Non-GAAP operating expenses	$ 490,104	1 %	$ 484,967	(4)%	$ 504,931
Non-GAAP operating income	170,216	137 %	71,718	(34)%	109,119
Non-GAAP net income attributable to Itron, Inc.	98,284	251 %	27,981	(54)%	60,621
Adjusted EBITDA	208,638	91 %	109,497	(29)%	154,632
GAAP Margins and Earnings Per Share					
Gross margin	32.8%		29.6%		31.5%
Operating margin	4.8%		2.8%		—%
Basic EPS	$ 0.83		$ 0.33		$ (0.60)
Diluted EPS	$ 0.82		$ 0.33		$ (0.60)
Non-GAAP Earnings Per Share [1]					
Non-GAAP diluted EPS	$ 2.54		$ 0.73		$ 1.54

[1] These measures exclude certain expenses that we do not believe are indicative of our core operating results. See pages 38-40 for information about these non-GAAP measures and reconciliations to the most comparable GAAP measures.

Meter and Communication Module Summary

We classify meters into two categories:

- Standard metering – no built-in remote reading communication technology
- Smart metering – one-way communication of meter data or two-way communication including remote meter configuration and upgrade (consisting primarily of our OpenWay technology)

In addition, smart meter communication modules can be sold separately from the meter.

Our revenue is driven significantly by sales of meters and communication modules. A summary of our meter and communication module shipments is as follows:

	Year Ended December 31,		
	2016	**2015**	**2014**
	(units in thousands)		
Meters			
Standard	15,540	17,560	18,740
Smart	9,340	7,290	6,090
Total meters	24,880	24,850	24,830
Stand-alone communication modules			
Smart	5,980	5,840	5,770

Results of Operations

Revenues and Gross Margin

The actual results and effects of changes in foreign currency exchange rates in revenues and gross profit were as follows:

	Year Ended December 31,		**Effect of Changes in Foreign Currency Exchange Rates**	**Constant Currency Change [1]**	**Total Change**
	2016	**2015**			
			(in thousands)		
Total Company					
Revenues	$ 2,013,186	$ 1,883,533	$ (34,781)	$ 164,434	$ 129,653
Gross Profit	660,320	556,685	(9,381)	113,016	103,635

	Year Ended December 31,		**Effect of Changes in Foreign Currency Exchange Rates**	**Constant Currency Change [1]**	**Total Change**
	2015	**2014**			
			(in thousands)		
Total Company					
Revenues	$ 1,883,533	$ 1,947,616	$ (178,250)	$ 114,167	$ (64,083)
Gross Profit	556,685	614,050	(51,264)	(6,101)	(57,365)

[1] Constant currency change is a non-GAAP financial measure and represents the total change between periods excluding the effect of changes in foreign currency exchange rates.

Revenues

Revenues increased $129.7 million , or 7% , in 2016 , compared with 2015 . Changes in currency exchange rates unfavorably impacted revenues by $34.8 million across all segments. Revenues decreased $64.1 million , or 3%, in 2015 , compared with 2014. Changes in currency exchange rates unfavorably impacted revenues by $178.3 million across all segments. A more detailed analysis of these fluctuations is provided in *Operating Segment Results.*

No single customer represented more than 10% of total revenues for the years ended December 31, 2016 , 2015 , and 2014 . Our 10 largest customers accounted for 31% , 22% , and 19% of total revenues in 2016 , 2015 , and 2014 .

Gross Margin

Gross margin was 32.8% for 2016 , compared with 29.6% in 2015 . The improvement was primarily driven by a $29.4 million warranty charge that unfavorably impacted gross margin in 2015 related to the premature failure of certain communication modules that necessitated a product replacement notification in our Water segment, as well as improved revenues and product mix in our Electricity and Gas segments. Gross margin was 29.6% in 2015 , compared with 31.5% in 2014 . The decrease was primarily driven by the warranty charge previously discussed.

Operating Expenses

The following table shows the components of operating expense:

	Year Ended December 31,		Effect of Changes in Foreign Currency Exchange Rates	Constant Currency Change [(1)]	Total Change
	2016	2015			
			(in thousands)		
Total Company					
Sales and marketing	$ 158,883	$ 161,380	$ (2,883)	$ 386	$ (2,497)
Product development	168,209	162,334	(1,273)	7,148	5,875
General and administrative	162,815	155,715	(2,047)	9,147	7,100
Amortization of intangible assets	25,112	31,673	(705)	(5,856)	(6,561)
Restructuring	49,090	(7,263)	(412)	56,765	56,353
Total Operating expenses	$ 564,109	$ 503,839	$ (7,320)	$ 67,590	$ 60,270

	Year Ended December 31,		Effect of Changes in Foreign Currency Exchange Rates	Constant Currency Change [(1)]	Total Change
	2015	2014			
			(in thousands)		
Total Company					
Sales and marketing	$ 161,380	$ 182,503	$ (18,985)	$ (2,138)	$ (21,123)
Product development	162,334	175,500	(10,267)	(2,899)	(13,166)
General and administrative	155,715	162,466	(14,356)	7,605	(6,751)
Amortization of intangible assets	31,673	43,619	(4,121)	(7,825)	(11,946)
Restructuring	(7,263)	49,482	(6,164)	(50,581)	(56,745)
Total Operating expenses	$ 503,839	$ 613,570	$ (53,893)	$ (55,838)	$ (109,731)

(1) Constant currency change is a non-GAAP financial measure and represents the total change between periods excluding the effect of changes in foreign currency exchange rates.

Operating expenses increased $60.3 million for the year ended December 31, 2016 as compared with the same period in 2015 . This was primarily related to increased restructuring expense related to the 2016 Projects. The increases in general and administrative and product development were related to variable compensation, professional service, and temporary worker expenses. This was partially offset by a decrease in amortization of intangible assets.

For the year ended December 31, 2015 , operating expenses decreased $109.7 million as compared with the same period in 2014 . The decrease was primarily related to a reduction in restructuring expense, variable compensation, acquisition related expense, and favorable foreign exchange impact of $53.9 million . These decreases were partially offset by increased litigation, professional service, and temporary worker expenses.

Other Income (Expense)

The following table shows the components of other income (expense):

	Year Ended December 31,				
	2016	% Change	2015	% Change	2014
	(in thousands)		(in thousands)		(in thousands)
Interest income	$ 865	14%	$ 761	54%	$ 494
Interest expense	(9,872)	(3)%	(10,161)	2%	(9,990)
Amortization of prepaid debt fees	(1,076)	(49)%	(2,128)	32%	(1,612)
Other income (expense), net	(1,501)	(64)%	(4,216)	(45)%	(7,637)
Total other income (expense)	$ (11,584)	(26)%	$ (15,744)	(16)%	$ (18,745)

Total other income (expense) for the year ended December 31, 2016 was a net expense of $11.6 million compared with $15.7 million in 2015. The change for the year ended December 31, 2016 as compared with 2015 was due to fluctuations in the recognized foreign currency exchange gains and losses due to transactions denominated in a currency other than the reporting entity's functional currency. The decreased expense in 2016 was also due to the write off of unamortized prepaid debt fees in 2015.

Total other income (expense) for the year ended December 31, 2015 was a net expense of $15.7 million compared with $18.7 million in 2014. The decreased expense was primarily due to reduced losses in the recognized foreign currency exchange losses due to transactions denominated in a currency other than the reporting entity's functional currency.

Income Tax Provision

Our income tax provision was $49.6 million , $22.1 million , and $4.0 million for the years ended December 31, 2016 , 2015 , and 2014 , respectively. Our tax rates of 59% , 60% , and (22)% for the years ended December 31, 2016 , 2015, and 2014 differ from the 35% U.S. federal statutory tax rate due to the level of profit or losses in domestic and foreign jurisdictions, tax credits (including research and development and foreign tax), state income taxes, adjustments to valuation allowances, and uncertain tax positions, among other items. For additional discussion related to income taxes, see Item 8: “Financial Statements and Supplementary Data, Note 11: Income Taxes.”

In December 2016, we filed a formal protest letter with the Internal Revenue Service requesting an Appeals hearing regarding the 2011-2013 tax audit assessment received earlier this year relating to research and development tax credits.

Operating Segment Results

For a description of our operating segments, refer to Item 8: "Financial Statements and Supplementary Data, Note 16: Segment Information" in this Annual Report on Form 10-K. The following tables and discussion highlight significant changes in trends or components of each operating segment.

	Year Ended December 31,				
	2016	**% Change**	**2015**	**% Change**	**2014**
Segment Revenues	(in thousands)		(in thousands)		(in thousands)
Electricity	$ 938,374	14%	$ 820,306	6%	$ 771,857
Gas	569,476	5%	543,805	(9)%	599,091
Water	505,336	(3)%	519,422	(10)%	576,668
Total revenues	$ 2,013,186	7%	$ 1,883,533	(3)%	$ 1,947,616

	Year Ended December 31,					
	2016		**2015**		**2014**	
	Gross Profit	***Gross Margin***	***Gross Profit***	***Gross Margin***	***Gross Profit***	***Gross Margin***
Segment Gross Profit and Margin	(in thousands)		(in thousands)		(in thousands)	
Electricity	$ 282,677	30.1%	$ 225,446	27.5%	$ 200,249	25.9%
Gas	205,063	36.0%	185,559	34.1%	211,623	35.3%
Water	172,580	34.2%	145,680	28.0%	202,178	35.1%
Total gross profit and margin	$ 660,320	32.8%	$ 556,685	29.6%	$ 614,050	31.5%

	Year Ended December 31,				
	2016	**% Change**	**2015**	**% Change**	**2014**
Segment Operating Expenses	(in thousands)		(in thousands)		(in thousands)
Electricity	$ 214,390	10%	$ 194,342	(30)%	$ 278,000
Gas	138,250	17%	118,088	(13)%	135,522
Water	135,314	8%	125,816	(4)%	130,822
Corporate unallocated	76,155	16%	65,593	(5)%	69,226
Total operating expenses	$ 564,109	12%	$ 503,839	(18)%	$ 613,570

	Year Ended December 31,					
	2016		**2015**		**2014**	
	Operating Income (Loss)	***Operating Margin***	***Operating Income (Loss)***	***Operating Margin***	***Operating Income (Loss)***	***Operating Margin***
Segment Operating Income (Loss) and Operating Margin	(in thousands)		(in thousands)		(in thousands)	
Electricity	$ 68,287	7.3%	$ 31,104	3.8%	$ (77,751)	(10.1)%
Gas	66,813	11.7%	67,471	12.4%	76,101	12.7%
Water	37,266	7.4%	19,864	3.8%	71,356	12.4%
Corporate unallocated	(76,155)		(65,593)		(69,226)	
Total operating income	$ 96,211	4.8%	$ 52,846	2.8%	$ 480	—%

Electricity:

The effects of changes in foreign currency exchange rates and the constant currency changes in certain Electricity segment financial results were as follows:

	Year Ended December 31,		Effect of Changes in Foreign Currency Exchange Rates	Constant Currency Change [1]	Total Change
	2016	2015			
			(in thousands)		
Electricity Segment					
Revenues	$ 938,374	$ 820,306	$ (17,643)	$ 135,711	$ 118,068
Gross Profit	282,677	225,446	(5,606)	62,837	57,231
Operating Expenses	214,390	194,342	(3,368)	23,416	20,048

	Year Ended December 31,		Effect of Changes in Foreign Currency Exchange Rates	Constant Currency Change [1]	Total Change
	2015	2014			
			(in thousands)		
Electricity Segment					
Revenues	$ 820,306	$ 771,857	$ (55,440)	$ 103,889	$ 48,449
Gross Profit	225,446	200,249	(14,322)	39,519	25,197
Operating Expenses	194,342	278,000	(20,234)	(63,424)	(83,658)

[1] Constant currency change is a non-GAAP financial measure and represents the total change between periods excluding the effect of changes in foreign currency exchange rates.

Revenues - 2016 vs. 2015

Electricity revenues for 2016 increased by $118.1 million , or 14%, compared with 2015 . This increase was primarily driven by increased smart metering revenues in North America and Europe, Middle East, and Africa (EMEA), higher volumes of prepaid smart metering solutions in our Asia Pacific region, and improved service revenue in North America. These improvements were partially offset by a decline in EMEA service revenue and declines in product revenue in our Latin America region. The total change in Electricity revenues was unfavorably impacted by $17.6 million due to the effect of changes in foreign currency exchange rates.

Revenues - 2015 vs. 2014

Revenues for 2015 increased by $48.4 million , or 6%, compared with 2014 . The increase was primarily driven by increases in product revenue from North America smart metering solutions and service revenues, and improved service revenue in EMEA. The improvements were partially offset by lower product revenue in EMEA due to the planned exit of certain markets and products under our restructuring plan. The total change in Electricity revenues was unfavorably impacted by $55.4 million due to the effect of changes in foreign currency exchange rates.

Two customers represented 12% and 10% of total Electricity operating segment revenues, respectively, for the year ended December 31, 2016. No customer represented more than 10% of total Electricity operating segment revenues in 2015 or 2014 .

Gross Margin - 2016 vs. 2015

Gross margin was 30.1% in 2016 , compared with 27.5% in 2015 . The 260 basis point improvement over the prior year was primarily the result of increased sales of higher margin smart metering solutions in North America and planned reductions in lower margin product sales.

Gross Margin - 2015 vs. 2014

Gross margin was 27.5% in 2015 , compared with 25.9% in 2014 . The margin improvement was driven by net charges for an OpenWay project in North America of $15.9 million, which unfavorably impacted 2014 gross margin by 220 basis points. In addition, we had lower variable compensation expense in 2015. These improvements were partially offset by decreased product revenue in EMEA.

Operating Expenses - 2016 vs. 2015
Operating expenses increased $20.0 million , or 10%. The increase was primarily due to increased restructuring charges. In addition, general and administrative expenses for the year ended December 31, 2015 included a recovery of $8.2 million related to the settlement of litigation arising from the SmartSynch acquisition. These increases were partially offset by a decrease in amortization of intangible assets expense.

Operating Expenses - 2015 vs. 2014
Operating expenses decreased by $83.7 million , or 30%, in 2015 compared with 2014 , primarily due to reduced restructuring charges. In addition, general and administrative expenses decreased due to an $8.2 million litigation expense reimbursement related to a $14.7 million charge in 2014, which is included in general and administrative expense. Variable compensation expense included in the sales and marketing, product development, and general and administrative expenses were all lower when comparing 2015 to 2014, while amortization expense also decreased year over year.

Gas:

The effects of changes in foreign currency exchange rates and the constant currency changes in certain Gas segment financial results were as follows:

	Year Ended December 31,		Effect of Changes in Foreign Currency Exchange Rates	Constant Currency Change [1]	Total Change
	2016	2015			
			(in thousands)		
Gas Segment					
Revenues	$ 569,476	$ 543,805	$ (6,990)	$ 32,661	$ 25,671
Gross Profit	205,063	185,559	(982)	20,486	19,504
Operating Expenses	138,250	118,088	(1,336)	21,498	20,162

	Year Ended December 31,		Effect of Changes in Foreign Currency Exchange Rates	Constant Currency Change [1]	Total Change
	2015	2014			
			(in thousands)		
Gas Segment					
Revenues	$ 543,805	$ 599,091	$ (49,908)	$ (5,378)	$ (55,286)
Gross Profit	185,559	211,623	(11,786)	(14,278)	(26,064)
Operating Expenses	118,088	135,522	(14,054)	(3,380)	(17,434)

[1] Constant currency change is a non-GAAP financial measure and represents the total change between periods excluding the effect of changes in foreign currency exchange rates.

Revenues - 2016 vs. 2015
Revenues increased by $25.7 million , or 5%, in 2016 compared with 2015 . This was due to an increase in product revenue in North America, EMEA, and Asia Pacific. The total change in Gas revenues was unfavorably impacted by $7.0 million due to the effect of changes in foreign currency exchange rates.

Revenues - 2015 vs. 2014
Revenues decreased by $55.3 million , or 9%, in 2015 compared with 2014. This decrease was primarily due to the effects of changes in foreign currency exchange rates, as well as a decrease in EMEA revenues due to the phase out of a large project and a planned reduction in standard meter volumes as we shift our focus to smart meters, which did show increased sales during 2015.

No single customer represented more than 10% of the Gas operating segment revenues in 2016 , 2015 , or 2014 .

Gross Margin - 2016 vs. 2015
Gross margin was 36.0% in 2016 , compared with 34.1% in 2015 . The increase of 190 basis points was related to improved product mix and increased volumes.

Gross Margin - 2015 vs. 2014

Gross margin was 34.1% in 2015 , compared with 35.3% in 2014 . The decrease in gross margin was driven by lower standard meter volumes and lower margins associated with sales of first generation smart meters in EMEA. In addition, EMEA experienced higher inventory costs associated with the closure of our Naples manufacturing facility as part of our restructuring activities. This decline more than offset improvements in Latin America and Asia Pacific due to higher overall sales as well as improved sales in North America of our higher margin communication modules.

Operating Expenses - 2016 vs. 2015

Operating expenses increased by $20.2 million , or 17%, in 2016 . The increase resulted primarily due to increased restructuring charges as a result of the announcement of the 2016 Projects, partially offset by a decrease in general and administrative expense.

Operating Expenses - 2015 vs. 2014

Operating expenses decreased by $17.4 million , or 13% in 2015 . This decrease was primarily due to the effects of changes in foreign currency exchange rates, along with lower restructuring expense.

Water:

The effects of changes in foreign currency exchange rates and the constant currency changes in certain Water segment financial results were as follows:

	Year Ended December 31,		Effect of Changes in Foreign Currency Exchange Rates	Constant Currency Change [1]	Total Change
	2016	2015			
			(in thousands)		
Water Segment					
Revenues	$ 505,336	$ 519,422	$ (10,148)	$ (3,938)	$ (14,086)
Gross Profit	172,580	145,680	(2,793)	29,693	26,900
Operating Expenses	135,314	125,816	(1,003)	10,501	9,498

	Year Ended December 31,		Effect of Changes in Foreign Currency Exchange Rates	Constant Currency Change [1]	Total Change
	2015	2014			
			(in thousands)		
Water Segment					
Revenues	$ 519,422	$ 576,668	$ (72,902)	$ 15,656	$ (57,246)
Gross Profit	145,680	202,178	(25,156)	(31,342)	(56,498)
Operating Expenses	125,816	130,822	(16,723)	11,717	(5,006)

[1] Constant currency change is a non-GAAP financial measure and represents the total change between periods excluding the effect of changes in foreign currency exchange rates.

Revenues - 2016 vs. 2015

Revenues decreased $14.1 million , or 3%, in 2016 . This decrease was primarily due to the effects of changes in foreign currency exchange rates, along with lower meter volumes in EMEA. This was partially offset by improved product sales and services revenues in North America and Asia Pacific.

Revenues - 2015 vs. 2014

Revenues decreased $57.2 million , or 10%, in 2015 . This decrease was primarily due to the effects of changes in foreign currency exchange rates. Excluding those impacts, there was an increase of $15.7 million , driven primarily by growth in product sales of smart meters and modules in North America and EMEA, partially offset by lower product sales in Latin America.

No single customer represented more than 10% of the Water operating segment revenues in 2016 , 2015 , or 2014 .

Gross Margin - 2016 vs. 2015

Gross margin increased to 34.2% in 2016 , compared with 28.0% in 2015 , driven by reduced warranty charges in 2016. Gross margin in 2015 was unfavorably impacted 570 basis points by a warranty charge.

Gross Margin - 2015 vs. 2014
Gross margin decreased to 28.0% in 2015 , compared with 35.1% in 2014 , primarily as the result of a warranty charge of $29.4 million . This warranty charge unfavorably impacted 2015 gross margin by 570 basis points.

Operating Expenses - 2016 vs. 2015
Operating expenses increased $9.5 million , or 8%, in 2016 . The increase was primarily due to increased restructuring charges as a result of the commencement of the 2016 Projects.

Operating Expenses - 2015 vs. 2014
Operating expenses decreased by $5.0 million , or 4% in 2015 . This decrease was primarily due to decreases in sales and marketing and amortization expenses. Operating expenses were favorably impacted by $16.7 million in foreign currency exchange rate impacts.

Corporate unallocated:

Operating expenses not directly associated with an operating segment are classified as “Corporate unallocated.” These expenses increased $10.6 million , or 16% , in 2016. The increase was primarily in general and administrative expense due to higher professional service fees and variable compensation.

Corporate unallocated expenses decreased $3.6 million, or 5%, in 2015. This decrease was primarily due to reduced restructuring expense and a decrease in variable compensation. These decreases were partially offset by higher litigation expense.

Financial Condition

Cash Flow Information:

	Year Ended December 31,		
	2016	2015	2014
	(in thousands)		
Operating activities	$ 115,842	$ 73,350	$ 132,973
Investing activities	(47,528)	(48,951)	(41,496)
Financing activities	(63,023)	7,740	(91,877)
Effect of exchange rates on cash and cash equivalents	(2,744)	(13,492)	(12,034)
Increase (decrease) in cash and cash equivalents	$ 2,547	$ 18,647	$ (12,434)

Cash and cash equivalents at December 31, 2016 were $133.6 million , compared with $131.0 million at December 31, 2015 . The moderate increase in cash and cash equivalents was primarily the result of an increase in cash flow provided by operating activities, which was substantially offset by an increase in cash used in financing activities. Cash and cash equivalents at December 31, 2015 were higher compared with the prior year primarily due to an increase in cash provided by financing activities, partially offset by a decrease in cash flow provided by operating activities.

Operating activities
Net cash provided by operating activities in 2016 was $42.5 million higher than in 2015 . This increase was primarily due to an improvement in net income (loss) adjusted for non-cash items and changes in operating asset and liabilities. These adjustments include a $75.1 million decreased use of cash for inventory caused by a prior year buildup for expected demand. In addition, $49.1 million of restructuring expense was recognized related to the 2016 Projects, much of which will be paid in future periods or relates to non-cash items. These improvements were partially offset by the $29.4 million warranty charge recognized during the year ended December 31, 2015 related to a product replacement notification to customers of our Water business line for which many replacements have been processed during 2016. In addition, there was a $37.8 million net reduction for unearned revenue recognized during the year for which cash was collected in previous years.

Net cash provided by operating activities in 2015 was $59.6 million lower than 2014 . This decrease was primarily due to a $52.7 million increase in inventory in 2015 for expected demand, and a $57.4 million increased use of cash in other current liabilities due to payments and releases of significant restructuring accruals in 2015, compared with a substantial increase in restructuring liabilities in 2014. Additionally, while warranty liabilities increased $18.0 million in 2015, cash paid for claims activity was lower compared with 2014, resulting in a $27.5 million decreased use of cash. A year over year increase of $37.3 million

in net income (loss) and a $36.2 million increase in deferred income taxes also increased cash provided by operating activities as compared with 2014.

Investing activities

Net cash used in investing activities in 2016 was $1.4 million lower than in 2015 .

Net cash used in investing activities in 2015 was $7.5 million higher than in 2014 . This increase was primarily the result of an immaterial acquisition.

Financing activities

Net cash used by financing activities in 2016 was $70.8 million greater than in 2015 , primarily a result of the net repayment of $63.2 million of borrowings in 2016, compared to utilizing $50.5 million of net proceeds during the same period in 2015. This was partially offset by a $38.3 million reduction in cash used for repurchases of common stock during the year ended December 31, 2016, compared with the same period in 2015.

Net cash provided by financing activities in 2015 was $99.6 million higher than in 2014 , primarily as a result of $65.8 million of additional proceeds from borrowings and a $39.4 million decrease in debt repayments.

Effect of exchange rates on cash and cash equivalents

Changes in exchange rates on the cash balances of currencies held in foreign denominations resulted in a decrease of $2.7 million , a decrease of $13.5 million , and a decrease of $12.0 million in 2016 , 2015 , and 2014 , respectively. Our foreign currency exposure relates to non-U.S. dollar denominated balances in our international subsidiary operations, the most significant of which is the euro.

Free cash flow (Non-GAAP)

To supplement our Consolidated Statements of Cash Flows presented on a GAAP basis, we use the non-GAAP measure of free cash flow to analyze cash flows generated from our operations. The presentation of non-GAAP free cash flow is not meant to be considered in isolation or as an alternative to net income as an indicator of our performance, or as an alternative to cash flows from operating activities as a measure of liquidity. We calculate free cash flows, using amounts from our Consolidated Statements of Cash Flows, as follows:

	Year Ended December 31,		
	2016	**2015**	**2014**
		(in thousands)	
Net cash provided by operating activities	$ 115,842	$ 73,350	$ 132,973
Acquisitions of property, plant, and equipment	(43,543)	(43,918)	(44,495)
Free cash flow	$ 72,299	$ 29,432	$ 88,478

Free cash flow fluctuated primarily as a result of changes in cash provided by operating activities. See the cash flow discussion of operating activities above.

Off-balance sheet arrangements:

We have no off-balance sheet financing agreements or guarantees as defined by Item 303 of Regulation S-K at December 31, 2016 and December 31, 2015 that we believe are reasonably likely to have a current or future effect on our financial condition, results of operations, or cash flows.

Disclosures about contractual obligations and commitments:

The following table summarizes our known obligations to make future payments pursuant to certain contracts as of December 31, 2016 , as well as an estimate of the timing in which these obligations are expected to be satisfied.

	Total	Less than 1 year	1-3 years	3-5 years	Beyond 5 years
			(in thousands)		
Credit Facilities [(1)]					
USD denominated term loan	$ 225,877	$ 18,625	$ 52,923	$ 154,329	$ —
Multicurrency revolving line of credit	103,790	1,653	3,951	98,186	—
Operating lease obligations [(2)]	54,417	13,128	21,390	11,389	8,510
Purchase and service commitments [(3)]	171,793	171,251	526	16	—
Other long-term liabilities reflected on the balance sheet under generally accepted accounting principles [(4)]	94,060	—	55,653	13,003	25,404
Total	$ 649,937	$ 204,657	$ 134,443	$ 276,923	$ 33,914

(1) Borrowings are disclosed within Item 8: “Financial Statements and Supplementary Data, Note 6: Debt” included in this Annual Report on Form 10-K, with the addition of estimated interest expense but not including the amortization of prepaid debt fees.

(2) Operating lease obligations are disclosed in Item 8: “Financial Statements and Supplementary Data, Note 12: Commitments and Contingencies” included in this Annual Report on Form 10-K and do not include common area maintenance charges, real estate taxes, and insurance charges for which we are obligated.

(3) We enter into standard purchase orders in the ordinary course of business that typically obligate us to purchase materials and other items. Purchase orders can include open-ended agreements that provide for estimated quantities over an extended shipment period, typically up to one year at an established unit cost. Our long-term executory purchase agreements that contain termination clauses have been classified as less than one year, as the commitments are the estimated amounts we would be required to pay at December 31, 2016 if the commitments were canceled.

(4) Other long-term liabilities consist of warranty obligations, estimated pension benefit payments, and other obligations. Estimated pension benefit payments include amounts from 2018-2026. Long-term unrecognized tax benefits totaling $28.5 million (net of pre-payments), which include accrued interest and penalties, are not included in the above contractual obligations and commitments table as we cannot reliably estimate the period of cash settlement with the respective taxing authorities. Additionally, because the amount and timing of the future cash outflows are uncertain, deferred revenue totaling $49.3 million, which includes deferred revenue related to extended warranty guarantees, is not included in the table. For further information on defined benefit pension plans, income taxes, and warranty obligations and deferred revenue for extended warranties, see Item 8: “ Financial Statements and Supplementary Data, Notes 8, 11, and 12, ” respectively, included in this Annual Report on Form 10-K.

Liquidity and Capital Resources:

Our principal sources of liquidity are cash flows from operations, borrowings, and sales of common stock. Cash flows may fluctuate and are sensitive to many factors including changes in working capital and the timing and magnitude of capital expenditures and payments of debt. Working capital, which represents current assets less current liabilities, was $319.4 million at December 31, 2016 .

Borrowings

Our credit facility consists of a $225 million U.S. dollar term loan and a multicurrency revolving line of credit (the revolver) with a principal amount of up to $500 million . The revolver also contains a $250 million letter of credit sub-facility and a $50 million swingline sub-facility (available for immediate cash needs at a higher interest rate). At December 31, 2016 , $97.2 million was outstanding under the revolver, and $356.7 million was available for additional borrowings or standby letters of credit. At December 31, 2016 , $46.1 million was utilized by outstanding standby letters of credit, resulting in $203.9 million available for additional letters of credit.

For further description of the term loan and the revolver under our 2015 credit facility, refer to Item 8: “Financial Statements and Supplementary Data, Note 6: Debt” included in this Annual Report on Form 10-K.

For a description of our letters of credit and performance bonds, and the amounts available for additional borrowings or letters of credit under our lines of credit, including the revolver that is part of our credit facility, refer to Item 8: “Financial Statements and Supplementary Data, Note 12: Commitments and Contingencies” included in this Annual Report on Form 10-K.

Restructuring

We expect pre-tax restructuring charges associated with the 2016 Projects of approximately $68 million , with expected annualized savings of approximately $40 million upon completion. Of the total estimated charge, more than 90% is expected to result in cash expenditures.

As of December 31, 2016, $48.0 million was accrued for the restructuring projects, of which $26.2 million is expected to be paid over the next 12 months.

For further details regarding our restructuring activities, refer to Item 8: "Financial Statements and Supplementary Data, Note 13: Restructuring."

Stock Repurchases

On February 23, 2017, Itron's Board of Directors authorized a new repurchase program of up to $50 million of our common stock over a 12-month period, beginning February 23, 2017. Repurchases are made in the open market or in privately negotiated transactions and in accordance with applicable securities laws. Repurchases are subject to the Company's alternative uses of capital as well as financial, market, and industry conditions.

Income Tax

Our tax provision as a percentage of income (loss) before tax typically differs from the U.S. federal statutory rate of 35%. Changes in our actual tax rate are subject to several factors, including fluctuations in operating results, new or revised tax legislation and accounting pronouncements, changes in the level of business in domestic and foreign jurisdictions, tax credits (including research and development and foreign tax), state income taxes, adjustments to valuation allowances, and uncertain tax positions, among other items. Changes in tax laws, valuation allowances, and unanticipated tax liabilities could significantly impact our tax rate.

Our cash income tax payments were as follows:

	Year Ended December 31,		
	2016	**2015**	**2014**
		(in thousands)	
U.S. federal taxes paid	$ 9,000	$ 15,700	$ 3,300
State income taxes paid	4,526	1,543	438
Foreign and local income taxes paid	10,761	11,946	14,484
Total income taxes paid	$ 24,287	$ 29,189	$ 18,222

Based on current projections, we expect to pay, net of refunds, approximately $22 million in federal taxes, $9 million in state taxes and $15 million in foreign and local income taxes in 2017.

We have not provided U.S. deferred taxes related to the cash in certain foreign subsidiaries because our investment is considered permanent in duration. As of December 31, 2016 , there was $42.1 million of cash and short-term investments held by certain foreign subsidiaries in which we are permanently reinvested for tax purposes. If this cash were repatriated to fund U.S. operations, additional tax costs may be incurred. Tax is one of many factors that we consider in the management of global cash. Included in the determination of the tax costs in repatriating foreign cash into the United States are the amount of earnings and profits in a particular jurisdiction, withholding taxes that would be imposed, and available foreign tax credits. Accordingly, the amount of taxes that we would need to accrue and pay to repatriate foreign cash could vary significantly.

Other Liquidity Considerations

In several of our consolidated international subsidiaries, we have joint venture partners, who are minority shareholders. Although these entities are not wholly-owned by Itron, Inc., we consolidate them because we have a greater than 50% ownership interest and/or because we exercise control over the operations. The noncontrolling interest balance in our Consolidated Balance Sheets represents the proportional share of the equity of the joint venture entities, which is attributable to the minority shareholders. At December 31, 2016 , $28.0 million of our consolidated cash balance is held in our joint venture entities. As a result, the minority shareholders of these entities have rights to their proportional share of this cash balance, and there may be limitations on our ability to repatriate cash to the United States from these entities.

At December 31, 2016 , we have accrued $23.0 million of bonus and profit sharing plans expense for the expected achievement of financial and nonfinancial targets, which we expect to pay in cash during the first quarter of 2017 .

General Liquidity Overview

We expect to grow through a combination of internal new product development, licensing technology from and to others, distribution agreements, partnering arrangements, and acquisitions of technology or other companies. We expect these activities to be funded with existing cash, cash flow from operations, borrowings, or the sale of common stock or other securities. We believe existing sources of liquidity will be sufficient to fund our existing operations and obligations for the next 12 months and into the foreseeable future, but offer no assurances. Our liquidity could be affected by the stability of the electricity, gas, and water industries, competitive pressures, changes in estimated liabilities for product warranties and/or litigation, future business combinations, capital market fluctuations, international risks, and other factors described under Item 1A: "Risk Factors," as well as Item 7A: "Quantitative and Qualitative Disclosures About Market Risk," both included in this Annual Report on Form 10-K.

Contingencies

Refer to Item 8: "Financial Statements and Supplementary Data, Note 12: Commitments and Contingencies" included in this Annual Report on Form 10-K.

Critical Accounting Estimates and Policies

Our consolidated financial statements and accompanying notes are prepared in accordance with GAAP. Preparing consolidated financial statements requires management to make estimates and assumptions that affect the reported amounts of assets, liabilities, revenue, and expenses. These estimates and assumptions are affected by management's application of accounting policies. Critical accounting policies for us include revenue recognition, warranty, restructuring, income taxes, goodwill and intangible assets, defined benefit pension plans, contingencies, and stock-based compensation. Refer to Item 8: "Financial Statements and Supplementary Data, Note 1: Summary of Significant Accounting Policies" included in this Annual Report on Form 10-K for further disclosures regarding accounting policies and new accounting pronouncements.

Revenue Recognition

Many of our revenue arrangements involve multiple deliverables, which require us to determine the fair value of each deliverable and then allocate the total arrangement consideration among the separate deliverables based on the relative fair value percentages. Revenues for each deliverable are then recognized based on the type of deliverable, such as 1) when the products are shipped, 2) services are delivered, 3) percentage-of-completion for implementation services, 4) upon receipt of customer acceptance, or 5) transfer of title and risk of loss. A majority of our revenue is recognized when products are shipped to or received by a customer or when services are provided.

For implementation services, revenue is recognized using the percentage-of-completion method of contract accounting if project costs can be reliably estimated, or the completed contract method if project costs cannot be reliably estimated. The estimation of costs through completion of a project is subject to many variables such as the length of time to complete, changes in wages, subcontractor performance, supplier information, and business volume assumptions. Changes in underlying assumptions and estimates may adversely or favorably affect financial performance.

Under contract accounting, if we estimate that the completion of a contract component (unit of accounting) will result in a loss, the loss is recognized in the period in which the loss becomes evident. We reevaluate the estimated loss through the completion of the contract component, and adjust the estimated loss for changes in facts and circumstances.

Many of our customer arrangements contain clauses for liquidated damages, related to the timing of delivery or milestone accomplishments, which could become material in an event of failure to meet the contractual deadlines. At the inception of the arrangement and on an ongoing basis, we evaluate if the liquidated damages represent contingent revenue and, if so, we reduce the amount of consideration allocated to the delivered products and services and recognize it as a reduction in revenue in the period of default. If the arrangement is subject to contract accounting, liquidated damages resulting from anticipated events of default are estimated and are accounted for as a reduction in revenue in the period in which the liquidated damages are deemed probable of occurrence and are reasonably estimable.

Certain of our revenue arrangements include an extended or noncustomary warranty provision that covers all or a portion of a customer's replacement or repair costs beyond the standard or customary warranty period. Whether or not the extended warranty is separately priced in the arrangement, a portion of the arrangement's total consideration is allocated to this extended warranty deliverable. This revenue is deferred and recognized over the extended warranty coverage period. Extended or noncustomary warranties do not represent a significant portion of our revenue.

We allocate consideration to each deliverable in an arrangement based on its relative selling price. We determine selling price using vendor specific objective evidence (VSOE), if it exists, otherwise we use third-party evidence (TPE). We define VSOE as

a median price of recent standalone transactions that are priced within a narrow range. TPE is determined based on the prices charged by our competitors for a similar deliverable when sold separately. If neither VSOE nor TPE of selling price exists for a unit of accounting, we use estimated selling price (ESP). The objective of ESP is to determine the price, or fair value, at which we would transact if the product or service were regularly sold by us on a standalone basis. Our determination of ESP involves a weighting of several factors based on the specific facts and circumstances of the arrangement. The factors considered include historical sales, the cost to produce the deliverable, the anticipated margin on that deliverable, our ongoing pricing strategy and policies, and the characteristics of the varying markets in which the deliverable is sold.

Fair value represents the estimated price charged if an element were sold separately. If the fair value of any undelivered element included in a multiple deliverable arrangement cannot be objectively determined, revenue is deferred until all elements are delivered and services have been performed, or until the fair value can be objectively determined for any remaining undelivered elements. We review our fair values on an annual basis or more frequently if a significant trend is noted.

We analyze the selling prices used in our allocation of arrangement consideration on an annual basis. Selling prices are analyzed on a more frequent basis if a significant change in our business necessitates a more timely analysis or if we experience significant variances in our selling prices.

Warranty

We offer standard warranties on our hardware products and large application software products. We accrue the estimated cost of new product warranties based on historical and projected product performance trends and costs during the warranty period. Testing of new products in the development stage helps identify and correct potential warranty issues prior to manufacturing. Quality control efforts during manufacturing reduce our exposure to warranty claims. When testing or quality control efforts fail to detect a fault in one of our products, we may experience an increase in warranty claims. We track warranty claims to identify potential warranty trends. If an unusual trend is noted, an additional warranty accrual would be recognized if a failure event is probable and the cost can be reasonably estimated. When new products are introduced, our process relies on historical averages of similar products until sufficient data are available. As actual experience on new products becomes available, it is used to modify the historical averages to ensure the expected warranty costs are within a range of likely outcomes. Management regularly evaluates the sufficiency of the warranty provisions and makes adjustments when necessary. The warranty allowances may fluctuate due to changes in estimates for material, labor, and other costs we may incur to repair or replace projected product failures, and we may incur additional warranty and related expenses in the future with respect to new or established products, which could adversely affect our financial position and results of operations. The long-term warranty balance includes estimated warranty claims beyond one year.

Restructuring

We recognize a liability for costs associated with an exit or disposal activity under a restructuring project at its fair value in the period in which the liability is incurred. Employee termination benefits considered post-employment benefits are accrued when the obligation is probable and estimable, such as benefits stipulated by human resource policies and practices or statutory requirements. One-time termination benefits are recognized at the date the employee is notified. If the employee must provide future service greater than 60 days, such benefits are recognized ratably over the future service period. For contract termination costs, we recognize a liability upon the later of when we terminate a contract in accordance with the contract terms or when we cease using the rights conveyed by the contract.

Asset impairments associated with a restructuring project are determined at the asset group level. An impairment may be recognized for assets that are to be abandoned, are to be sold for less than net book value, or are held for sale in which the estimated proceeds are less than the net book value less costs to sell. We may also recognize impairment on an asset group, which is held and used, when the carrying value is not recoverable and exceeds the asset group's fair value. If an asset group is considered a business, a portion of our goodwill balance is allocated to it based on relative fair value. If the sale of an asset group under a restructuring project results in proceeds that exceed the net book value of the asset group, the resulting gain is recognized within restructuring expense in the Consolidated Statements of Operations.

In determining restructuring charges, we analyze our future operating requirements, including the required headcount by business functions and facility space requirements. Our restructuring costs and any resulting accruals involve significant estimates using the best information available at the time the estimate are made. Our estimates involve a number of risks and uncertainties, some of which are beyond our control, including real estate market conditions and local labor and employment laws, rules, and regulations. If the amounts and timing of cash flows from restructuring activities are significantly different from what we have estimated, the actual amount of restructuring and asset impairment charges could be materially different, either higher or lower, than those we have recognized.

Income Taxes

We estimate income tax expense in each of the taxing jurisdictions in which we operate. Changes in our actual tax rate are subject to several factors, including fluctuations in operating results, new or revised tax legislation and accounting pronouncements, changes in the level of business in domestic and foreign jurisdictions, tax credits (including research and development and foreign tax), state income taxes, adjustments to valuation allowances, and uncertain tax positions, among other items. Changes in tax laws, valuation allowances, and unanticipated tax liabilities could significantly impact our tax rate.

We recognize valuation allowances to reduce deferred tax assets to the extent we believe it is more likely than not that a portion of such assets will not be realized. In making such determinations, we consider all available favorable and unfavorable evidence, including scheduled reversals of deferred tax liabilities, projected future taxable income, tax planning strategies, and our ability to carry back losses to prior years. We are required to make assumptions and judgments about potential outcomes that lie outside our control. Our most sensitive and critical factors are the projection, source, and character of future taxable income. Although realization is not assured, management believes it is more likely than not that deferred tax assets, net of valuation allowance, will be realized. The amount of deferred tax assets considered realizable, however, could be reduced in the near term if estimates of future taxable income during the carryforward periods are reduced or current tax planning strategies are not implemented.

We are subject to audits in multiple taxing jurisdictions in which we operate. These audits may involve complex issues, which may require an extended period of time to resolve. We believe we have recognized adequate income tax provisions and reserves for uncertain tax positions.

In evaluating uncertain tax positions, we consider the relative risks and merits of positions taken in tax returns filed and to be filed, considering statutory, judicial, and regulatory guidance applicable to those positions. We make assumptions and judgments about potential outcomes that lie outside management's control. To the extent the tax authorities disagree with our conclusions and depending on the final resolution of those disagreements, our actual tax rate may be materially affected in the period of final settlement with the tax authorities.

Goodwill and Intangible Assets

Goodwill and intangible assets may result from our business acquisitions. Intangible assets may also result from the purchase of assets and intellectual property where we do not acquire a business. We use estimates, including estimates of useful lives of intangible assets, the amount and timing of related future cash flows, and fair values of the related operations, in determining the value assigned to goodwill and intangible assets. Our finite-lived intangible assets are amortized over their estimated useful lives based on estimated discounted cash flows. In-process research and development (IPR&D) is considered an indefinite-lived intangible asset and is not subject to amortization until the associated projects are completed or terminated. Finite-lived intangible assets are tested for impairment at the asset group level when events or changes in circumstances indicate the carrying value may not be recoverable. Indefinite-lived intangible assets are tested for impairment annually, when events or changes in circumstances indicate the asset may be impaired, or at the time when their useful lives are determined to be no longer indefinite.

Goodwill is assigned to our reporting units based on the expected benefit from the synergies arising from each business combination, determined by using certain financial metrics, including the forecast discounted cash flows associated with each reporting unit. Each reporting unit corresponds with its respective operating segment.

We test goodwill for impairment each year as of October 1, or more frequently should a significant impairment indicator occur. As part of the impairment test, we may elect to perform an assessment of qualitative factors. If this qualitative assessment indicates that it is more likely than not that the fair value of a reporting unit, including goodwill, is less than its carrying amount, or if we elect to bypass the qualitative assessment, we would then proceed with the two-step impairment test. The impairment test involves comparing the fair values of the reporting units to their carrying amounts. If the carrying amount of a reporting unit exceeds its fair value, a second step is required to measure the goodwill impairment loss amount. This second step determines the current fair values of all assets and liabilities of the reporting unit and then compares the implied fair value of the reporting unit's goodwill to the carrying amount of that goodwill. If the carrying amount of the reporting unit's goodwill exceeds the implied fair value of the goodwill, an impairment loss is recognized in an amount equal to the excess.

Determining the fair value of a reporting unit is judgmental in nature and involves the use of significant estimates and assumptions. We forecast discounted future cash flows at the reporting unit level using risk-adjusted discount rates and estimated future revenues and operating costs, which take into consideration factors such as existing backlog, expected future orders, supplier contracts, and expectations of competitive and economic environments. We also identify similar publicly traded companies and develop a correlation, referred to as a multiple, to apply to the operating results of the reporting units. These combined fair values are then reconciled to the aggregate market value of our common stock on the date of valuation, while considering a reasonable control premium.

Based on our analysis as of October 1, 2016, all reporting units' fair values exceeded their respective carrying values by at least 100%. Changes in market demand, fluctuations in the economies in which we operate, the volatility and decline in the worldwide equity markets, and a decline in our market capitalization could unfavorably impact the remaining carrying value of our goodwill, which could have a significant effect on our current and future results of operations and financial condition.

Defined Benefit Pension Plans

We sponsor both funded and unfunded defined benefit pension plans for our international employees, primarily in Germany, France, Italy, Indonesia, Brazil, and Spain. We recognize a liability for the projected benefit obligation in excess of plan assets or an asset for plan assets in excess of the projected benefit obligation. We also recognize the funded status of our defined benefit pension plans on our Consolidated Balance Sheets and recognize as a component of other comprehensive income (loss) (OCI), net of tax, the actuarial gains or losses and prior service costs or credits, if any, that arise during the period but are not recognized as components of net periodic benefit cost.

Several economic assumptions and actuarial data are used in calculating the expense and obligations related to these plans. The assumptions are updated annually at December 31 and include the discount rate, the expected remaining service life, the expected rate of return on plan assets, and the rate of future compensation increase. The discount rate is a significant assumption used to value our pension benefit obligation. We determine a discount rate for our plans based on the estimated duration of each plan’s liabilities. For our euro denominated defined benefit pension plans, which represent 94% of our benefit obligation, we use two discount rates, with consideration of the duration of the plans, using a hypothetical yield curve developed from euro-denominated AA-rated corporate bond issues, partially weighted for market value, with minimum amounts outstanding of €500 million for bonds with less than 10 years to maturity and €50 million for bonds with 10 or more years to maturity, and excluding the highest and lowest yielding 10% of bonds within each maturity group. The discount rates used, depending on the duration of the plans, were 0.75% and 1.75% , respectively. The weighted average discount rate used to measure the projected benefit obligation for all of the plans at December 31, 2016 was 2.18% . A change of 25 basis points in the discount rate would change our projected benefit obligation by approximately $4.6 million. The financial and actuarial assumptions used at December 31, 2016 may differ materially from actual results due to changing market and economic conditions and other factors. These differences could result in a significant change in the amount of pension expense recognized in future periods.

Contingencies

A loss contingency is recognized if it is probable that an asset has been impaired or a liability has been incurred and the amount of the loss can be reasonably estimated. We evaluate, among other factors, the degree of probability of an unfavorable outcome and our ability to make a reasonable estimate of the amount of the ultimate loss. Loss contingencies that we determine to be reasonably possible, but not probable, are disclosed but not recognized. Changes in these factors and related estimates could materially affect our financial position and results of operations. Legal costs to defend against contingent liabilities are recognized as incurred.

Stock-Based Compensation

We grant various stock-based compensation awards to our officers, employees and Board of Directors with service, market, and/or performance vesting conditions. We also grant phantom stock units, which are settled in cash upon vesting and accounted for as liability-based awards.

We measure and recognize compensation expense for all stock-based compensation based on estimated fair values. The fair value of stock options is estimated at the date of grant using the Black-Scholes option-pricing model, which includes assumptions for the dividend yield, expected volatility, risk-free interest rate, and expected term. For unrestricted stock awards with no market conditions, the fair value is the market close price of our common stock on the date of grant. For restricted stock units with market conditions, the fair value is estimated at the date of award using a Monte Carlo simulation model, which includes assumptions for dividend yield and expected volatility for our common stock and the common stock for companies within the Russell 3000 index, as well as the risk-free interest rate and expected term of the awards. For phantom stock units, fair value is the market close price of our common stock at the end of each reporting period.

In valuing our stock options and restricted stock units with a market condition, significant judgment is required in determining the expected volatility of our common stock and the expected life that individuals will hold their stock options prior to exercising. Expected volatility for stock options is based on the historical and implied volatility of our own common stock while the volatility for our restricted stock units with a market condition is based on the historical volatility of our own stock and the stock for companies comprising the market index within the market condition. The expected life of stock option grants is derived from the historical actual term of option grants and an estimate of future exercises during the remaining contractual period of the option. While volatility and estimated life are assumptions that do not bear the risk of change subsequent to the grant date of stock options, these assumptions may be difficult to measure as they represent future expectations based on historical experience. Further, our expected volatility and expected life may change in the future, which could substantially change the grant-date fair value of future

awards of stock options and ultimately the expense we recognize. We consider many factors when estimating expected forfeitures, including types of awards, employee class, and historical experience. Actual results and future estimates may differ substantially from our current estimates.

We expense stock-based compensation at the date of grant for unrestricted stock awards. For awards with only a service condition, we expense stock-based compensation, adjusted for estimated forfeitures, using the straight-line method over the requisite service period for the entire award. For awards with both performance and service conditions, we expense the stock-based compensation, adjusted for estimated forfeitures, on a straight-line basis over the requisite service period for each separately vesting portion of the award. Excess tax benefits are credited to common stock when the deduction reduces cash taxes payable. When we have tax deductions in excess of the compensation cost, they are classified as financing cash inflows in the Consolidated Statements of Cash Flows.

Non-GAAP Measures

Our consolidated financial statements are prepared in accordance with GAAP, which we supplement with certain non-GAAP financial information. These non-GAAP measures should not be considered in isolation or as a substitute for the related GAAP measures, and other companies may define such measures differently. We encourage investors to review our financial statements and publicly-filed reports in their entirety and not to rely on any single financial measure. These non-GAAP measures exclude the impact of certain expenses that we do not believe are indicative of our core operating results. We use these non-GAAP financial measures for financial and operational decision making and/or as a means for determining executive compensation. These non-GAAP financial measures facilitate management's internal comparisons to our historical performance.

Non-GAAP operating expenses and non-GAAP operating income – We define non-GAAP operating expenses as operating expenses excluding certain expenses related to the amortization of intangible assets, restructuring, acquisitions and goodwill impairment. We define non-GAAP operating income as operating income excluding the expenses related to the amortization of intangible assets, restructuring, acquisitions and goodwill impairment. We consider these non-GAAP financial measures to be useful metrics for management and investors because they exclude the effect of expenses that are related to previous acquisitions and restructuring projects. By excluding these expenses, we believe that it is easier for management and investors to compare our financial results over multiple periods and analyze trends in our operations. For example, in certain periods expenses related to amortization of intangible assets may decrease, which would improve GAAP operating margins, yet the improvement in GAAP operating margins due to this lower expense is not necessarily reflective of an improvement in our core business. There are some limitations related to the use of non-GAAP operating expenses and non-GAAP operating income versus operating expenses and operating income calculated in accordance with GAAP.

Non-GAAP net income and non-GAAP diluted EPS – We define non-GAAP net income as net income (loss) attributable to Itron, Inc. excluding the expenses associated with amortization of intangible assets, restructuring, acquisitions, goodwill impairment and amortization of debt placement fees, and the tax effect of excluding these expenses. We define non-GAAP diluted EPS as non-GAAP net income divided by the weighted average shares, on a diluted basis, outstanding during each period. We consider these financial measures to be useful metrics for management and investors for the same reasons that we use non-GAAP operating income. The same limitations described above regarding our use of non-GAAP operating income apply to our use of non-GAAP net income and non-GAAP diluted EPS. We compensate for these limitations by providing specific information regarding the GAAP amounts excluded from these non-GAAP measures and evaluating non-GAAP net income and non-GAAP diluted EPS together with GAAP net income (loss) attributable to Itron Inc. and GAAP diluted EPS.

Adjusted EBITDA – We define adjusted EBITDA as net income (a) minus interest income, (b) plus interest expense, depreciation, amortization of intangible assets, restructuring, acquisition related expense, goodwill impairment and (c) exclude the tax expense or benefit. Management uses adjusted EBITDA as a performance measure for executive compensation. A limitation to using adjusted EBITDA is that it does not represent the total increase or decrease in the cash balance for the period and the measure includes some non-cash items and excludes other non-cash items. Additionally, the items that we exclude in our calculation of adjusted EBITDA may differ from the items that our peer companies exclude when they report their results. We compensate for these limitations by providing a reconciliation of this measure to GAAP net income.

Free cash flow - We define free cash flow as net cash provided by operating activities less cash used for acquisitions of property, plant and equipment. We believe free cash flow provides investors with a relevant measure of liquidity and a useful basis for assessing our ability to fund our operations and repay our debt. The same limitations described above regarding our use of adjusted EBITDA apply to our use of free cash flow. We compensate for these limitations by providing specific information regarding the GAAP amounts and reconciling to free cash flow.

Constant currency - We refer to the impact of foreign currency exchange rate fluctuations in our discussions of financial results, which references the differences between the foreign currency exchange rates used to translate operating results from local currencies into U.S. dollars for financial reporting purposes. We also use the term "constant currency," which represents financial results adjusted to exclude changes in foreign currency exchange rates as compared with the rates in the comparable prior year period. We calculate the constant currency change as the difference between the current period results and the comparable prior period's results restated using current period foreign currency exchange rates.

Reconciliation of GAAP Measures to Non-GAAP Measures

The tables below reconcile the non-GAAP financial measures of operating expenses, operating income, net income, diluted EPS, adjusted EBITDA, free cash flow, and operating income by segment with the most directly comparable GAAP financial measures.

(Unaudited; in thousands, except per share data)

TOTAL COMPANY RECONCILIATIONS	Year Ended December 31,		
	2016	2015	2014
NON-GAAP OPERATING EXPENSES			
GAAP operating expenses	$ 564,109	$ 503,839	$ 613,570
Amortization of intangible assets	(25,112)	(31,673)	(43,619)
Restructuring	(49,090)	7,263	(49,482)
Acquisition related recovery (expense)	197	5,538	(15,538)
Non-GAAP operating expenses	$ 490,104	$ 484,967	$ 504,931
NON-GAAP OPERATING INCOME			
GAAP operating income	$ 96,211	$ 52,846	$ 480
Amortization of intangible assets	25,112	31,673	43,619
Restructuring	49,090	(7,263)	49,482
Acquisition related (recovery) expense	(197)	(5,538)	15,538
Non-GAAP operating income	$ 170,216	$ 71,718	$ 109,119
NON-GAAP NET INCOME & DILUTED EPS			
GAAP net income (loss) attributable to Itron, Inc.	$ 31,770	$ 12,678	$ (23,670)
Amortization of intangible assets	25,112	31,673	43,619
Amortization of debt placement fees	987	2,021	1,512
Restructuring	49,090	(7,263)	49,482
Acquisition related (recovery) expense	(197)	(5,538)	15,538
Income tax effect of non-GAAP adjustments [1]	(8,478)	(5,590)	(25,860)
Non-GAAP net income	$ 98,284	$ 27,981	$ 60,621
Non-GAAP diluted EPS	$ 2.54	$ 0.73	$ 1.54
Weighted average common shares outstanding - Diluted	38,643	38,506	39,461
ADJUSTED EBITDA			
GAAP net income (loss) attributable to Itron, Inc.	$ 31,770	$ 12,678	$ (23,670)
Interest income	(865)	(761)	(494)
Interest expense	10,948	12,289	11,602
Income tax provision	49,574	22,099	4,035
Depreciation and amortization	68,318	75,993	98,139
Restructuring	49,090	(7,263)	49,482
Acquisition related (recovery) expense	(197)	(5,538)	15,538
Adjusted EBITDA	$ 208,638	$ 109,497	$ 154,632
FREE CASH FLOW			
Net cash provided by operating activities	$ 115,842	$ 73,350	$ 132,973
Acquisitions of property, plant, and equipment	(43,543)	(43,918)	(44,495)
Free Cash Flow	$ 72,299	$ 29,432	$ 88,478

[1] The income tax effect of non-GAAP adjustments is calculated using the statutory tax rates for the relevant jurisdictions if no valuation allowance exists. If a valuation allowance exists, there is no tax impact to the non-GAAP

adjustment.

(Unaudited; in thousands)

SEGMENT RECONCILIATIONS	Year Ended December 31,		
	2016	2015	2014
NON-GAAP OPERATING INCOME - ELECTRICITY			
Electricity - GAAP operating income (loss)	$ 68,287	$ 31,104	$ (77,751)
Amortization of intangible assets	13,273	17,663	24,452
Restructuring	7,694	(7,253)	20,430
Acquisition related (recovery) expense	(197)	(5,655)	15,491
Electricity - Non-GAAP operating income (loss)	$ 89,057	$ 35,859	$ (17,378)
NON-GAAP OPERATING INCOME - GAS			
Gas - GAAP operating income	$ 66,813	$ 67,471	$ 76,101
Amortization of intangible assets	6,456	7,787	10,471
Restructuring	25,744	(287)	9,149
Gas - Non-GAAP operating income	$ 99,013	$ 74,971	$ 95,721
NON-GAAP OPERATING INCOME - WATER			
Water - GAAP operating income	$ 37,266	$ 19,864	$ 71,356
Amortization of intangible assets	5,383	6,223	8,696
Restructuring	13,116	778	2,335
Acquisition related expense	—	104	—
Water - Non-GAAP operating income	$ 55,765	$ 26,969	$ 82,387
NON-GAAP OPERATING INCOME - CORPORATE UNALLOCATED			
Corporate unallocated - GAAP operating loss	$ (76,155)	$ (65,593)	$ (69,226)
Restructuring	2,536	(501)	17,568
Acquisition related expense	—	13	47
Corporate unallocated - Non-GAAP operating loss	$ (73,619)	$ (66,081)	$ (51,611)

ITEM 7A: QUANTITATIVE AND QUALITATIVE DISCLOSURES ABOUT MARKET RISK

In the normal course of business, we are exposed to interest rate and foreign currency exchange rate risks that could impact our financial position and results of operations. As part of our risk management strategy, we may use derivative financial instruments to hedge certain foreign currency and interest rate exposures. Our objective is to offset gains and losses resulting from these exposures with losses and gains on the derivative contracts used to hedge them, therefore reducing the impact of volatility on earnings or protecting the fair values of assets and liabilities. We use derivative contracts only to manage existing underlying exposures. Accordingly, we do not use derivative contracts for trading or speculative purposes.

Interest Rate Risk

We are exposed to interest rate risk through our variable rate debt instruments. In May 2012, we entered into six forward starting pay-fixed receive one-month LIBOR interest rate swaps. The interest rate swaps convert $200 million of our LIBOR based debt from a floating LIBOR interest rate to a fixed interest rate of 1.00% (excluding the applicable margin on the debt) and were effective from July 31, 2013 to August 8, 2016.

In October 2015, we entered into an interest rate swap, which is effective from August 31, 2016 to June 23, 2020, and converts $214 million of our LIBOR-based debt from a floating LIBOR interest rate to a fixed interest rate of 1.42% (excluding the applicable margin on the debt). The notional balance will amortize to maturity at the same rate as required minimum payments on our term loan. At December 31, 2016 , our LIBOR-based debt balance was $248.1 million .

In November 2015, we entered into three interest rate cap contracts with a total notional amount of $100 million at a cost of $1.7 million . The interest rate cap contracts expire on June 23, 2020 and were entered into in order to limit our interest rate exposure on $100 million of our variable LIBOR based debt up to 2.00% . In the event LIBOR is higher than 2.00%, we will pay interest at the capped rate of 2.00% with respect to the $100 million notional amount of such agreements. The interest rate cap contracts do not include the effect of the applicable margin.

The table below provides information about our financial instruments that are sensitive to changes in interest rates and the scheduled minimum repayment of principal and the weighted average interest rates at December 31, 2016 . Weighted average variable rates in the table are based on implied forward rates in the Reuters U.S. dollar yield curve as of December 31, 2016 and our estimated leverage ratio, which determines our additional interest rate margin at December 31, 2016 .

	2017	2018	2019	2020	2021	Total	Fair Value
	(in thousands)						
Variable Rate Debt							
Principal: U.S. dollar term loan	$ 14,063	$ 19,688	$ 22,500	$ 151,874	$ —	$ 208,125	$ 205,676
Average interest rate	2.21 %	2.80%	3.23%	3.39%	—%		
Principal: Multicurrency revolving line of credit	$ —	$ —	$ —	$ 97,167	$ —	$ 97,167	$ 95,906
Average interest rate	1.65 %	1.89%	2.06%	2.13%	—%		
Interest rate swap on LIBOR based debt							
Average interest rate (pay)	1.42 %	1.42%	1.42%	1.42%	—%		
Average interest rate (receive)	0.96 %	1.55%	1.98%	2.14%	—%		
Net/spread	(0.46)%	0.13%	0.56%	0.72%	—%		

Based on a sensitivity analysis as of December 31, 2016 , we estimate that, if market interest rates average one percentage point higher in 2017 than in the table above, our financial results in 2017 would not be materially impacted.

We continually monitor and assess our interest rate risk and may institute additional interest rate swaps or other derivative instruments to manage such risk in the future.

Foreign Currency Exchange Rate Risk

We conduct business in a number of countries. As a result, approximately half of our revenues and operating expenses are denominated in foreign currencies, which expose our account balances to movements in foreign currency exchange rates that could have a material effect on our financial results. Our primary foreign currency exposure relates to non-U.S. dollar denominated transactions in our international subsidiary operations, the most significant of which is the euro. Revenues denominated in functional currencies other than the U.S. dollar were 47% of total revenues for the year ended December 31, 2016 , compared with 51% and 58% for the years ended December 31, 2015 and 2014 .

We are also exposed to foreign exchange risk when we enter into non-functional currency transactions, both intercompany and third-party. At each period-end, non-functional currency monetary assets and liabilities are revalued with the change recognized to other income and expense. We enter into monthly foreign exchange forward contracts, which are not designated for hedge accounting, with the intent to reduce earnings volatility associated with currency exposures. As of December 31, 2016, a total of 49 contracts were offsetting our exposures from the euro, Canadian dollar, Indonesian Rupiah, South African rand, Indian Rupee, Chinese Yuan, and various other currencies, with notional amounts ranging from $120,000 to $42.3 million . Based on a sensitivity analysis as of December 31, 2016, we estimate that, if foreign currency exchange rates average ten percentage points higher in 2017 for these financial instruments, our financial results in 2017 would not be materially impacted.

In future periods, we may use additional derivative contracts to protect against foreign currency exchange rate risks.

ITEM 8: FINANCIAL STATEMENTS AND SUPPLEMENTARY DATA

REPORT OF MANAGEMENT

To the Board of Directors and Shareholders of Itron, Inc.

Management is responsible for the preparation of our consolidated financial statements and related information appearing in this Annual Report on Form 10-K. Management believes that the consolidated financial statements fairly reflect the form and substance of transactions and that the financial statements reasonably present our results of operations, financial position, and cash flows in conformity with U.S. generally accepted accounting principles (GAAP). Management has included in our financial statements amounts based on estimates and judgments that it believes are reasonable under the circumstances.

Management's explanation and interpretation of our overall operating results and financial position, with the basic financial statements presented, should be read in conjunction with the entire report. The notes to the consolidated financial statements, an integral part of the basic financial statements, provide additional detailed financial information. Our Board of Directors has an Audit/Finance Committee composed of independent directors. The Audit/Finance Committee meets regularly with financial management and Deloitte & Touche LLP to review internal control, auditing, and financial reporting matters.

Philip C. Mezey	W. Mark Schmitz
President and Chief Executive Officer	Executive Vice President and Chief Financial Officer

Report of Independent Registered Public Accounting Firm

To the Board of Directors and Shareholders of
Itron, Inc.
Liberty Lake, Washington

We have audited the accompanying consolidated balance sheet of Itron, Inc. and subsidiaries (the "Company") as of December 31, 2016, and the related consolidated statements of operations, comprehensive income (loss), equity, and cash flows for the year then ended. Our audit also included the 2016 financial statement schedule listed in the Index at Item 15. These financial statements and financial statement schedule are the responsibility of the Company's management. Our responsibility is to express an opinion on these financial statements and financial statement schedule based on our audit.

We conducted our audit in accordance with the standards of the Public Company Accounting Oversight Board (United States). Those standards require that we plan and perform the audit to obtain reasonable assurance about whether the financial statements are free of material misstatement. An audit includes examining, on a test basis, evidence supporting the amounts and disclosures in the financial statements. An audit also includes assessing the accounting principles used and significant estimates made by management, as well as evaluating the overall financial statement presentation. We believe that our audit provides a reasonable basis for our opinion.

In our opinion, such consolidated financial statements present fairly, in all material respects, the financial position of Itron, Inc. and subsidiaries as of December 31, 2016 and the results of their operations and their cash flows for the year then ended, in conformity with accounting principles generally accepted in the United States of America. Also, in our opinion, the 2016 financial statement schedule, when considered in relation to the basic consolidated financial statements taken as a whole, presents fairly, in all material respects, the information set forth therein.

We have also audited, in accordance with the standards of the Public Company Accounting Oversight Board (United States), the Company's internal control over financial reporting as of December 31, 2016, based on the criteria established in *Internal Control - Integrated Framework (2013)* issued by the Committee of Sponsoring Organizations of the Treadway Commission and our report dated February 28, 2017 expressed an unqualified opinion on the Company's internal control over financial reporting.

/s/ DELOITTE & TOUCHE LLP

Seattle, Washington

February 28, 2017

Report of Ernst & Young LLP, Independent Registered Public Accounting Firm

The Board of Directors and Shareholders of Itron, Inc.

We have audited the accompanying consolidated balance sheets of Itron, Inc. as of December 31, 2015, and the related consolidated statements of operations, comprehensive income (loss), equity and cash flows for each of the two years in the period ended December 31, 2015. Our audits also included the financial statement schedule listed in the Index at Item 15(a)(2). These financial statements and schedule are the responsibility of the Company's management. Our responsibility is to express an opinion on these financial statements and schedule based on our audits.

We conducted our audits in accordance with the standards of the Public Company Accounting Oversight Board (United States). Those standards require that we plan and perform the audit to obtain reasonable assurance about whether the financial statements are free of material misstatement. An audit includes examining, on a test basis, evidence supporting the amounts and disclosures in the financial statements. An audit also includes assessing the accounting principles used and significant estimates made by management, as well as evaluating the overall financial statement presentation. We believe that our audits provide a reasonable basis for our opinion.

In our opinion, the financial statements referred to above present fairly, in all material respects, the consolidated financial position of Itron, Inc. at December 31, 2015, and the consolidated results of its operations and its cash flows for each of the two years in the period ended December 31, 2015, in conformity with U.S. generally accepted accounting principles. Also, in our opinion, the related financial statement schedule, when considered in relation to the basic financial statements taken as a whole, presents fairly in all material respects the information set forth therein.

/s/ Ernst & Young LLP

Seattle, Washington
June 29, 2016

ITRON, INC.
CONSOLIDATED STATEMENTS OF OPERATIONS

	Year Ended December 31,		
	2016	**2015**	**2014**
	(in thousands, except per share data)		
Revenues	$ 2,013,186	$ 1,883,533	$ 1,947,616
Cost of revenues	1,352,866	1,326,848	1,333,566
Gross profit	660,320	556,685	614,050
Operating expenses			
Sales and marketing	158,883	161,380	182,503
Product development	168,209	162,334	175,500
General and administrative	162,815	155,715	162,466
Amortization of intangible assets	25,112	31,673	43,619
Restructuring	49,090	(7,263)	49,482
Total operating expenses	564,109	503,839	613,570
Operating income	96,211	52,846	480
Other income (expense)			
Interest income	865	761	494
Interest expense	(10,948)	(12,289)	(11,602)
Other income (expense), net	(1,501)	(4,216)	(7,637)
Total other income (expense)	(11,584)	(15,744)	(18,745)
Income (loss) before income taxes	84,627	37,102	(18,265)
Income tax provision	(49,574)	(22,099)	(4,035)
Net income (loss)	35,053	15,003	(22,300)
Net income attributable to noncontrolling interests	3,283	2,325	1,370
Net income (loss) attributable to Itron, Inc.	$ 31,770	$ 12,678	$ (23,670)
Earnings (loss) per common share - Basic	$ 0.83	$ 0.33	$ (0.60)
Earnings (loss) per common share - Diluted	$ 0.82	$ 0.33	$ (0.60)
Weighted average common shares outstanding - Basic	38,207	38,224	39,184
Weighted average common shares outstanding - Diluted	38,643	38,506	39,184

The accompanying notes are an integral part of these consolidated financial statements.

ITRON, INC.
CONSOLIDATED STATEMENTS OF COMPREHENSIVE INCOME (LOSS)

	Year Ended December 31,		
	2016	2015	2014
	(in thousands)		
Net income (loss)	$ 35,053	$ 15,003	$ (22,300)
Other comprehensive income (loss), net of tax:			
Foreign currency translation adjustments	(24,977)	(72,929)	(89,297)
Net unrealized gain (loss) on derivative instruments, designated as cash flow hedges	(275)	1,086	488
Pension benefit obligation adjustment	(3,468)	6,296	(24,947)
Total other comprehensive income (loss), net of tax	(28,720)	(65,547)	(113,756)
Total comprehensive income (loss), net of tax	6,333	(50,544)	(136,056)
Comprehensive income (loss) attributable to noncontrolling interest, net of tax:	3,283	2,325	1,370
Comprehensive income (loss) attributable to Itron, Inc.	$ 3,050	$ (52,869)	$ (137,426)

The accompanying notes are an integral part of these consolidated financial statements.

ITRON, INC.
CONSOLIDATED BALANCE SHEETS

	December 31, 2016	December 31, 2015
	(in thousands)	
ASSETS		
Current assets		
Cash and cash equivalents	$ 133,565	$ 131,018
Accounts receivable, net	351,506	330,895
Inventories	163,049	190,465
Other current assets	84,346	106,562
Total current assets	732,466	758,940
Property, plant, and equipment, net	176,458	190,256
Deferred tax assets, net	94,113	109,387
Other long-term assets	50,129	51,679
Intangible assets, net	72,151	101,932
Goodwill	452,494	468,122
Total assets	$ 1,577,811	$ 1,680,316
LIABILITIES AND EQUITY		
Current liabilities		
Accounts payable	$ 172,711	$ 185,827
Other current liabilities	43,625	78,630
Wages and benefits payable	82,346	76,980
Taxes payable	10,451	14,859
Current portion of debt	14,063	11,250
Current portion of warranty	24,874	36,927
Unearned revenue	64,976	73,301
Total current liabilities	413,046	477,774
Long-term debt	290,460	358,915
Long-term warranty	18,428	17,585
Pension benefit obligation	84,498	85,971
Deferred tax liabilities, net	3,073	1,723
Other long-term obligations	117,953	115,645
Total liabilities	927,458	1,057,613
Commitments and contingencies (Note 12)		
Equity		
Preferred stock, no par value, 10 million shares authorized, no shares issued or outstanding	—	—
Common stock, no par value, 75 million shares authorized, 38,317 and 37,906 shares issued and outstanding	1,270,467	1,246,671
Accumulated other comprehensive loss, net	(229,327)	(200,607)
Accumulated deficit	(409,536)	(441,306)
Total Itron, Inc. shareholders' equity	631,604	604,758
Noncontrolling interests	18,749	17,945
Total equity	650,353	622,703
Total liabilities and equity	$ 1,577,811	$ 1,680,316

The accompanying notes are an integral part of these consolidated financial statements.

ITRON, INC.
CONSOLIDATED STATEMENTS OF EQUITY
(in thousands)

	Common Stock		Accumulated Other Comprehensive Loss	Accumulated Deficit	Total Itron, Inc. Shareholders' Equity	Noncontrolling Interests	Total Equity
	Shares	Amount					
Balances at January 1, 2014	39,149	$ 1,290,629	$ (21,304)	$ (430,314)	$ 839,011	$ 17,735	$ 856,746
Net income (loss)				(23,670)	(23,670)	1,370	(22,300)
Other comprehensive income (loss), net of tax			(113,756)		(113,756)	—	(113,756)
Distributions to noncontrolling interests						(1,564)	(1,564)
Stock issues and repurchases:							
Options exercised	65	1,621			1,621		1,621
Restricted stock awards released	281	—			—		—
Issuance of stock-based compensation awards	21	936			936		936
Employee stock purchase plan	61	2,247			2,247		2,247
Stock-based compensation expense		16,924			16,924		16,924
Employee stock plans income tax deficiencies		(2,647)			(2,647)		(2,647)
Repurchase of common stock	(986)	(39,665)			(39,665)		(39,665)
Balances at December 31, 2014	38,591	$ 1,270,045	$ (135,060)	$ (453,984)	$ 681,001	$ 17,541	$ 698,542
Net income				12,678	12,678	2,325	15,003
Other comprehensive income (loss), net of tax			(65,547)		(65,547)	—	(65,547)
Distributions to noncontrolling interests						(1,921)	(1,921)
Stock issues and repurchases:							
Options exercised	24	853			853		853
Restricted stock awards released	296	—			—		—
Issuance of stock-based compensation awards	20	706			706		706
Employee stock purchase plan	54	1,819			1,819		1,819
Stock-based compensation expense		13,384			13,384		13,384
Employee stock plans income tax deficiencies		(1,853)			(1,853)		(1,853)
Repurchase of common stock	(1,079)	(38,283)			(38,283)		(38,283)
Balances at December 31, 2015	37,906	$ 1,246,671	$ (200,607)	$ (441,306)	$ 604,758	$ 17,945	$ 622,703
Net income				31,770	31,770	3,283	35,053
Other comprehensive income (loss), net of tax			(28,720)		(28,720)	—	(28,720)
Distributions to noncontrolling interests						(2,479)	(2,479)
Stock issues and repurchases:							
Options exercised	58	2,144			2,144		2,144
Restricted stock awards released	312	—			—		—
Issuance of stock-based compensation awards	21	955			955		955
Employee stock purchase plan	20	747			747		747
Stock-based compensation expense		17,080			17,080		17,080
Excess tax benefits from employee stock plans		2,870			2,870		2,870
Balances at December 31, 2016	38,317	$ 1,270,467	$ (229,327)	$ (409,536)	$ 631,604	$ 18,749	$ 650,353

The accompanying notes are an integral part of these consolidated financial statements.

ITRON, INC.
CONSOLIDATED STATEMENTS OF CASH FLOWS

	Year Ended December 31,		
	2016	**2015**	**2014**
		(in thousands)	
Operating activities			
Net income (loss)	$ 35,053	$ 15,003	$ (22,300)
Adjustments to reconcile net income (loss) to net cash provided by operating activities:			
Depreciation and amortization	68,318	75,993	98,139
Stock-based compensation	18,035	14,089	17,860
Amortization of prepaid debt fees	1,076	2,128	1,612
Deferred taxes, net	13,790	1,488	(34,757)
Restructuring, non-cash	7,188	976	5,172
Other adjustments, net	4,309	2,003	914
Changes in operating assets and liabilities, net of acquisitions:			
Accounts receivable	(27,162)	(9,009)	(15,119)
Inventories	22,343	(52,737)	7,208
Other current assets	20,705	12,512	(10,947)
Other long-term assets	(339)	(3,721)	(12,540)
Accounts payables, other current liabilities, and taxes payable	(37,312)	(7,060)	56,158
Wages and benefits payable	7,808	(10,866)	7,502
Unearned revenue	(25,810)	11,943	30,584
Warranty	(10,246)	20,161	(7,297)
Other operating, net	18,086	447	10,784
Net cash provided by operating activities	115,842	73,350	132,973
Investing activities			
Acquisitions of property, plant, and equipment	(43,543)	(43,918)	(44,495)
Business acquisitions, net of cash equivalents acquired	(951)	(5,754)	—
Other investing, net	(3,034)	721	2,999
Net cash used in investing activities	(47,528)	(48,951)	(41,496)
Financing activities			
Proceeds from borrowings	15,877	113,467	47,657
Payments on debt	(79,119)	(62,998)	(102,438)
Issuance of common stock	2,891	2,663	3,647
Repurchase of common stock	—	(38,283)	(39,665)
Other financing, net	(2,672)	(7,109)	(1,078)
Net cash provided by (used in) financing activities	(63,023)	7,740	(91,877)
Effect of foreign exchange rate changes on cash and cash equivalents	(2,744)	(13,492)	(12,034)
Increase (decrease) in cash and cash equivalents	2,547	18,647	(12,434)
Cash and cash equivalents at beginning of period	131,018	112,371	124,805
Cash and cash equivalents at end of period	$ 133,565	$ 131,018	$ 112,371
Supplemental disclosure of cash flow information:			
Cash paid during the period for:			
Income taxes, net	$ 24,287	$ 29,189	$ 18,222
Interest	9,921	10,198	9,912

The accompanying notes are an integral part of these consolidated financial statements.

In this Annual Report, the terms "we," "us," "our," "Itron," and the "Company" refer to Itron, Inc.

Note 1: Summary of Significant Accounting Policies

We were incorporated in the state of Washington in 1977. We provide a portfolio of solutions to utilities for the electricity, gas, and water markets throughout the world.

Financial Statement Preparation

The consolidated financial statements presented in this Annual Report include the Consolidated Statements of Operations, Comprehensive Income (Loss), Equity, and Cash Flows for the years ended December 31, 2016 , 2015 , and 2014 and the Consolidated Balance Sheets as of December 31, 2016 and 2015 of Itron, Inc. and its subsidiaries.

Basis of Consolidation

We consolidate all entities in which we have a greater than 50% ownership interest or in which we exercise control over the operations. We use the equity method of accounting for entities in which we have a 50% or less investment and exercise significant influence. Entities in which we have less than a 20% investment and where we do not exercise significant influence are accounted for under the cost method. Intercompany transactions and balances are eliminated upon consolidation.

Noncontrolling Interests

In several of our consolidated international subsidiaries, we have joint venture partners, who are minority shareholders. Although these entities are not wholly-owned by Itron, we consolidate them because we have a greater than 50% ownership interest or because we exercise control over the operations. The noncontrolling interest balance is adjusted each period to reflect the allocation of net income (loss) and other comprehensive income (loss) attributable to the noncontrolling interests, as shown in our Consolidated Statements of Operations and our Consolidated Statements of Comprehensive Income (Loss) as well as contributions from and distributions to the owners. The noncontrolling interest balance in our Consolidated Balance Sheets represents the proportional share of the equity of the joint venture entities, which is attributable to the minority shareholders.

Cash and Cash Equivalents

We consider all highly liquid instruments with remaining maturities of three months or less at the date of acquisition to be cash equivalents.

Accounts Receivable,net

Accounts receivable are recognized for invoices issued to customers in accordance with our contractual arrangements. Interest and late payment fees are minimal. Unbilled receivables are recognized when revenues are recognized upon product shipment or service delivery and invoicing occurs at a later date. We recognize an allowance for doubtful accounts representing our estimate of the probable losses in accounts receivable at the date of the balance sheet based on our historical experience of bad debts and our specific review of outstanding receivables. Accounts receivable are written-off against the allowance when we believe an account, or a portion thereof, is no longer collectible.

Inventories

Inventories are stated at the lower of cost or market using the first-in, first-out method. Cost includes raw materials and labor, plus applied direct and indirect costs.

Derivative Instruments

All derivative instruments, whether designated in hedging relationships or not, are recognized on the Consolidated Balance Sheets at fair value as either assets or liabilities. The components and fair values of our derivative instruments are determined using the fair value measurements of significant other observable inputs (Level 2), as defined by GAAP. The fair value of our derivative instruments may switch between an asset and a liability depending on market circumstances at the end of the period. We include the effect of our counterparty credit risk based on current published credit default swap rates when the net fair value of our derivative instruments are in a net asset position and the effect of our own nonperformance risk when the net fair value of our derivative instruments are in a net liability position.

For any derivative designated as a fair value hedge, the changes in the fair value of the derivative and of the hedged item attributable to the hedged risk are recognized in earnings. For any derivative designated as a cash flow hedge, the effective portions of changes

in the fair value of the derivative are recognized as a component of other comprehensive income (loss) (OCI) and are recognized in earnings when the hedged item affects earnings. Ineffective portions of cash flow hedges are recognized in other income (expense) in the Consolidated Statements of Operations. For a hedge of a net investment, the effective portion of any unrealized gain or loss from the foreign currency revaluation of the hedging instrument is reported in OCI as a net unrealized gain or loss on derivative instruments. Upon termination of a net investment hedge, the net derivative gain/loss will remain in accumulated other comprehensive income (loss) (AOCI) until such time when earnings are impacted by a sale or liquidation of the associated operations. Ineffective portions of fair value changes or the changes in fair value of derivative instruments that do not qualify for hedging activities are recognized in other income (expense) in the Consolidated Statements of Operations. We classify cash flows from our derivative programs as cash flows from operating activities in the Consolidated Statements of Cash Flows.

Derivatives are not used for trading or speculative purposes. Our derivatives are with credit worthy multinational commercial banks, with whom we have master netting agreements; however, our derivative positions are not recognized on a net basis in the Consolidated Balance Sheets. There are no credit-risk-related contingent features within our derivative instruments. Refer to Note 7 and Note 14 for further disclosures of our derivative instruments and their impact on OCI.

Property, Plant, and Equipment

Property, plant, and equipment are stated at cost less accumulated depreciation. Depreciation is computed using the straight-line method over the estimated useful lives of the assets, generally 30 years for buildings and improvements and three to ten years for machinery and equipment, computers and software, and furniture. Leasehold improvements are capitalized and depreciated over the term of the applicable lease, including renewable periods if reasonably assured, or over the useful lives, whichever is shorter. Construction in process represents capital expenditures incurred for assets not yet placed in service. Costs related to internally developed software and software purchased for internal uses are capitalized and are amortized over the estimated useful lives of the assets. Repair and maintenance costs are recognized as incurred. We have no major planned maintenance activities.

We review long-lived assets for impairment whenever events or circumstances indicate the carrying amount of an asset group may not be recoverable. Assets held for sale are classified within other current assets in the Consolidated Balance Sheets, are reported at the lower of the carrying amount or fair value less costs to sell, and are no longer depreciated. Gains and losses from asset disposals and impairment losses are classified within the Consolidated Statement of Operations according to the use of the asset, except those gains and losses recognized in conjunction with our restructuring activities, which are classified within restructuring expense.

Prepaid Debt Fees

Prepaid debt fees for term debt represent the capitalized direct costs incurred related to the issuance of debt and are recognized as a direct deduction from the carrying amount of the corresponding debt liability. We have elected to present prepaid debt fees for revolving debt within other long-term assets in the Consolidated Balance Sheets. These costs are amortized to interest expense over the terms of the respective borrowings, including contingent maturity or call features, using the effective interest method, or straight-line method when associated with a revolving credit facility. When debt is repaid early, the related portion of unamortized prepaid debt fees is written off and included in interest expense.

Business Combinations

On the date of acquisition, the assets acquired, liabilities assumed, and any noncontrolling interests in the acquiree are recognized at their fair values. The acquiree's results of operations are also included as of the date of acquisition in our consolidated results. Intangible assets that arise from contractual/legal rights, or are capable of being separated, as well as in-process research and development (IPR&D), are measured and recognized at fair value, and amortized over the estimated useful life. IPR&D is not amortized until such time as the associated development projects are completed or terminated. If a development project is completed, the IPR&D is reclassified as a core technology intangible asset and amortized over its estimated useful life. If the development project is terminated, the recorded value of the associated IPR&D is immediately recognized. If practicable, assets acquired and liabilities assumed arising from contingencies are measured and recognized at fair value. If not practicable, such assets and liabilities are measured and recognized when it is probable that a gain or loss has occurred and the amount can be reasonably estimated. The residual balance of the purchase price, after fair value allocations to all identified assets and liabilities, represents goodwill. Acquisition-related costs are recognized as incurred. Restructuring costs associated with an acquisition are generally recognized in periods subsequent to the acquisition date, and changes in deferred tax asset valuation allowances and acquired income tax uncertainties, including penalties and interest, after the measurement period are recognized as a component of the provision for income taxes. Our acquisitions may include contingent consideration, which require us to recognize the fair value of the estimated liability at the time of the acquisition. Subsequent changes in the estimate of the amount to be paid under the contingent consideration arrangement are recognized in the Consolidated Statements of Operations.

Goodwill and Intangible Assets

Goodwill and intangible assets may result from our business acquisitions. Intangible assets may also result from the purchase of assets and intellectual property in a transaction that does not qualify as a business combination. We use estimates, including estimates of useful lives of intangible assets, the amount and timing of related future cash flows, and fair values of the related operations, in determining the value assigned to goodwill and intangible assets. Our finite-lived intangible assets are amortized over their estimated useful lives based on estimated discounted cash flows, generally three years to seven years for core-developed technology and customer contracts and relationships. Finite-lived intangible assets are tested for impairment at the asset group level when events or changes in circumstances indicate the carrying value may not be recoverable. Indefinite-lived intangible assets are tested for impairment annually, when events or changes in circumstances indicate the asset may be impaired, or at the time when their useful lives are determined to be no longer indefinite.

Goodwill is assigned to our reporting units based on the expected benefit from the synergies arising from each business combination, determined by using certain financial metrics, including the forecasted discounted cash flows associated with each reporting unit. Each reporting unit corresponds with its respective operating segment.

We test goodwill for impairment each year as of October 1, or more frequently should a significant impairment indicator occur. As part of the impairment test, we may elect to perform an assessment of qualitative factors. If this qualitative assessment indicates that it is more likely than not that the fair value of a reporting unit, including goodwill, is less than its carrying amount, or if we elect to bypass the qualitative assessment, we would then proceed with the two-step impairment test. The impairment test involves comparing the fair values of the reporting units to their carrying amounts. If the carrying amount of a reporting unit exceeds its fair value, a second step is required to measure the goodwill impairment loss amount. This second step determines the current fair values of all assets and liabilities of the reporting unit and then compares the implied fair value of the reporting unit's goodwill to the carrying amount of that goodwill. If the carrying amount of the reporting unit's goodwill exceeds the implied fair value of the goodwill, an impairment loss is recognized in an amount equal to the excess.

Determining the fair value of a reporting unit is judgmental in nature and involves the use of significant estimates and assumptions. We forecast discounted future cash flows at the reporting unit level using risk-adjusted discount rates and estimated future revenues and operating costs, which take into consideration factors such as existing backlog, expected future orders, supplier contracts, and expectations of competitive and economic environments. We also identify similar publicly traded companies and develop a correlation, referred to as a multiple, to apply to the operating results of the reporting units. These combined fair values are then reconciled to the aggregate market value of our common stock on the date of valuation, while considering a reasonable control premium.

Contingencies

A loss contingency is recognized if it is probable that an asset has been impaired or a liability has been incurred and the amount of the loss can be reasonably estimated. We evaluate, among other factors, the degree of probability of an unfavorable outcome and our ability to make a reasonable estimate of the amount of the ultimate loss. Loss contingencies that we determine to be reasonably possible, but not probable, are disclosed but not recognized. Changes in these factors and related estimates could materially affect our financial position and results of operations. Legal costs to defend against contingent liabilities are recognized as incurred.

Bonus and Profit Sharing

We have various employee bonus and profit sharing plans, which provide award amounts for the achievement of financial and nonfinancial targets. If management determines it is probable that the targets will be achieved, and the amounts can be reasonably estimated, a compensation accrual is recognized based on the proportional achievement of the financial and nonfinancial targets. Although we monitor and accrue expenses quarterly based on our progress toward the achievement of the targets, the actual results may result in awards that are significantly greater or less than the estimates made in earlier quarters.

Warranty

We offer standard warranties on our hardware products and large application software products. We accrue the estimated cost of new product warranties based on historical and projected product performance trends and costs during the warranty period. Testing of new products in the development stage helps identify and correct potential warranty issues prior to manufacturing. Quality control efforts during manufacturing reduce our exposure to warranty claims. When testing or quality control efforts fail to detect a fault in one of our products, we may experience an increase in warranty claims. We track warranty claims to identify potential warranty trends. If an unusual trend is noted, an additional warranty accrual would be recognized if a failure event is probable and the cost can be reasonably estimated. When new products are introduced, our process relies on historical averages of similar products until sufficient data is available. As actual experience on new products becomes available, it is used to modify the historical averages to ensure the expected warranty costs are within a range of likely outcomes. Management regularly evaluates the sufficiency of the warranty provisions and makes adjustments when necessary. The warranty allowances may fluctuate due to

changes in estimates for material, labor, and other costs we may incur to repair or replace projected product failures, and we may incur additional warranty and related expenses in the future with respect to new or established products, which could adversely affect our financial position and results of operations. The long-term warranty balance includes estimated warranty claims beyond one year. Warranty expense is classified within cost of revenues.

Restructuring

We recognize a liability for costs associated with an exit or disposal activity under a restructuring project in the period in which the liability is incurred. Employee termination benefits considered postemployment benefits are accrued when the obligation is probable and estimable, such as benefits stipulated by human resource policies and practices or statutory requirements. One-time termination benefits are recognized at the date the employee is notified. If the employee must provide future service greater than 60 days, such benefits are recognized ratably over the future service period. For contract termination costs, we recognize a liability upon the termination of a contract in accordance with the contract terms or the cessation of the use of the rights conveyed by the contract, whichever occurs later.

Asset impairments associated with a restructuring project are determined at the asset group level. An impairment may be recognized for assets that are to be abandoned, are to be sold for less than net book value, or are held for sale in which the estimated proceeds less costs to sell are less than the net book value. We may also recognize impairment on an asset group, which is held and used, when the carrying value is not recoverable and exceeds the asset group's fair value. If an asset group is considered a business, a portion of our goodwill balance is allocated to it based on relative fair value. If the sale of an asset group under a restructuring project results in proceeds that exceed the net book value of the asset group, the resulting gain is recognized within restructuring expense in the Consolidated Statements of Operations.

Defined Benefit Pension Plans

We sponsor both funded and unfunded defined benefit pension plans for certain international employees. We recognize a liability for the projected benefit obligation in excess of plan assets or an asset for plan assets in excess of the projected benefit obligation. We also recognize the funded status of our defined benefit pension plans on our Consolidated Balance Sheets and recognize as a component of OCI, net of tax, the actuarial gains or losses and prior service costs or credits, if any, that arise during the period but that are not recognized as components of net periodic benefit cost. If actuarial gains and losses exceed ten percent of the greater of plan assets or plan liabilities, we amortize them over the employees' average future service period.

Share Repurchase Plan

From time to time, we may repurchase shares of Itron common stock under programs authorized by our Board of Directors. Share repurchases are made in the open market or in privately negotiated transactions and in accordance with applicable securities laws. Under applicable Washington State law, shares repurchased are retired and not displayed separately as treasury stock on the financial statements; the value of the repurchased shares is deducted from common stock.

Revenue Recognition

Revenues consist primarily of hardware sales, software license fees, software implementation, project management services, installation, consulting, and post-sale maintenance support. Revenues are recognized when (1) persuasive evidence of an arrangement exists, (2) delivery has occurred or services have been rendered, (3) the sales price is fixed or determinable, and (4) collectability is reasonably assured.

Many of our revenue arrangements involve multiple deliverables, which combine two or more of the following: hardware, meter reading system software, installation, and/or project management services. Separate contracts entered into with the same customer that meet certain criteria such as those that are entered into at or near the same time are evaluated as one single arrangement for purposes of applying multiple element arrangement revenue recognition. Revenue arrangements with multiple deliverables are divided into separate units of accounting at the inception of the arrangement and as each item in the arrangement is delivered. If the delivered item(s) has value to the customer on a standalone basis and delivery/performance of the undelivered item(s) is probable. The total arrangement consideration is allocated among the separate units of accounting based on their relative fair values and the applicable revenue recognition criteria are then considered for each unit of accounting. The amount allocable to a delivered item is limited to the amount that we are entitled to collect and that is not contingent upon the delivery/performance of additional items. Revenues for each deliverable are then recognized based on the type of deliverable, such as 1) when the products are shipped, 2) services are delivered, 3) percentage-of-completion for implementation services, 4) upon receipt of customer acceptance, or 5) transfer of title and risk of loss. The majority of our revenue is recognized when products are shipped to or received by a customer or when services are provided.

Hardware revenues are generally recognized at the time of shipment, receipt by the customer, or, if applicable, upon completion of customer acceptance provisions.

Under contract accounting where revenue is recognized using percentage of completion, the cost to cost method is used to measure progress to completion. Revenue from certain OpenWay network software and services arrangements is recognized using the units-of-delivery method of contract accounting, as network design services and network software are essential to the functionality of the related hardware (network). This methodology results in the deferral of costs and revenues as professional services and software implementation commence prior to deployment of hardware.

In the unusual instances when we are unable to reliably estimate the cost to complete a contract at its inception, we use the completed contract method of contract accounting. Revenues and costs are recognized upon substantial completion when remaining costs are insignificant and potential risks are minimal.

Change orders and contract modifications entered into after inception of the original contract are analyzed to determine if change orders or modifications are extensions of an existing agreement or are accounted for as a separate arrangement for purposes of applying contract accounting.

If we estimate that the completion of a contract component (unit of accounting) will result in a loss, the loss is recognized in the period in which the loss becomes evident. We reevaluate the estimated loss through the completion of the contract component and adjust the estimated loss for changes in facts and circumstances.

Many of our customer arrangements contain clauses for liquidated damages, related to the timing of delivery or milestone accomplishments, which could become material in an event of failure to meet the contractual deadlines. At the inception of the arrangement and on an ongoing basis, we evaluate if the liquidated damages represent contingent revenue and, if so, we reduce the amount of consideration allocated to the delivered products and services and recognize it as a reduction in revenue in the period of default. If the arrangement is subject to contract accounting, liquidated damages resulting from anticipated events of default are estimated and are accounted for as a reduction of revenue in the period in which the liquidated damages are deemed probable of occurrence and are reasonably estimable.

Our software customers often purchase a combination of software, service, and post contract customer support. For these types of arrangement, revenue recognition is dependent upon the availability of vendor specific objective evidence (VSOE) of fair value for any undelivered element. We determine VSOE by reference to the range of comparable standalone sales or stated renewals. We review these standalone sales or renewals on at least an annual basis. If VSOE is established for all undelivered elements in the contract, revenue is recognized for delivered elements when all other revenue recognition criteria are met. Arrangements in which VSOE for all undelivered elements is not established, we recognize revenue under the combined services approach where revenue for software and software related elements is deferred until all software products have been delivered, all software related services have commenced, and undelivered services do not include significant production, customization or modification. Revenue would be recognized over the longest period that services would be provided.

Cloud services and software as a service (“SaaS”) arrangements where customers have access to certain of our software within a cloud-based IT environment that we manage, host and support are offered to customers on a subscription basis. Revenue for the cloud services and SaaS offerings are generally recognized ratably over the contact term commencing with the date the services is made available to customers and all other revenue recognition criteria have been satisfied. For arrangements where cloud services and SaaS is provided on a per meter basis, revenue is recognized based on actual meters read during the period.

Certain of our revenue arrangements include an extended or noncustomary warranty provision that covers all or a portion of a customer's replacement or repair costs beyond the standard or customary warranty period. Whether or not the extended warranty is separately priced in the arrangement, a portion of the arrangement's total consideration is allocated to this extended warranty deliverable. This revenue is deferred and recognized over the extended warranty coverage period. Extended or noncustomary warranties do not represent a significant portion of our revenue.

We allocate consideration to each deliverable in an arrangement based on its relative selling price. We determine selling price using VSOE, if it exists, otherwise we use third-party evidence (TPE). We define VSOE as a median price of recent standalone transactions that are priced within a narrow range. TPE is determined based on the prices charged by our competitors for a similar deliverable when sold separately. If neither VSOE nor TPE of selling price exists for a unit of accounting, we use estimated selling price (ESP) to determine the price at which we would transact if the product or service were regularly sold by us on a standalone basis. Our determination of ESP involves a weighting of several factors based on the specific facts and circumstances of the arrangement. The factors considered include, historical sales, the cost to produce the deliverable, the anticipated margin on that deliverable, our ongoing pricing strategy and policies, and the characteristics of the varying markets in which the deliverable is sold.

We analyze the selling prices used in our allocation of arrangement consideration on an annual basis. Selling prices are analyzed on a more frequent basis if a significant change in our business necessitates a more timely analysis or if we experience significant variances in our selling prices.

Unearned revenue is recognized when a customer pays for products or services, but the criteria for revenue recognition have not been met as of the balance sheet date. Unearned revenue of $114.3 million and $139.5 million at December 31, 2016 and 2015 related primarily to professional services and software associated with our smart metering contracts, extended or noncustomary warranty, and prepaid post-contract support. Deferred costs are recognized for products or services for which ownership (typically defined as title and risk of loss) has transferred to the customer, but the criteria for revenue recognition have not been met as of the balance sheet date. Deferred costs were $34.4 million and $56.6 million at December 31, 2016 and 2015 and are recognized within other assets in the Consolidated Balance Sheets.

Hardware and software post-sale maintenance support fees are recognized ratably over the life of the related service contract. Shipping and handling costs and incidental expenses billed to customers are recognized as revenue, with the associated cost charged to cost of revenues. We recognize sales, use, and value added taxes billed to our customers on a net basis.

Product and Software Development Costs

Product and software development costs primarily include employee compensation and third party contracting fees. We do not capitalize product development costs, and we do not generally capitalize software development expenses as the costs incurred are immaterial for the relatively short period of time between technological feasibility and the completion of software development.

Stock-Based Compensation

We grant various stock-based compensation awards to our officers, employees and Board of Directors with service, market, and/or performance vesting conditions. We also grant phantom stock units, which are settled in cash upon vesting and accounted for as liability-based awards.

We measure and recognize compensation expense for all stock-based compensation based on estimated fair values. The fair value of stock options is estimated at the date of grant using the Black-Scholes option-pricing model, which includes assumptions for the dividend yield, expected volatility, risk-free interest rate, and expected term. For unrestricted stock awards with no market conditions, the fair value is the market close price of our common stock on the date of grant. For restricted stock units with market conditions, the fair value is estimated at the date of award using a Monte Carlo simulation model, which includes assumptions for dividend yield and expected volatility for our common stock and the common stock for companies within the Russell 3000 index, as well as the risk-free interest rate and expected term of the awards. For phantom stock units, fair value is the market close price of our common stock at the end of each reporting period.

We expense stock-based compensation at the date of grant for unrestricted stock awards. For awards with only a service condition, we expense stock-based compensation, adjusted for estimated forfeitures, using the straight-line method over the requisite service period for the entire award. For awards with performance and service conditions, if vesting is probable, we expense the stock-based compensation, adjusted for estimated forfeitures, on a straight-line basis over the requisite service period for each separately vesting portion of the award. For awards with a market condition, we expense the fair value over the requisite service period. Excess tax benefits are credited to common stock when the deduction reduces cash taxes payable. When we have tax deductions in excess of the compensation cost, they are classified as financing cash inflows in the Consolidated Statements of Cash Flows.

Certain of our employees are eligible to participate in our Employee Stock Purchase Plan (ESPP). The discount provided for ESPP purchases is 5% from the fair market value of the stock at the end of each fiscal quarter and is not considered compensatory.

Income Taxes

We account for income taxes using the asset and liability method of accounting. Deferred tax assets and liabilities are recognized based upon anticipated future tax consequences, in each of the jurisdictions that we operate, attributable to: (1) the differences between the financial statement carrying amounts of existing assets and liabilities and their respective income tax bases; and (2) net operating loss and tax credit carryforwards. Deferred tax assets and liabilities are measured annually using enacted tax rates expected to apply to taxable income in the years in which those temporary differences are expected to be recovered or settled. The calculation of our tax liabilities involves applying complex tax regulations in different tax jurisdictions to our tax positions. The effect on deferred tax assets and liabilities of a change in tax legislation and/or rates is recognized in the period that includes the enactment date. A valuation allowance is recognized to reduce the carrying amounts of deferred tax assets if it is not more likely than not that such assets will be realized. We do not recognize tax liabilities on undistributed earnings of international subsidiaries that are permanently reinvested.

Foreign Exchange

Our consolidated financial statements are reported in U.S. dollars. Assets and liabilities of international subsidiaries with non-U.S. dollar functional currencies are translated to U.S. dollars at the exchange rates in effect on the balance sheet date, or the last business day of the period, if applicable. Revenues and expenses for each subsidiary are translated to U.S. dollars using a weighted average rate for the relevant reporting period. Translation adjustments resulting from this process are included, net of tax, in OCI. Gains and losses that arise from exchange rate fluctuations for monetary asset and liability balances that are not denominated in an entity's functional currency are included within other income (expense), net in the Consolidated Statements of Operations. Currency gains and losses of intercompany balances deemed to be long-term in nature or designated as a hedge of the net investment in international subsidiaries are included, net of tax, in OCI. Foreign currency losses, net of hedging, of $0.3 million , $3.0 million , and $5.1 million were included in other expenses, net, for the years ended December 31, 2016 , 2015 and 2014 , respectively.

Fair Value Measurements

For assets and liabilities measured at fair value, the GAAP fair value hierarchy prioritizes the inputs used in different valuation methodologies, assigning the highest priority to unadjusted quoted prices for identical assets and liabilities in actively traded markets (Level 1) and the lowest priority to unobservable inputs (Level 3). Level 2 inputs consist of quoted prices for similar assets and liabilities in active markets; quoted prices for identical or similar assets and liabilities in non-active markets; and model-derived valuations in which significant inputs are corroborated by observable market data either directly or indirectly through correlation or other means. Inputs may include yield curves, volatility, credit risks, and default rates.

Use of Estimates

The preparation of financial statements in conformity with GAAP requires management to make estimates and assumptions. These estimates and assumptions affect the reported amounts of assets and liabilities at the date of the financial statements and the reported amounts of revenues and expenses during the reporting period. Examples of significant estimates include revenue recognition, warranty, restructuring, income taxes, goodwill and intangible assets, defined benefit pension plans, contingencies, and stock-based compensation. Due to various factors affecting future costs and operations, actual results could differ materially from these estimates.

New Accounting Pronouncements

In May 2014, the Financial Accounting Standards Board (FASB) issued Accounting Standards Update (ASU) 2014-09, *Revenue from Contracts with Customers: Topic 606* (ASU 2014-09), to supersede nearly all existing revenue recognition guidance under U.S. GAAP. The core principle of ASU 2014-09 is to recognize revenues when promised goods or services are transferred to customers in an amount that reflects the consideration that is expected to be received for those goods or services. In August 2015, the FASB issued ASU 2015-14, *Revenue from Contracts with Customers: Deferral of the Effective Date* , which deferred the effective date for implementation of ASU 2014-09 by one year and is now effective for annual reporting periods beginning after December 15, 2017, with early adoption permitted but not earlier than the original effective date. In March 2016, the FASB issued ASU 2016-08, *Principal versus Agent Considerations (Reporting Revenue Gross versus Net)* (ASU 2016-08), which clarifies the implementation guidance of principal versus agent considerations. In April 2016, the FASB issued ASU 2016-10, *Identifying Performance Obligations and Licensing* (ASU 2016-10), which clarifies the identification of performance obligations and licensing implementation guidance. In May 2016, the FASB issued ASU 2016-12, *Narrow-Scope Improvements and Practical Expedients* (ASU 2016-12), to improve guidance on assessing collectability, presentation of sales taxes, noncash consideration, and completed contracts and contract modifications at transition. The effective date and transition requirements in ASU 2016-08, ASU 2016-10, and ASU 2016-12 are the same as the effective date and transition requirements of ASU 2015-14.

The revenue guidance permits two methods of adoption: retrospectively to each prior reporting period presented (full retrospective method), or retrospectively with the cumulative effect of initially applying the guidance recognized at the date of initial application (the cumulative catch-up transition method). We currently anticipate adopting the standard effectively January 1, 2018 using the cumulative catch-up transition method, and therefore, will recognize the cumulative effect of initially applying the revenue standard as an adjustment to the opening balance of retained earnings in the period of initial application. We currently believe the most significant impact relates to our accounting for software license revenue, but are continuing to evaluate the effect that the updated standard will have on our consolidated results of operations, financial position, cash flows, and related financial statement disclosures.

In April 2015, the FASB issued ASU 2015-03, *Interest - Imputation of Interes* t (ASU 2015-03). ASU 2015-03 requires that debt issuance costs related to a recognized debt liability be presented in the balance sheet as a direct deduction from the carrying amount of the corresponding debt liability. In August 2015, the FASB issued ASU 2015-15, *Interest - Imputation of Interest: Presentation and Subsequent Measurement of Debt Issuance Costs Associated with Line-of-Credit Arrangements* (ASU 2015-15). ASU 2015-15 provides additional guidance on the presentation and subsequent measurement of debt issuance costs associated with line-of-credit arrangements. ASU 2015-03 and ASU 2015-15 are effective for interim and annual periods beginning after December 15, 2015, with early adoption permitted, and is to be applied on a retrospective basis. We adopted this standard on January 1, 2016, and it

did not materially impact our consolidated results of operations, financial position, cash flows, and related financial statement disclosures.

In April 2015, the FASB issued ASU 2015-05, *Intangibles - Goodwill and Other - Internal-Use Software (Subtopic 350-40), Customer's Accounting for Fees Paid in a Cloud Computing Arrangement* (ASU 2015-05), which provides guidance about whether a cloud computing arrangement includes a software license. If a cloud computing arrangement includes a software license, the customer should account for the software license element of the arrangement consistent with the acquisition of other software licenses. If a cloud computing arrangement does not include a software license, the customer should account for the arrangement as a service contract. ASU 2015-05 is effective for us on January 1, 2016. We adopted this standard on January 1, 2016, and it did not materially impact our consolidated results of operations, financial position, cash flows, and related financial statement disclosures.

In July 2015, the FASB issued ASU 2015-11, *Inventory (Topic 330) - Simplifying the Measurement of Inventory* (ASU 2015-11). The amendments in ASU 2015-11 apply to inventory measured using first-in, first-out (FIFO) or average cost and will require entities to measure inventory at the lower of cost and net realizable value. Net realizable value is the ESP in the normal course of business, minus the cost of completion, disposal and transportation. Replacement cost and net realizable value less a normal profit margin will no longer be considered. We adopted this standard on January 1, 2017 and it did not materially impact our consolidated results of operations, financial position, cash flows, and related financial statement disclosures.

In February 2016, the FASB issued ASU 2016-02, *Leases (Topic 842),* which requires substantially all leases be recognized by lessees on their balance sheet as a right-of-use asset and corresponding lease liability, including leases currently accounted for as operating leases. The new standard also will result in enhanced quantitative and qualitative disclosures, including significant judgments made by management, to provide greater insight into the extent of revenue and expense recognized and expected to be recognized from existing leases. The standard requires modified retrospective adoption and will be effective for annual reporting periods beginning after December 15, 2018, with early adoption permitted. We are currently assessing the impact of adoption on our consolidated results of operations, financial position, cash flows, and related financial statement disclosures.

In March 2016, the FASB issued ASU 2016-09, *Improvements to Employee Share-Based Payment Accounting (Topic 718)* (ASU 2016-09), which simplifies several areas within Topic 718. These include the income tax consequences, classification of awards as either equity or liabilities, and classification on the statement of cash flows. The amendment in this ASU becomes effective on a modified retrospective basis for accounting in tax benefits recognized, retrospectively for accounting related to the presentation of employee taxes paid, prospectively for accounting related to recognition of excess tax benefits, and either prospectively or retrospectively for accounting related to presentation of excess employee tax benefits for annual periods, and interim periods within those annual periods, beginning after December 15, 2016. We adopted this standard effective January 1, 2017 and the most significant impact relates to the recognition of excess tax benefits which resulted in an approximately $15 million one-time adjustment to retained earnings and deferred tax assets related to cumulative excess tax benefits previously unrecognized. This amendment was adopted on a prospective basis, which does not require the restatement of prior years.

In January 2017, the FASB issued ASU 2017-01, *Clarifying the Definition of a Business* (ASU 2017-01), which narrows the definition of a business and provides a framework that gives entities a basis for making reasonable judgments about whether a transaction involves an asset or a business. ASU 2017-01 states that when substantially all of the fair value of the gross assets acquired (or disposed of) is concentrated in a single identifiable asset or group of similar identifiable assets, the set is not a business. If this initial test is not met, a set cannot be considered a business unless it includes an input and a substantive process that together significantly contribute to the ability to create output. ASU 2017-01 is effective for fiscal years beginning after December 15, 2019 with early adoption permitted. We adopted this standard on January 1, 2017 and it will not materially impact our consolidated results of operations, financial position, cash flows, and related financial statement disclosures.

In January 2017, the FASB issued ASU 2017-04, *Simplifying the Test for Goodwill Impairment* (ASU 2017-04), which simplifies the measurement of goodwill impairment by removing step two of the goodwill impairment test that requires the determination of the fair value of individual assets and liabilities of a reporting unit. ASU 2017-04 requires goodwill impairment to be measured as the amount by which a reporting unit's carrying value exceeds its fair value; however, the loss recognized should not exceed the total amount of goodwill allocated to that reporting unit. ASU 2017-04 is effective for fiscal years beginning after December 15, 2019 with early adoption permitted for interim or annual goodwill impairment tests performed after January 1, 2017. We are currently assessing the impact of adoption on our consolidated results of operations, financial position, cash flows, and related financial statement disclosures.

Note 2: Earnings (Loss) Per Share

The following table sets forth the computation of basic and diluted earnings (loss) per share (EPS):

	Year Ended December 31,		
	2016	2015	2014
	(in thousands, except per share data)		
Net income (loss) available to common shareholders	$ 31,770	$ 12,678	$ (23,670)
Weighted average common shares outstanding - Basic	38,207	38,224	39,184
Dilutive effect of stock-based awards	436	282	—
Weighted average common shares outstanding - Diluted	38,643	38,506	39,184
Earnings (loss) per common share - Basic	$ 0.83	$ 0.33	$ (0.60)
Earnings (loss) per common share - Diluted	$ 0.82	$ 0.33	$ (0.60)

Stock-based Awards

For stock-based awards, the dilutive effect is calculated using the treasury stock method. Under this method, the dilutive effect is computed as if the awards were exercised at the beginning of the period (or at time of issuance, if later) and assumes the related proceeds were used to repurchase common stock at the average market price during the period. Related proceeds include the amount the employee must pay upon exercise, future compensation cost associated with the stock award, and the amount of excess tax benefits, if any. As a result of our net losses for 2014, there was no dilutive effect to the weighted average common shares outstanding for that year. Approximately 0.7 million , 1.2 million , and 1.4 million stock-based awards were excluded from the calculation of diluted EPS for the years ended December 31, 2016 , 2015 , and 2014 , respectively, because they were anti-dilutive. These stock-based awards could be dilutive in future periods.

Note 3: Certain Balance Sheet Components

Accounts receivable, net	December 31, 2016	December 31, 2015
	(in thousands)	
Trade receivables (net of allowance of $3,320 and $5,949)	$ 299,870	$ 298,550
Unbilled receivables	51,636	32,345
Total accounts receivable, net	$ 351,506	$ 330,895

Allowance for doubtful account activity	Year Ended December 31,	
	2016	2015
	(in thousands)	
Beginning balance	$ 5,949	$ 6,195
Provision for doubtful accounts, net	60	1,025
Accounts written-off	(2,422)	(549)
Effects of change in exchange rates	(267)	(722)
Ending balance	$ 3,320	$ 5,949

Inventories	December 31, 2016	December 31, 2015
	(in thousands)	
Materials	$ 103,274	$ 111,191
Work in process	7,925	9,400
Finished goods	51,850	69,874
Total inventories	$ 163,049	$ 190,465

Property, plant, and equipment, net	December 31, 2016	December 31, 2015
	(in thousands)	
Machinery and equipment	$ 279,746	$ 289,015
Computers and software	98,125	104,310
Buildings, furniture, and improvements	122,680	127,531
Land	17,179	19,882
Construction in progress, including purchased equipment	29,358	32,639
Total cost	547,088	573,377
Accumulated depreciation	(370,630)	(383,121)
Property, plant, and equipment, net	$ 176,458	$ 190,256

Depreciation expense	Year Ended December 31,		
	2016	2015	2014
	(in thousands)		
Depreciation expense	$ 43,206	$ 44,320	$ 54,435

Note 4: Intangible Assets

The gross carrying amount and accumulated amortization of our intangible assets, other than goodwill, are as follows:

	December 31, 2016			December 31, 2015		
	Gross Assets	Accumulated Amortization	Net	Gross Assets	Accumulated Amortization	Net
	(in thousands)					
Core-developed technology	$ 372,568	$ (354,878)	$ 17,690	$ 388,981	$ (358,092)	$ 30,889
Customer contracts and relationships	224,467	(170,056)	54,411	238,379	(168,885)	69,494
Trademarks and trade names	61,785	(61,766)	19	64,069	(62,571)	1,498
Other	11,076	(11,045)	31	11,078	(11,027)	51
Total intangible assets	$ 669,896	$ (597,745)	$ 72,151	$ 702,507	$ (600,575)	$ 101,932

A summary of the intangible asset account activity is as follows:

	Year Ended December 31,	
	2016	2015
	(in thousands)	
Beginning balance, intangible assets, gross	$ 702,507	$ 748,148
Intangible assets acquired	—	4,827
Intangible assets impaired	—	(497)
Effect of change in exchange rates	(32,611)	(49,971)
Ending balance, intangible assets, gross	$ 669,896	$ 702,507

Intangible assets impaired includes purchased software licenses to be sold to others. This amount was recognized as part of cost of revenues in the Consolidated Statement of Operations.

A summary of intangible asset amortization expense is as follows:

	Year Ended December 31,		
	2016	2015	2014
	(in thousands)		
Amortization expense	$ 25,112	$ 31,673	$ 43,619

Estimated future annual amortization expense is as follows:

Year Ending December 31,	Estimated Annual Amortization
	(in thousands)
2017	$ 17,914
2018	12,383
2019	9,695
2020	7,866
2021	6,845
Beyond 2021	17,448
Total intangible assets subject to amortization	$ 72,151

Note 5: Goodwill

The following table reflects goodwill allocated to each reporting segment at December 31, 2016 and 2015 :

	Electricity	Gas	Water	Total Company
		(in thousands)		
Goodwill balance at January 1, 2015				
Goodwill before impairment	$ 449,668	$ 359,485	$ 382,655	$ 1,191,808
Accumulated impairment losses	(393,981)	—	(297,007)	(690,988)
Goodwill, net	55,687	359,485	85,648	500,820
Goodwill acquired	—	—	4,684	4,684
Effect of change in exchange rates	(2,954)	(28,049)	(6,379)	(37,382)
Goodwill balance at December 31, 2015				
Goodwill before impairment	414,910	331,436	350,314	1,096,660
Accumulated impairment losses	(362,177)	—	(266,361)	(628,538)
Goodwill, net	52,733	331,436	83,953	468,122
Effect of change in exchange rates	(1,360)	(11,523)	(2,745)	(15,628)
Goodwill balance at December 31, 2016				
Goodwill before impairment	400,299	319,913	334,505	1,054,717
Accumulated impairment losses	(348,926)	—	(253,297)	(602,223)
Goodwill, net	$ 51,373	$ 319,913	$ 81,208	$ 452,494

During our 2016 and 2015 annual goodwill impairment test, performed as of October 1, 2016 and 2015, respectively, we performed the first step of the quantitative impairment test for Electricity, Gas, and Water and determined that the fair value of each of the reporting units exceeded their carrying values. No goodwill impairment was required to be recognized as the result of this quantitative analysis.

Refer to Note 1 for a description of our reporting units and the methods used to determine the fair values of our reporting units and to determine the amount of any goodwill impairment.

Note 6: Debt

The components of our borrowings are as follows:

	December 31, 2016	December 31, 2015
	(in thousands)	
Credit Facilities		
USD denominated term loan	$ 208,125	$ 219,375
Multicurrency revolving line of credit	97,167	151,837
Total debt	305,292	371,212
Less: current portion of debt	14,063	11,250
Less: unamortized prepaid debt fees - term loan	769	1,047
Long-term debt	$ 290,460	$ 358,915

Credit Facilities

On June 23, 2015, we entered into an amended and restated credit agreement providing for committed credit facilities in the amount of $725 million U.S. dollars (the 2015 credit facility). The 2015 credit facility consists of a $225 million U.S. dollar term loan (the term loan) and a multicurrency revolving line of credit (the revolver) with a principal amount of up to $500 million . The revolver also contains a $250 million standby letter of credit sub-facility and a $50 million swingline sub-facility (available for immediate cash needs at a higher interest rate). Both the term loan and the revolver mature on June 23, 2020, and amounts borrowed under the revolver are classified as long-term and, during the credit facility term, may be repaid and reborrowed until the revolver's maturity, at which time the revolver will terminate, and all outstanding loans, together with all accrued and unpaid interest, must be repaid. Amounts not borrowed under the revolver are subject to a commitment fee, which is paid in arrears on the last day of each fiscal quarter, ranging from 0.18% to 0.30% per annum depending on our total leverage ratio as of the most recently ended fiscal quarter. Amounts repaid on the term loan may not be reborrowed. The 2015 credit facility permits us and certain of our foreign subsidiaries to borrow in U.S. dollars, euros, British pounds, or, with lender approval, other currencies readily convertible into U.S. dollars. All obligations under the 2015 credit facility are guaranteed by Itron, Inc. and material U.S. domestic subsidiaries and are secured by a pledge of substantially all of the assets of Itron, Inc. and material U.S. domestic subsidiaries, including a pledge of 100% of the capital stock of material U.S. domestic subsidiaries and up to 66% of the voting stock (100% of the non-voting stock) of their first-tier foreign subsidiaries. In addition, the obligations of any foreign subsidiary who is a foreign borrower, as defined by the 2015 credit facility, are guaranteed by the foreign subsidiary and by its direct and indirect foreign parents.

On June 13, 2016, we entered into an amendment to the 2015 credit facility, which reduced our $300 million standby letter of credit sub-facility to $250 million .

Scheduled principal repayments for the term loan are due quarterly in the amount of $2.8 million through June 2017, $4.2 million from September 2017 through June 2018, $5.6 million from September 2018 through March 2020, and the remainder due at maturity on June 23, 2020. The term loan may be repaid early in whole or in part, subject to certain minimum thresholds, without penalty.

Required minimum principal payments on our outstanding credit facilities are as follows:

Year Ending December 31,	Minimum Payments
	(in thousands)
2017	$ 14,063
2018	19,687
2019	22,500
2020	249,042
2021	—
Total minimum payments on debt	$ 305,292

Under the 2015 credit facility, we elect applicable market interest rates for both the term loan and any outstanding revolving loans. We also pay an applicable margin, which is based on our total leverage ratio (as defined in the credit agreement). The applicable rates per annum may be based on either: (1) the LIBOR rate or EURIBOR rate (floor of 0%), plus an applicable margin, or (2) the Alternate Base Rate, plus an applicable margin. The Alternate Base Rate election is equal to the greatest of three rates: (i) the prime rate , (ii) the Federal Reserve effective rate plus 1/2 of 1%, or (iii) one month LIBOR plus 1% . At December 31, 2016 and 2015 ,

the interest rates for both the term loan and the USD revolver was 2.02% and 2.18% , which includes the LIBOR rate plus a margin of 1.25% and 1.75% , respectively. At December 31, 2016 and 2015 , the interest rates for the EUR revolver was 1.25% and 1.75% , which includes the EURIBOR floor rate plus a margin of 1.25% and 1.75% , respectively.

Total credit facility repayments were as follows:

	Year Ended December 31,		
	2016	2015	2014
	(in thousands)		
Term loan	$ 11,250	$ 13,125	$ 26,250
Multicurrency revolving line of credit	67,869	49,873	76,188
Total credit facility repayments	$ 79,119	$ 62,998	$ 102,438

At December 31, 2016 , $97.2 million was outstanding under the 2015 credit facility revolver, and $46.1 million was utilized by outstanding standby letters of credit, resulting in $356.7 million available for additional borrowings or standby letters of credit. At December 31, 2016, $203.9 million was available for additional standby letters of credit under the letter of credit sub-facility and no amounts were outstanding under the swingline sub-facility.

Note 7: Derivative Financial Instruments

As part of our risk management strategy, we use derivative instruments to hedge certain foreign currency and interest rate exposures. Refer to Note 1, Note 14, and Note 15 for additional disclosures on our derivative instruments.

The fair values of our derivative instruments are determined using the income approach and significant other observable inputs (also known as “Level 2”). We have used observable market inputs based on the type of derivative and the nature of the underlying instrument. The key inputs include interest rate yield curves (swap rates and futures) and foreign exchange spot and forward rates, all of which are available in an active market. We have utilized the mid-market pricing convention for these inputs. We include, as a discount to the derivative asset, the effect of our counterparty credit risk based on current published credit default swap rates when the net fair value of our derivative instruments is in a net asset position. We consider our own nonperformance risk when the net fair value of our derivative instruments is in a net liability position by discounting our derivative liabilities to reflect the potential credit risk to our counterparty through applying a current market indicative credit spread to all cash flows.

The fair values of our derivative instruments are as follows:

		Fair Value	
	Balance Sheet Location	December 31, 2016	December 31, 2015
		(in thousands)	
Asset Derivatives			
Derivatives designated as hedging instruments under ASC 815-20			
Interest rate cap contracts	Other current assets	$ 3	$ —
Interest rate swap contracts	Other long-term assets	1,830	1,632
Interest rate cap contracts	Other long-term assets	376	1,423
Derivatives not designated as hedging instruments under ASC 815-20			
Foreign exchange forward contracts	Other current assets	169	27
Interest rate cap contracts	Other current assets	4	—
Interest rate cap contracts	Other long-term assets	563	—
Total asset derivatives		$ 2,945	$ 3,082
Liability Derivatives			
Derivatives designated as hedging instruments under ASC 815-20			
Interest rate swap contracts	Other current liabilities	$ 934	$ 868
Derivatives not designated as hedging instruments under ASC 815-20			
Foreign exchange forward contracts	Other current liabilities	449	99
Total liability derivatives		$ 1,383	$ 967

OCI during the reporting period for our derivative and nonderivative instruments designated as hedging instruments, net of tax, was as follows:

	2016	2015	2014
	(in thousands)		
Net unrealized gain (loss) on hedging instruments at January 1,	$ (14,062)	$ (15,148)	$ (15,636)
Unrealized gain (loss) on derivative instruments	(1,087)	76	(566)
Realized (gains) losses reclassified into net income (loss)	812	1,010	1,054
Net unrealized gain (loss) on hedging instruments at December 31,	$ (14,337)	$ (14,062)	$ (15,148)

Reclassification of amounts related to hedging instruments are included in interest expense in the Consolidated Statements of Operations for the years ended December 31, 2016, 2015, and 2014. Included in the net unrealized loss on hedging instruments at December 31, 2016 and 2015 is a loss of $14.4 million , net of tax, related to our nonderivative net investment hedge, which terminated in 2011. This loss on our net investment hedge will remain in AOCI until such time when earnings are impacted by a sale or liquidation of the associated foreign operation.

A summary of the potential effect of netting arrangements on our financial position related to the offsetting of our recognized derivative assets and liabilities under master netting arrangements or similar agreements is as follows:

Offsetting of Derivative Assets

		Gross Amounts Not Offset in the Consolidated Balance Sheets		
	Gross Amounts of Recognized Assets Presented in the Consolidated Balance Sheets	Derivative Financial Instruments	Cash Collateral Received	Net Amount
		(in thousands)		
December 31, 2016	$ 2,945	$ (1,322)	$ —	$ 1,623
December 31, 2015	$ 3,082	$ (565)	$ —	$ 2,517

Offsetting of Derivative Liabilities

		Gross Amounts Not Offset in the Consolidated Balance Sheets		
	Gross Amounts of Recognized Liabilities Presented in the Consolidated Balance Sheets	Derivative Financial Instruments	Cash Collateral Pledged	Net Amount
		(in thousands)		
December 31, 2016	$ 1,383	$ (1,322)	$ —	$ 61
December 31, 2015	$ 967	$ (565)	$ —	$ 402

Our derivative assets and liabilities subject to netting arrangements consist of foreign exchange forward and interest rate contracts with three counterparties at December 31, 2016 and nine counterparties at December 31, 2015. No derivative asset or liability balance with any of our counterparties was individually significant at December 31, 2016 or 2015 . Our derivative contracts with each of these counterparties exist under agreements that provide for the net settlement of all contracts through a single payment in a single currency in the event of default. We have no pledges of cash collateral against our obligations nor have we received pledges of cash collateral from our counterparties under the associated derivative contracts.

Cash Flow Hedges

As a result of our floating rate debt, we are exposed to variability in our cash flows from changes in the applicable interest rate index. We enter into swaps to achieve a fixed rate of interest on the hedged portion of debt in order to decrease this variability in

our cash flows. The objective of these swaps is to reduce the variability of cash flows from increases in the LIBOR-based borrowing rates on our floating rate credit facility. The swaps do not protect us from changes to the applicable margin under our credit facility.

In May 2012, we entered into six interest rate swaps, which were effective July 31, 2013 and expired on August 8, 2016, to convert $200 million of our LIBOR based debt from a floating LIBOR interest rate to a fixed interest rate of 1.00% (excluding the applicable margin on the debt). The cash flow hedges were expected to be highly effective in achieving offsetting cash flows attributable to the hedged risk through the term of the hedge. Consequently, effective changes in the fair value of the interest rate swaps were recognized as a component of OCI and recognized in earnings when the hedged item affected earnings. The amounts paid on the hedges were recognized as adjustments to interest expense.

In October 2015, we entered into an interest rate swap, which is effective from August 31, 2016 to June 23, 2020, and converts $214 million of our LIBOR based debt from a floating LIBOR interest rate to a fixed interest rate of 1.42% (excluding the applicable margin on the debt). The notional balance will amortize to maturity at the same rate as required minimum payments on our term loan. The cash flow hedge is expected to be highly effective in achieving offsetting cash flows attributable to the hedged risk through the term of the hedge. Consequently, effective changes in the fair value of the interest rate swap is recognized as a component of OCI and will be recognized in earnings when the hedged item affects earnings. The amounts paid or received on the hedge are recognized as an adjustment to interest expense. The amount of net losses expected to be reclassified into earnings in the next 12 months is $0.9 million . At December 31, 2016 , our LIBOR-based debt balance was $248.1 million .

In November 2015, we entered into three interest rate cap contracts with a total notional amount of $100 million at a cost of $1.7 million . The interest rate cap contracts expire on June 23, 2020 and were entered into in order to limit our interest rate exposure on $100 million of our variable LIBOR based debt up to 2.00% . In the event LIBOR is higher than 2.00% , we will pay interest at the capped rate of 2.00% with respect to the $100 million notional amount of such agreements. The interest rate cap contracts do not include the effect of the applicable margin. As of December 31, 2016, due to the accelerated revolver payments from surplus cash, we have elected to de-designate two of the interest rate cap contracts as cash flow hedges and discontinue the use of cash flow hedge accounting. The amounts recognized in AOCI from de-designated interest rate cap contracts will continue to be reported in AOCI unless it is not probable that the forecasted transactions will occur. As a result of the discontinuance of cash flow hedge accounting, all subsequent changes in fair value of the de-designated derivative instruments are recognized within interest expense instead of OCI. The amount of net losses expected to be reclassified into earnings for all interest rate cap contracts in the next 12 months is $0.2 million .

The before-tax effects of our cash flow derivative hedging instruments on the Consolidated Balance Sheets and the Consolidated Statements of Operations for the years ended December 31 are as follows:

Derivatives in ASC 815 Cash Flow Hedging Relationships	Amount of Gain (Loss) Recognized in OCI on Derivative (Effective Portion)			Loss Reclassified from AOCI into Income (Effective Portion)				Loss Recognized in Income on Derivative (Ineffective Portion)			
				Location	Amount			Location	Amount		
	2016	2015	2014		2016	2015	2014		2016	2015	2014
	(in thousands)				(in thousands)				(in thousands)		
Interest rate swap contracts	$ (1,163)	$ 367	$ (915)	Interest expense	$ (1,296)	$ (1,639)	$ (1,704)	Interest expense	$ —	$ —	$ —
Interest rate cap contracts	$ (605)	$ (244)	$ —	Interest expense	$ (27)	$ —	$ —	Interest expense	$ (1)	$ —	$ —

Derivatives Not Designated as Hedging Relationships

We are also exposed to foreign exchange risk when we enter into non-functional currency transactions, both intercompany and third-party. At each period-end, non-functional currency monetary assets and liabilities are revalued with the change recognized to other income and expense. We enter into monthly foreign exchange forward contracts, which are not designated for hedge accounting, with the intent to reduce earnings volatility associated with currency exposures. As of December 31, 2016, a total of 49 contracts were offsetting our exposures from the euro, Canadian dollar, Indonesian Rupiah, South African rand, Indian Rupee, Chinese Yuan, and various other currencies, with notional amounts ranging from $120,000 to $42.3 million .

The before-tax effects of our derivatives not designated as hedging instruments on the Consolidated Statements of Operations for the years ended December 31 are as follows:

Derivatives Not Designated as Hedging Instrument under ASC 815	Location	Gain (Loss) Recognized in Income on Derivative		
		2016	2015	2014
		(in thousands)		
Foreign exchange forward contracts	Other income (expense), net	$ 537	$ (3,145)	$ (5,248)
Interest rate cap contracts	Interest expense	$ 129	$ —	$ —

We will continue to monitor and assess our interest rate and foreign exchange risk and may institute additional derivative instruments to manage such risk in the future.

Note 8: Defined Benefit Pension Plans

We sponsor both funded and unfunded defined benefit pension plans offering death and disability, retirement, and special termination benefits for our international employees, primarily in Germany, France, Italy, Indonesia, Brazil, and Spain. The defined benefit obligation is calculated annually by using the projected unit credit method. The measurement date for the pension plans was December 31, 2016 .

Our general funding policy for these qualified pension plans is to contribute amounts sufficient to satisfy regulatory funding standards of the respective countries for each plan. Our contributions for both funded and unfunded plans are paid from cash flows from our operations. The timing of when contributions are made can vary by plan and from year to year.

The following tables set forth the components of the changes in benefit obligations and fair value of plan assets :

	Year Ended December 31,	
	2016	2015
	(in thousands)	
Change in benefit obligation:		
Benefit obligation at January 1,	$ 98,767	$ 116,178
Service cost	3,472	4,572
Interest cost	2,573	2,380
Actuarial (gain) loss	7,733	(5,211)
Benefits paid	(9,481)	(4,382)
Foreign currency exchange rate changes	(4,386)	(12,190)
Curtailment	14	(1,683)
Settlement	(1,431)	—
Other	—	(897)
Benefit obligation at December 31,	$ 97,261	$ 98,767
Change in plan assets:		
Fair value of plan assets at January 1,	$ 9,662	$ 10,761
Actual return on plan assets	604	159
Company contributions	348	671
Benefits paid	(370)	(308)
Foreign currency exchange rate changes	(29)	(1,621)
Fair value of plan assets at December 31,	10,215	9,662
Net pension benefit obligation at fair value	$ 87,046	$ 89,105

Amounts recognized on the Consolidated Balance Sheets consist of:

	At December 31,	
	2016	2015
	(in thousands)	
Assets		
Plan assets in other long-term assets	$ 654	$ 359
Liabilities		
Current portion of pension benefit obligation in wages and benefits payable	3,202	3,493
Long-term portion of pension benefit obligation	84,498	85,971
Pension benefit obligation, net	$ 87,046	$ 89,105

Amounts in AOCI (pre-tax) that have not yet been recognized as components of net periodic benefit costs consist of:

	At December 31,	
	2016	2015
	(in thousands)	
Net actuarial loss	$ 26,767	$ 24,687
Net prior service cost	619	706
Amount included in AOCI	$ 27,386	$ 25,393

Amounts recognized in OCI (pre-tax) are as follows:

	Year Ended December 31,		
	2016	2015	2014
	(in thousands)		
Net actuarial (gain) loss	$ 6,316	$ (6,894)	$ 25,838
Settlement/curtailment loss	(1,343)	(336)	(55)
Plan asset (gain) loss	(64)	343	129
Amortization of net actuarial loss	(1,351)	(1,979)	(572)
Amortization of prior service cost	(58)	(59)	(138)
Other	4	(46)	68
Other comprehensive (income) loss	$ 3,504	$ (8,971)	$ 25,270

If actuarial gains and losses exceed ten percent of the greater of plan assets or plan liabilities, we amortize them over the employees' average future service period. The estimated net actuarial loss and prior service cost that will be amortized from AOCI into net periodic benefit cost during 2017 is $1.6 million .

Net periodic pension benefit costs for our plans include the following components:

	Year Ended December 31,		
	2016	2015	2014
	(in thousands)		
Service cost	$ 3,472	$ 4,572	$ 3,559
Interest cost	2,573	2,380	3,476
Expected return on plan assets	(540)	(502)	(619)
Amortization of prior service costs	58	59	138
Amortization of actuarial net loss	1,351	1,979	572
Settlements and other	1,340	420	55
Net periodic pension benefit costs	$ 8,254	$ 8,908	$ 7,181

The significant actuarial weighted average assumptions used in determining the benefit obligations and net periodic benefit cost for our benefit plans are as follows:

	At and For The Year Ended December 31,		
	2016	2015	2014
Actuarial assumptions used to determine benefit obligations at end of period:			
Discount rate	2.18%	2.59%	2.36%
Expected annual rate of compensation increase	3.65%	3.60%	3.37%
Actuarial assumptions used to determine net periodic benefit cost for the period:			
Discount rate	2.59%	2.36%	3.76%
Expected rate of return on plan assets	5.29%	5.45%	5.40%
Expected annual rate of compensation increase	3.60%	3.37%	3.33%

We determine a discount rate for our plans based on the estimated duration of each plan's liabilities. For our euro denominated defined benefit pension plans, which represent 94% of our benefit obligation, we use two discount rates, with consideration of the duration of the plans, using a hypothetical yield curve developed from euro-denominated AA-rated corporate bond issues, partially weighted for market value, with minimum amounts outstanding of €500 million for bonds with less than 10 years to maturity and €50 million for bonds with 10 or more years to maturity, and excluding the highest and lowest yielding 10% of bonds within each maturity group. The discount rates used, depending on the duration of the plans, were 0.75% and 1.75% . The weighted average discount rate used to measure our benefit obligations, increased by 41 basis points from December 31, 2015 to December 31, 2016 , driving a $7.7 million actuarial gain during 2016 , which is recognized in OCI.

Our expected rate of return on plan assets is derived from a study of actual historic returns achieved and anticipated future long-term performance of plan assets, specific to plan investment asset category. While the study primarily gives consideration to recent insurers' performance and historical returns, the assumption represents a long-term prospective return.

The total accumulated benefit obligation for our defined benefit pension plans was $87.2 million and $89.0 million at December 31, 2016 and 2015 , respectively.

The total obligations and fair value of plan assets for plans with projected benefit obligations and accumulated benefit obligations exceeding the fair value of plan assets are as follows:

	At December 31,	
	2016	2015
	(in thousands)	
Projected benefit obligation	$ 94,110	$ 95,814
Accumulated benefit obligation	84,448	86,534
Fair value of plan assets	6,410	6,502

Our asset investment strategy focuses on maintaining a portfolio using primarily insurance funds, which are accounted for as investments and measured at fair value, in order to achieve our long-term investment objectives on a risk adjusted basis. Our general funding policy for these qualified pension plans is to contribute amounts sufficient to satisfy regulatory funding standards of the respective countries for each plan.

The fair values of our plan investments by asset category are as follows:

	Total	Quoted Prices in Active Markets for Identical Assets (Level 1)	Significant Unobservable Inputs (Level 3)
		(in thousands)	
		December 31, 2016	
Cash	$ 783	$ 783	$ —
Insurance funds	7,011	—	7,011
Other securities	2,421	—	2,421
Total fair value of plan assets	$ 10,215	$ 783	$ 9,432
		December 31, 2015	
Cash	$ 795	$ 795	$ —
Insurance funds	7,089	—	7,089
Other securities	1,778	—	1,778
Total fair value of plan assets	$ 9,662	$ 795	$ 8,867

The following tables present a reconciliation of Level 3 assets held during the years ended December 31, 2016 and 2015 .

	Balance at January 1, 2016	Net Realized and Unrealized Gains	Net Purchases, Issuances, Settlements, and Other	Net Transfers Into Level 3	Effect of Foreign Currency	Balance at December 31, 2016
			(in thousands)			
Insurance funds	$ 7,089	$ 235	$ 54	$ —	$ (367)	$ 7,011
Other securities	1,778	405	(84)	—	322	2,421
Total	$ 8,867	$ 640	$ (30)	$ —	$ (45)	$ 9,432

	Balance at January 1, 2015	Net Realized and Unrealized Gains	Net Purchases, Issuances, Settlements, and Other	Net Transfers Into Level 3	Effect of Foreign Currency	Balance at December 31, 2015
			(in thousands)			
Insurance funds	$ 7,440	$ 49	$ 372	$ —	$ (772)	$ 7,089
Other securities	2,595	44	(82)	—	(779)	1,778
Total	$ 10,035	$ 93	$ 290	$ —	$ (1,551)	$ 8,867

As the plan assets and contributions are not significant to our total company assets, no further breakdown is provided.

Annual benefit payments for the next 10 years, including amounts to be paid from our assets for unfunded plans, and reflecting expected future service, as appropriate, are expected to be paid as follows:

Year Ending December 31,	Estimated Annual Benefit Payments
	(in thousands)
2017	$ 3,655
2018	2,662
2019	2,737
2020	3,285
2021	3,918
2022-2026	22,929

Note 9: Stock-Based Compensation

We recognize stock-based compensation expense for awards of stock options, and the issuance of restricted stock units and unrestricted stock awards. We expense stock-based compensation primarily using the straight-line method over the requisite service period. For the years ended December 31 , stock-based compensation expense and the related tax benefit were as follows :

	2016	2015	2014
		(in thousands)	
Stock options	$ 2,357	$ 2,648	$ 2,333
Restricted stock units	14,723	10,735	14,591
Unrestricted stock awards	955	706	936
Phantom stock units	1,077	—	—
Total stock-based compensation	$ 19,112	$ 14,089	$ 17,860
Related tax benefit	$ 4,927	$ 4,228	$ 4,994

We issue new shares of common stock upon the exercise of stock options or when vesting conditions on restricted stock units are fully satisfied.

Subject to stock splits, dividends, and other similar events, 7,473,956 shares of common stock are reserved and authorized for issuance under our 2010 Stock Incentive Plan (Stock Incentive Plan). Awards consist of stock options, restricted stock units, and unrestricted stock awards. At December 31, 2016 , 2,092,602 shares were available for grant under the Stock Incentive Plan. The Stock Incentive Plan shares are subject to a fungible share provision such that, with respect to grants made after December 31, 2009, the authorized share reserve is reduced by (i) one share for every one share subject to a stock option or share appreciation right granted under the Plan and (ii) 1.7 shares for every one share of common stock that was subject to an award other than an option or stock appreciation right.

Stock Options

Options to purchase our common stock are granted to certain employees, senior management, and members of our Board of Directors with an exercise price equal to the market close price of the stock on the date the Board of Directors approves the grant. Options generally become exercisable in three equal annual installments beginning one year from the date of grant and generally expire 10 years from the date of grant. Compensation expense is recognized only for those options expected to vest, with forfeitures estimated based on our historical experience and future expectations.

The fair values of stock options granted were estimated at the date of grant using the Black-Scholes option-pricing model with the following weighted average assumptions:

	Year Ended December 31,		
	2016	2015	2014
Dividend yield	—	—	—
Expected volatility	33.5%	34.3%	39.3%
Risk-free interest rate	1.3%	1.7%	1.7%
Expected term (years)	5.5	5.5	5.5

Expected volatility is based on a combination of the historical volatility of our common stock and the implied volatility of our traded options for the related expected term. We believe this combined approach is reflective of current and historical market conditions and is an appropriate indicator of expected volatility. The risk-free interest rate is the rate available as of the award date on zero-coupon U.S. government issues with a term equal to the expected life of the award. The expected life is the weighted average expected life of an award based on the period of time between the date the award is granted and the estimated date the award will be fully exercised. Factors considered in estimating the expected life include historical experience of similar awards, contractual terms, vesting schedules, and expectations of future employee behavior. We have not paid dividends in the past and do not plan to pay dividends in the foreseeable future.

A summary of our stock option activity for the years ended December 31 is as follows:

	Shares	Weighted Average Exercise Price per Share	Weighted Average Remaining Contractual Life	Aggregate Intrinsic Value [1]	Weighted Average Grant Date Fair Value
	(in thousands)		(years)	(in thousands)	
Outstanding, January 1, 2014	1,180	$ 54.79	4.6	$ 1,300	
Granted	160	35.65			$ 13.65
Exercised	(67)	28.03		826	
Forfeited	(7)	44.06			
Expired	(143)	68.97			
Outstanding, December 31, 2014	1,123	$ 51.90	4.4	$ 1,676	
Granted	291	$ 35.25			$ 12.09
Exercised	(24)	36.05		$ 26	
Forfeited	(17)	37.47			
Expired	(193)	52.17			
Outstanding, December 31, 2015	1,180	$ 48.31	5.7	$ 405	
Granted	191	$ 40.40			$ 13.27
Exercised	(58)	37.00		$ 742	
Forfeited	(36)	35.29			
Expired	(318)	55.13			
Outstanding, December 31, 2016	959	$ 45.64	6.6	$ 19,125	
Exercisable, December 31, 2016	562	$ 51.18	5.1	$ 9,181	
Expected to vest, December 31, 2016	385	$ 37.76	8.7	$ 9,658	

(1) The aggregate intrinsic value of outstanding stock options represents amounts that would have been received by the optionees had all in- the-money options been exercised on that date. Specifically, it is the amount by which the market value of Itron's stock exceeded the exercise price of the outstanding in-the-money options before applicable income taxes, based on our closing stock price on the last business day of the period. The aggregate intrinsic value of stock options exercised during the period is calculated based on our stock price at the date of exercise.

As of December 31, 2016 , total unrecognized stock-based compensation expense related to nonvested stock options was $3.2 million , which is expected to be recognized over a weighted average period of approximately 1.9 years.

Restricted Stock Units

Certain employees, senior management, and members of our Board of Directors receive restricted stock units as a component of their total compensation. The fair value of a restricted stock unit is the market close price of our common stock on the date of grant. Restricted stock units generally vest over a three year period. Compensation expense, net of forfeitures, is recognized over the vesting period.

Subsequent to vesting, the restricted stock units are converted into shares of our common stock on a one-for-one basis and issued to employees. We are entitled to an income tax deduction in an amount equal to the taxable income reported by the employees upon vesting of the restricted stock units.

In 2013, the performance-based restricted stock units that were awarded under the Performance Award Agreement were determined based on (1) our achievement of specified non-GAAP EPS targets, as established at the beginning of each year for each of the calendar years contained in the performance periods (2-year and 3-year awards) (the performance condition) and (2) our total shareholder return (TSR) relative to the TSR attained by companies that are included in the Russell 3000 Index during the performance periods (the market condition). Compensation expense, net of forfeitures, was recognized on a straight-line basis, and the units vest upon achievement of the performance condition, provided participants are employed by Itron at the end of the respective performance periods. For U.S. participants who retire during the performance period, a pro-rated number of restricted stock units (based on the number of days of employment during the performance period) immediately vest based on the attainment of the performance goals as assessed after the end of the performance period.

Depending on the level of achievement of the performance condition, the actual number of shares to be earned ranges between 0% and 160% of the awards originally granted. At the end of the 2-year and 3-year performance periods, if the performance conditions are achieved at or above threshold, the number of shares earned is further adjusted by a TSR multiplier payout percentage, which ranges between 75% and 125% , based on the market condition. Therefore, based on the attainment of the performance and market conditions, the actual number of shares that vest may range from 0% to 200% of the awards originally granted. For the 2-year awards granted under the 2013 performance award, 14,433 restricted stock units became eligible for distribution at December 31, 2014 . For the 3-year awards granted under the 2013 performance award, 15,648 restricted stock units became eligible for distribution at December 31, 2015.

For years subsequent to 2013, the performance-based restricted stock units to be issued are determined based on the same performance and market conditions as the 2013 awards, but the performance period is 3-years. For the 3-year awards granted under the 2014 performance award, 110,259 restricted stock units became eligible for distribution at December 31, 2016. No awards became eligible for distribution under the 2015 and 2016 awards since the performance periods had not concluded as of December 31, 2016.

Due to the presence of the TSR multiplier market condition, we utilize a Monte Carlo valuation model to determine the fair value of the awards at the grant date. This pricing model uses multiple simulations to evaluate the probability of our achievement of various stock price levels to determine our expected TSR performance ranking. The weighted-average assumptions used to estimate the fair value of performance-based restricted stock units granted and the resulting weighted average fair-value are as follows:

	Year Ended December 31,		
	2016	**2015**	**2014**
Dividend yield	—	—	—
Expected volatility	30.0%	30.1%	32.3%
Risk-free interest rate	0.7%	0.7%	0.4%
Expected term (years)	1.8	2.1	2.0
Weighted-average grant date fair value	$ 44.92	$ 33.48	$ 35.15

Expected volatility is based on the historical volatility of our common stock for the related expected term. We believe this approach is reflective of current and historical market conditions and is an appropriate indicator of expected volatility. The risk-free interest rate is the rate available as of the award date on zero-coupon U.S. government issues with a term equal to the expected term of the award. The expected term is the term of an award based on the period of time between the date of the award and the date the award is expected to vest. The expected term assumption is based upon the plan's performance period as of the date of the award. We have not paid dividends in the past and do not plan to pay dividends in the foreseeable future.

The following table summarizes restricted stock unit activity for the years ended December 31 :

	Number of Restricted Stock Units	Weighted Average Grant Date Fair Value	Aggregate Intrinsic Value [1]
	(in thousands)		(in thousands)
Outstanding, January 1, 2014	658		
Granted [2]	350	$ 35.74	
Released	(291)		$ 14,402
Forfeited	(35)		
Outstanding, December 31, 2014	682		
Granted [3]	434	$ 35.09	
Released	(296)		$ 12,204
Forfeited	(64)		
Outstanding, December 31, 2015	756		
Granted [4]	306	$ 41.58	
Released	(312)		$ 11,944
Forfeited	(82)		
Outstanding, December 31, 2016	668		
Vested but not released, December 31, 2016	115		$ 7,242
Expected to vest, December 31, 2016	477		$ 30,006

[1] The aggregate intrinsic value is the market value of the stock, before applicable income taxes, based on the closing price on the stock release dates or at the end of the period for restricted stock units expected to vest.

[2] Restricted stock units include 14,433 shares for the 2-year award under the 2013 Performance Award Agreement, which are eligible for distribution at December 31, 2014.

[3] Restricted stock units include 15,648 shares for the 3-year award under the 2013 Performance Award Agreement, which are eligible for distribution at December 31, 2015.

[4] Restricted stock units include 110,259 shares for the 3-year award under the 2014 Performance Award Agreement, which are eligible for distribution at December 31, 2016.

At December 31, 2016 , unrecognized compensation expense on restricted stock units was $21.6 million , which is expected to be recognized over a weighted average period of approximately 1.8 years.

Unrestricted Stock Awards

We grant unrestricted stock awards to members of our Board of Directors as part of their compensation. Awards are fully vested and recognized when granted. The fair value of unrestricted stock awards is the market close price of our common stock on the date of grant.

The following table summarizes unrestricted stock award activity for the years ended December 31 :

	2016	2015	2014
	(in thousands, except per share data)		
Shares of unrestricted stock granted	21	20	24
Weighted average grant date fair value per share	$ 44.94	$ 35.01	$ 39.06

Phantom Stock Units

Phantom stock units are a form of share-based award that are indexed to our stock price and are settled in cash upon vesting. Since phantom stock units are settled in cash, compensation expense recognized over the vesting period will vary based on changes in fair value. Fair value is remeasured at the end of each reporting period based on the market close price of our common stock.

The following table summarizes phantom stock unit activity:

	Number of Phantom Stock Units	Weighted Average Grant Date Fair Value
	(in thousands)	
Outstanding, January 1, 2016	—	
Granted	63	$ 40.11
Forfeited	(1)	
Outstanding, December 31, 2016	62	
Expected to vest, December 31, 2016	57	

At December 31, 2016 , total unrecognized compensation expense on phantom stock units was $2.8 million , which is expected to be recognized over a weighted average period of approximately 2.2 years. We have recognized a phantom stock liability of $1.0 million within wages and benefits payable in the Consolidated Balance Sheets as of December 31, 2016 .

Employee Stock Purchase Plan

Under the terms of the ESPP, employees can deduct up to 10% of their regular cash compensation to purchase our common stock at a discount from the fair market value of the stock at the end of each fiscal quarter, subject to other limitations under the plan. The sale of the stock to the employees occurs at the beginning of the subsequent quarter.

The following table summarizes ESPP activity for the years ended December 31 :

	2016	2015	2014
		(in thousands)	
Shares of stock sold to employees [1]	20	54	61

[1] Stock sold to employees during each fiscal quarter under the ESPP is associated with the offering period ending on the last day of the previous fiscal quarter.

There were approximately 371,000 shares of common stock available for future issuance under the ESPP at December 31, 2016 .

Note 10: Defined Contribution, Bonus, and Profit Sharing Plans

Defined Contribution Plans

In the United States, United Kingdom, and certain other countries, we make contributions to defined contribution plans. For our U.S. employee savings plan, which represents a majority of our contribution expense, we provide a 50% match on the first 6% of the employee salary deferral, subject to statutory limitations. For our international defined contribution plans, we provide various levels of contributions, based on salary, subject to stipulated or statutory limitations. The expense for our defined contribution plans was as follows:

	Year Ended December 31,		
	2016	2015	2014
		(in thousands)	
Defined contribution plans expense	$ 7,941	$ 6,579	$ 7,097

Bonus and Profit Sharing Plans and Awards

We have employee bonus and profit sharing plans in which many of our employees participate, as well as an award program, which allows for recognition of individual employees' achievements. The bonus and profit sharing plans provide award amounts for the achievement of performance and financial targets. As the bonuses are being earned during the year, we estimate a compensation accrual each quarter based on the progress towards achieving the goals, the estimated financial forecast for the year, and the probability of achieving results. Bonus and profit sharing plans and award expense was as follows:

	Year Ended December 31,		
	2016	2015	2014
		(in thousands)	
Bonus and profit sharing plans and award expense	$ 43,377	$ 14,192	$ 34,989

Note 11: Income Taxes

The following table summarizes the provision (benefit) for U.S. federal, state, and foreign taxes on income from continuing operations:

	Year Ended December 31,		
	2016	2015	2014
		(in thousands)	
Current:			
Federal	$ 20,490	$ 5,033	$ 17,749
State and local	2,708	1,633	775
Foreign	12,586	13,945	20,269
Total current	35,784	20,611	38,793
Deferred:			
Federal	10,805	3,951	(82,186)
State and local	1,160	(972)	(979)
Foreign	(24,815)	(41,893)	(51,646)
Total deferred	(12,850)	(38,914)	(134,811)
Change in valuation allowance	26,640	40,402	100,053
Total provision for income taxes	$ 49,574	$ 22,099	$ 4,035

The change in the valuation allowance does not include the impacts of currency translation adjustments or significant intercompany transactions.

Our tax provision as a percentage of income before tax was 58.6% , 59.6% , and (22.1)% for 2016 , 2015, and 2014, respectively. Our actual tax rate differed from the 35% U.S. federal statutory tax rate due to various items. A reconciliation of income taxes at the U.S. federal statutory rate of 35% to the consolidated actual tax rate is as follows:

	Year Ended December 31,		
	2016	2015	2014
	(in thousands)		
Income (loss) before income taxes			
Domestic	$ 196,750	$ 115,526	$ 86,605
Foreign	(112,123)	(78,424)	(104,870)
Total income (loss) before income taxes	$ 84,627	$ 37,102	$ (18,265)
Expected federal income tax provision (benefit)	$ 29,619	$ 12,986	$ (6,393)
Goodwill impairment	—	—	119
Change in valuation allowance	26,640	40,402	100,053
Stock-based compensation	2,762	939	1,255
Foreign earnings	(12,584)	(33,364)	(31,544)
Tax credits	(7,471)	(5,257)	(91,148)
Uncertain tax positions, including interest and penalties	3,817	4,274	1,519
Change in tax rates	67	312	(20)
State income tax provision (benefit), net of federal effect	2,806	(14)	(1,235)
U.S. tax provision on foreign earnings	997	203	31,309
Domestic production activities deduction	(2,424)	(1,100)	(2,312)
Local foreign taxes	2,914	1,450	2,295
Other, net	2,431	1,268	137
Total provision for income taxes	$ 49,574	$ 22,099	$ 4,035

Deferred tax assets and liabilities consist of the following:

	At December 31,	
	2016	2015
	(in thousands)	
Deferred tax assets		
Loss carryforwards [1]	$ 194,381	$ 190,545
Tax credits [2]	53,323	52,131
Accrued expenses	36,336	33,546
Pension plan benefits expense	16,822	16,232
Warranty reserves	21,306	25,129
Depreciation and amortization	15,698	21,499
Equity compensation	6,924	9,303
Inventory valuation	3,086	4,068
Deferred revenue	4,896	9,097
Tax effect of accumulated translation	—	291
Other deferred tax assets, net	13,621	11,770
Total deferred tax assets	366,393	373,611
Valuation allowance	(249,560)	(235,339)
Total deferred tax assets, net of valuation allowance	116,833	138,272
Deferred tax liabilities		
Depreciation and amortization	(19,995)	(27,000)
Tax effect of accumulated translation	(100)	—
Other deferred tax liabilities, net	(5,698)	(3,608)
Total deferred tax liabilities	(25,793)	(30,608)
Net deferred tax assets	$ 91,040	$ 107,664

(1) For tax return purposes at December 31, 2016, we had U.S. federal loss carryforwards of $13.2 million that expire during the years 2020 and 2021. At December 31, 2016, we have net operating loss carryforwards in Luxembourg of $483.5 million that can be carried forward indefinitely, offset by a full valuation allowance. The remaining portion of the loss carryforwards are composed primarily of losses in various other state and foreign jurisdictions. The majority of these losses can be carried forward indefinitely. At December 31, 2016, there was a valuation allowance of $249.6 million primarily associated with foreign loss carryforwards and foreign tax credit carryforwards (discussed below).

(2) For tax return purposes at December 31, 2016, we had: (1) U.S. general business credits of $15.3 million , which begin to expire in 2022; (2) U.S. alternative minimum tax credits of $2.5 million that can be carried forward indefinitely; (3) U.S. foreign tax credits of $49.4 million , which begin to expire in 2024; and (4) state tax credits of $10.0 million , which begin to expire in 2017. At December 31, 2016, there was a valuation allowance of $32.3 million associated with foreign tax credit carryforwards, and $6.0 million associated with state tax credit carryforwards.

We recognize valuation allowances to reduce deferred tax assets to the extent we believe it is more likely than not that a portion of such assets will not be realized. In making such determinations, we consider all available favorable and unfavorable evidence, including scheduled reversals of deferred tax liabilities, projected future taxable income, tax planning strategies, and our ability to carry back losses to prior years. We are required to make assumptions and judgments about potential outcomes that lie outside management’s control. Our most sensitive and critical factors are the projection, source, and character of future taxable income. Although realization is not assured, management believes it is more likely than not that deferred tax assets, net of valuation allowance, will be realized. The amount of deferred tax assets considered realizable, however, could be reduced in the near term if estimates of future taxable income during the carryforward periods are reduced or current tax planning strategies are not implemented.

Our deferred tax assets at December 31, 2016 do not include the tax effect on $40.9 million of excess tax benefits from employee stock plan exercises. Common stock will be increased by approximately $15 million when such excess tax benefits reduce cash taxes payable. See Note 1 for further discussion regarding the impact of adopting ASU 2016-09.

We do not provide U.S. deferred taxes on temporary differences related to our foreign investments that are considered permanent in duration. These temporary differences consist primarily of undistributed foreign earnings of $4.9 million and $8.7 million at December 31, 2016 and 2015, respectively. Foreign taxes have been provided on these undistributed foreign earnings. We have

not computed the unrecognized deferred income tax liability on these temporary differences. There are many assumptions that must be considered to calculate the liability, thereby making it impractical to compute at this time.

We are subject to income tax in the United States and numerous foreign jurisdictions. Significant judgment is required in evaluating our tax positions and determining our provision for income taxes. During the ordinary course of business, there are many transactions and calculations for which the ultimate tax determination is uncertain. We establish reserves for tax-related uncertainties based on estimates of whether, and the extent to which, additional taxes will be due. These reserves are established when we believe that certain positions might be challenged despite our belief that our tax return positions are fully supportable. We adjust these reserves in light of changing facts and circumstances, such as the outcome of tax audits. The provision for income taxes includes the impact of reserve positions and changes to reserves that are considered appropriate.

A reconciliation of the beginning and ending amount of unrecognized tax benefits is as follows:

	(in thousands)
Unrecognized tax benefits at January 1, 2014	$ 28,615
Gross increase to positions in prior years	2,749
Gross decrease to positions in prior years	(1,641)
Gross increases to current period tax positions	3,008
Audit settlements	—
Decrease related to lapsing of statute of limitations	(1,715)
Effect of change in exchange rates	(2,870)
Unrecognized tax benefits at December 31, 2014	$ 28,146
Gross increase to positions in prior years	6,461
Gross decrease to positions in prior years	(2,512)
Gross increases to current period tax positions	25,741
Audit settlements	—
Decrease related to lapsing of statute of limitations	(908)
Effect of change in exchange rates	(2,048)
Unrecognized tax benefits at December 31, 2015	$ 54,880
Gross increase to positions in prior years	1,164
Gross decrease to positions in prior years	(612)
Gross increases to current period tax positions	5,071
Audit settlements	(1,116)
Decrease related to lapsing of statute of limitations	(860)
Effect of change in exchange rates	(901)
Unrecognized tax benefits at December 31, 2016	$ 57,626

	At December 31,		
	2016	2015	2014
	(in thousands)		
The amount of unrecognized tax benefits that, if recognized, would affect our effective tax rate	$ 56,411	$ 53,602	$ 26,980

If certain unrecognized tax benefits are recognized they would create additional deferred tax assets. These assets would require a full valuation in certain locations based upon present circumstances.

We classify interest expense and penalties related to unrecognized tax benefits and interest income on tax overpayments as components of income tax expense. The net interest and penalties expense recognized is as follows:

	Year Ended December 31,		
	2016	2015	2014
	(in thousands)		
Net interest and penalties expense	$ 193	$ 880	$ 469

	At December 31,	
	2016	2015
	(in thousands)	
Accrued interest	$ 2,473	$ 2,105
Accrued penalties	2,329	2,577

At December 31, 2016, we are under examination by certain tax authorities for the 2000 to 2015 tax years. The material jurisdictions where we are subject to examination for the 2000 to 2015 tax years include, among others, the U.S., France, Germany, Italy, Brazil and the United Kingdom. No material changes have occurred to previously disclosed assessments. In December 2016, we filed a formal protest letter with the Internal Revenue Service requesting an Appeals hearing regarding the 2011-2013 tax audit assessment received earlier this year relating to research and development tax credits. We believe we have appropriately accrued for the expected outcome of all tax matters and do not currently anticipate that the ultimate resolution of these examinations will have a material adverse effect on our financial condition, future results of operations, or cash flows.

Based upon the timing and outcome of examinations, litigation, the impact of legislative, regulatory, and judicial developments, and the impact of these items on the statute of limitations, it is reasonably possible that the related unrecognized tax benefits could change from those recognized within the next twelve months. However, at this time, an estimate of the range of reasonably possible adjustments to the balance of unrecognized tax benefits cannot be made.

We file income tax returns in the U.S. federal jurisdiction and various states and foreign jurisdictions. We are subject to income tax examination by tax authorities in our major tax jurisdictions as follows:

Tax Jurisdiction	Years Subject to Audit
U.S. federal	Subsequent to 1999
France	Subsequent to 2009
Germany	Subsequent to 2010
Brazil	Subsequent to 2010
United Kingdom	Subsequent to 2012
Italy	Subsequent to 2007

Note 12: Commitments and Contingencies

Commitments

Operating lease rental expense for factories, service and distribution locations, offices, and equipment was as follows:

	Year Ended December 31,		
	2016	2015	2014
	(in thousands)		
Rental expense	$ 14,232	$ 15,524	$ 19,178

Future minimum lease payments at December 31, 2016 , under noncancelable operating leases with initial or remaining terms in excess of one year are as follows:

Year Ending December 31,		Minimum Payments
		(in thousands)
2017	$	13,128
2018		12,238
2019		9,152
2020		6,026
2021		5,363
Beyond 2021		8,510
Future minimum lease payments	$	54,417

Rent expense is recognized straight-line over the lease term, including renewal periods if reasonably assured. We lease most of our sales and distribution locations and administrative offices. Our leases typically contain renewal options similar to the original terms with lease payments that increase based on the consumer price index.

Guarantees and Indemnifications

We are often required to obtain standby letters of credit (LOCs) or bonds in support of our obligations for customer contracts. These standby LOCs or bonds typically provide a guarantee to the customer for future performance, which usually covers the installation phase of a contract and may, on occasion, cover the operations and maintenance phase of outsourcing contracts.

Our available lines of credit, outstanding standby LOCs, and bonds are as follows:

	At December 31,			
	2016		2015	
	(in thousands)			
Credit facilities [1]				
Multicurrency revolving line of credit	$	500,000	$	500,000
Long-term borrowings		(97,167)		(151,837)
Standby LOCs issued and outstanding		(46,103)		(46,574)
Net available for additional borrowings under the multi-currency revolving line of credit	$	356,730	$	301,589
Net available for additional standby LOCs under sub-facility [2]		203,897		253,426
Unsecured multicurrency revolving lines of credit with various financial institutions				
Multicurrency revolving line of credit	$	91,809	$	97,989
Standby LOCs issued and outstanding		(21,734)		(31,122)
Short-term borrowings [3]		(69)		(3,884)
Net available for additional borrowings and LOCs	$	70,006	$	62,983
Unsecured surety bonds in force	$	48,221	$	87,558

(1) Refer to Note 6 for details regarding our secured credit facilities.
(2) During the year ended December 31, 2016, as a result of entering into the first and second amendments to the 2015 credit facility, the maximum limit available for additional standby LOCs under sub-facility was reduced from $300 million to $250 million .
(3) Short-term borrowings are included in “Other current liabilities” on the Consolidated Balance Sheets.

In the event any such standby LOC or bond is called, we would be obligated to reimburse the issuer of the standby LOC or bond; however, we do not believe that any outstanding LOC or bond will be called.

We generally provide an indemnification related to the infringement of any patent, copyright, trademark, or other intellectual property right on software or equipment within our sales contracts, which indemnifies the customer from and pays the resulting costs, damages, and attorney’s fees awarded against a customer with respect to such a claim provided that (a) the customer promptly notifies us in writing of the claim and (b) we have the sole control of the defense and all related settlement negotiations. We may also provide an indemnification to our customers for third party claims resulting from damages caused by the negligence or willful misconduct of our employees/agents in connection with the performance of certain contracts. The terms of our indemnifications

generally do not limit the maximum potential payments. It is not possible to predict the maximum potential amount of future payments under these or similar agreements.

Legal Matters

We are subject to various legal proceedings and claims of which the outcomes are subject to significant uncertainty. Our policy is to assess the likelihood of any adverse judgments or outcomes related to legal matters, as well as ranges of probable losses. A determination of the amount of the liability required, if any, for these contingencies is made after an analysis of each known issue. A liability is recognized and charged to operating expense when we determine that a loss is probable and the amount can be reasonably estimated. Additionally, we disclose contingencies for which a material loss is reasonably possible, but not probable.

On July 14, 2016, we entered into a confidential settlement agreement with Transdata Incorporated (Transdata) under which Transdata agreed to dismiss with prejudice all pending litigation in various United States District Courts against us and certain of our customers. As a part of the settlement, we received a patent license from Transdata for the use of the patents in future meter production and sales.

In Brazil, the Conselho Administravo de Defesa Economica commenced an investigation of water meter suppliers, including our subsidiary, to determine whether such suppliers participated in agreements or concerted practices to coordinate their commercial policy in Brazil. On October 18, 2016, we settled with the Conselho Administravo de Defesa Economica. The settlement was not material to our results of operations or financial condition.

Itron and its subsidiaries are parties to various employment-related proceedings in jurisdictions where it does business. None of the proceedings are individually material to Itron, and we believe that we have made adequate provision such that the ultimate disposition of the proceedings will not materially affect Itron's business or financial condition.

Warranty

A summary of the warranty accrual account activity is as follows:

	Year Ended December 31,	
	2016	**2015**
	(in thousands)	
Beginning balance	$ 54,512	$ 36,548
New product warranties	7,987	8,380
Other adjustments and expirations	5,933	37,604
Claims activity	(24,364)	(25,955)
Effect of change in exchange rates	(766)	(2,065)
Ending balance	43,302	54,512
Less: current portion of warranty	24,874	36,927
Long-term warranty	$ 18,428	$ 17,585

Total warranty expense is classified within cost of revenues and consists of new product warranties issued, costs related to extended warranty contracts, and other changes and adjustments to warranties. Warranty expense was as follows:

	Year Ended December 31,		
	2016	**2015**	**2014**
		(in thousands)	
Total warranty expense	$ 13,920	$ 45,984	$ 9,238

Extended Warranty
A summary of changes to unearned revenue for extended warranty contracts is as follows:

	Year Ended December 31,	
	2016	2015
	(in thousands)	
Beginning balance	$ 33,654	$ 34,138
Unearned revenue for new extended warranties	1,437	2,792
Unearned revenue recognized	(3,594)	(2,832)
Effect of change in exchange rates	52	(444)
Ending balance	31,549	33,654
Less: current portion of unearned revenue for extended warranty	4,226	3,565
Long-term unearned revenue for extended warranty within other long-term obligations	$ 27,323	$ 30,089

Health Benefits
We are self insured for a substantial portion of the cost of our U.S. employee group health insurance. We purchase insurance from a third party, which provides individual and aggregate stop loss protection for these costs. Each reporting period, we expense the costs of our health insurance plan including paid claims, the change in the estimate of incurred but not reported (IBNR) claims, taxes, and administrative fees (collectively, the plan costs).

Plan costs were as follows:

	Year Ended December 31,		
	2016	2015	2014
	(in thousands)		
Plan costs	$ 27,276	$ 25,355	$ 23,206

IBNR accrual, which is included in wages and benefits payable, was as follows:

	At December 31,	
	2016	2015
	(in thousands)	
IBNR accrual	$ 2,441	$ 2,051

Our IBNR accrual and expenses may fluctuate due to the number of plan participants, claims activity, and deductible limits. For our employees located outside of the United States, health benefits are provided primarily through governmental social plans, which are funded through employee and employer tax withholdings.

Note 13: Restructuring

2016 Projects
On September 1, 2016, we announced projects (2016 Projects) to restructure various company activities in order to improve operational efficiencies, reduce expenses and improve competiveness. We expect to close or consolidate several facilities and reduce our global workforce as a result of the restructuring.

The 2016 Projects began during the three months ended September 30, 2016, and we expect to substantially complete the 2016 Projects by the end of 2018. Many of the affected employees are represented by unions or works councils, which require consultation, and potential restructuring projects may be subject to regulatory approval, both of which could impact the timing of charges, total expected charges, cost recognized, and planned savings in certain jurisdictions.

The total expected restructuring costs, the restructuring costs recognized during the year ended December 31, 2016 , and the remaining expected restructuring costs as of December 31, 2016 related to the 2016 Projects are as follows:

	Total Expected Costs at December 31, 2016	Costs Recognized During the Year Ended December 31, 2016	Remaining Costs to be Recognized at December 31, 2016
		(in thousands)	
Employee severance costs	$ 44,186	$ 39,686	$ 4,500
Asset impairments & net loss on sale or disposal	7,219	7,219	—
Other restructuring costs	16,389	889	15,500
Total	$ 67,794	$ 47,794	$ 20,000
Segments:			
Electricity	$ 10,827	$ 8,827	$ 2,000
Gas	34,468	23,968	10,500
Water	20,061	13,061	7,000
Corporate unallocated	2,438	1,938	500
Total	$ 67,794	$ 47,794	$ 20,000

2014 Projects

In November 2014, our management approved restructuring projects (2014 Projects) to restructure our Electricity business and related general and administrative activities, along with certain Gas and Water activities, to improve operational efficiencies and reduce expenses. The 2014 Projects include consolidation of certain facilities and reduction of our global workforce. The improved structure positions us to meet our long-term profitability goals by better aligning global operations with markets where we can serve our customers profitably.

We began implementing these projects in the fourth quarter of 2014, and substantially completed them in the third quarter of 2016. Project activities will continue through the fourth quarter of 2017, however, no further costs are expected to be recognized related to the 2014 Projects.

The total expected restructuring costs, the restructuring costs recognized in prior periods, the restructuring costs recognized during the year ended December 31, 2016 , and the remaining expected restructuring costs as of December 31, 2016 related to the 2014 Projects are as follows:

	Total Expected Costs at December 31, 2016	Costs Recognized in Prior Periods	Costs Recognized During the Year Ended December 31, 2016	Remaining Costs to be Recognized at December 31, 2016
		(in thousands)		
Employee severance costs	$ 34,630	$ 34,373	$ 257	$ —
Asset impairments & net loss on sale or disposal	8,849	8,880	(31)	—
Other restructuring costs	4,999	3,929	1,070	—
Total	$ 48,478	$ 47,182	$ 1,296	$ —
Segments:				
Electricity	$ 20,610	$ 21,743	$ (1,133)	$ —
Gas	13,631	11,855	1,776	—
Water	1,995	1,940	55	—
Corporate unallocated	12,242	11,644	598	—
Total	$ 48,478	$ 47,182	$ 1,296	$ —

2013 Projects

In September 2013, our management approved projects (the 2013 Projects) to restructure our operations to improve profitability and increase efficiencies. We began implementing these projects in the third quarter of 2013, and completed the projects during the third quarter of 2016.

The 2013 Projects resulted in approximately $26.2 million of restructuring expense, which was recognized from the third quarter of 2013 through the fourth quarter of 2014.

The following table summarizes the activity within the restructuring related balance sheet accounts for the 2016, 2014 and 2013 Projects during the year ended December 31, 2016 :

	Accrued Employee Severance	Asset Impairments & Net Loss on Sale or Disposal	Other Accrued Costs	Total
	(in thousands)			
Beginning balance, January 1, 2016	$ 26,533	$ —	$ 3,048	$ 29,581
Costs incurred and charged to expense	39,943	7,188	1,959	49,090
Cash payments	(18,452)	—	(2,389)	(20,841)
Non-cash items	—	(7,188)	—	(7,188)
Effect of change in exchange rates	(2,656)	—	(16)	(2,672)
Ending balance, December 31, 2016	$ 45,368	$ —	$ 2,602	$ 47,970

Asset impairments are determined at the asset group level. Revenues and net operating income from the activities we have exited or will exit under the restructuring projects are not material to our operating segments or consolidated results.

Other restructuring costs include expenses for employee relocation, professional fees associated with employee severance, and costs to exit the facilities once the operations in those facilities have ceased. Costs associated with restructuring activities are generally presented in the Consolidated Statements of Operations as restructuring, except for certain costs associated with inventory write-downs, which are classified within cost of revenues, and accelerated depreciation expense, which is recognized according to the use of the asset.

The current restructuring liabilities were $26.2 million and $25.2 million as of December 31, 2016 and 2015 , respectively. The current restructuring liabilities are classified within other current liabilities on the Consolidated Balance Sheets. The long-term restructuring liabilities balances were $21.8 million and $4.4 million as of December 31, 2016 and 2015 , respectively. The long-term restructuring liabilities are classified within other long-term obligations on the Consolidated Balance Sheets, and include facility exit costs and severance accruals.

Note 14: Shareholders' Equity

Preferred Stock

We have authorized the issuance of 10 million shares of preferred stock with no par value. In the event of a liquidation, dissolution, or winding up of the affairs of the corporation, whether voluntary or involuntary, the holders of any outstanding preferred stock will be entitled to be paid a preferential amount per share to be determined by our Board of Directors prior to any payment to holders of common stock. There was no preferred stock issued or outstanding at December 31, 2016 , 2015 , and 2014 .

Stock Repurchase Plan

On February 19, 2015, our Board authorized a new repurchase program of up to $50 million of our common stock over a 12-month period, beginning February 19, 2015. From February 19, 2015 through December 31, 2015, we repurchased 743,444 shares of our common stock, totaling $25.0 million . This program expired on February 19, 2016 with no share repurchases made subsequent to December 31, 2015.

Other Comprehensive Income (Loss)

OCI is reflected as a net increase (decrease) to shareholders' equity and is not reflected in our results of operations. The changes in the components of AOCI, net of tax, were as follows:

	Foreign Currency Translation Adjustments	Net Unrealized Gain (Loss) on Derivative Instruments	Net Unrealized Gain (Loss) on Nonderivative Instruments	Pension Benefit Obligation Adjustments	Accumulated Other Comprehensive Income (Loss)
			(in thousands)		
Balances at January 1, 2014	$ 4,217	$ (1,256)	$ (14,380)	$ (9,885)	$ (21,304)
OCI before reclassifications	(89,297)	(566)	—	(25,702)	(115,565)
Amounts reclassified from AOCI	—	1,054	—	755	1,809
Total other comprehensive income (loss)	(89,297)	488	—	(24,947)	(113,756)
Balances at December 31, 2014	$ (85,080)	$ (768)	$ (14,380)	$ (34,832)	$ (135,060)
OCI before reclassifications	(73,891)	76	—	4,570	(69,245)
Amounts reclassified from AOCI	962	1,010	—	1,726	3,698
Total other comprehensive income (loss)	(72,929)	1,086	—	6,296	(65,547)
Balances at December 31, 2015	$ (158,009)	$ 318	$ (14,380)	$ (28,536)	$ (200,607)
OCI before reclassifications	(23,570)	(1,087)	—	(6,191)	(30,848)
Amounts reclassified from AOCI	(1,407)	812	—	2,723	2,128
Total other comprehensive income (loss)	(24,977)	(275)	—	(3,468)	(28,720)
Balances at December 31, 2016	$ (182,986)	$ 43	$ (14,380)	$ (32,004)	$ (229,327)

The before-tax amount, income tax (provision) benefit, and net-of-tax amount related to each component of OCI during the reporting periods were as follows:

	Year Ended December 31,		
	2016	2015	2014
	(in thousands)		
Before-tax amount			
Foreign currency translation adjustment	$ (23,280)	$ (74,219)	$ (89,329)
Foreign currency translation adjustment reclassified into net income on disposal	(1,407)	962	—
Net unrealized gain (loss) on derivative instruments designated as cash flow hedges	(1,768)	123	(915)
Net hedging (gain) loss reclassified into net income (loss)	1,322	1,639	1,704
Pension benefit obligation adjustment	(3,504)	8,971	(25,270)
Total other comprehensive income (loss), before tax	(28,637)	(62,524)	(113,810)
Tax (provision) benefit			
Foreign currency translation adjustment	(290)	328	32
Foreign currency translation adjustment reclassified into net income on disposal	—	—	—
Net unrealized gain (loss) on derivative instruments designated as cash flow hedges	681	(47)	349
Net hedging (gain) loss reclassified into net income (loss)	(510)	(629)	(650)
Pension benefit obligation adjustment	36	(2,675)	323
Total other comprehensive income (loss) tax (provision) benefit	(83)	(3,023)	54
Net-of-tax amount			
Foreign currency translation adjustment	(23,570)	(73,891)	(89,297)
Foreign currency translation adjustment reclassified into net income on disposal	(1,407)	962	—
Net unrealized gain (loss) on derivative instruments designated as cash flow hedges	(1,087)	76	(566)
Net hedging (gain) loss reclassified into net income (loss)	812	1,010	1,054
Pension benefit obligation adjustment	(3,468)	6,296	(24,947)
Total other comprehensive income (loss), net of tax	$ (28,720)	$ (65,547)	$ (113,756)

Details about the AOCI components reclassified to the Consolidated Statements of Operations during the reporting periods are as follows:

	Amount Reclassified from AOCI [(1)]			
	Year Ended December 31,			Affected Line Item in the Income Statement
	2016	2015	2014	
	(in thousands)			
Amortization of defined benefit pension items				
Prior-service costs	$ (58)	$ (59)	$ (138)	[(2)]
Actuarial losses	(1,351)	(1,979)	(572)	[(2)]
Loss on settlement	(1,343)	(375)	(55)	[(2)]
Other	—	(46)	—	[(2)]
Total, before tax	(2,752)	(2,459)	(765)	Income (loss) before income taxes
Tax benefit	29	733	10	Income tax provision
Total, net of tax	$ (2,723)	$ (1,726)	$ (755)	Net income (loss)

(1) Amounts in parenthesis indicate debits to the Consolidated Statements of Operations.
(2) These AOCI components are included in the computation of net periodic pension cost. Refer to Note 8 for additional details.

Reclassification of amounts related to foreign currency translation adjustment relate to the sale of a subsidiary and are included in restructuring expense in the Consolidated Statements of Operations for the years ended December 31, 2016 and 2015.

Refer to Note 7 for additional details related to derivative activities that resulted in reclassification of AOCI to the Consolidated Statements of Operations.

Note 15: Fair Values of Financial Instruments

The fair values at December 31, 2016 and 2015 do not reflect subsequent changes in the economy, interest rates, tax rates, and other variables that may affect the determination of fair value.

	December 31, 2016		December 31, 2015	
	Carrying Amount	Fair Value	Carrying Amount	Fair Value
	(in thousands)			
Assets				
Cash and cash equivalents	$ 133,565	$ 133,565	$ 131,018	$ 131,018
Foreign exchange forwards	169	169	27	27
Interest rate swaps	1,830	1,830	1,632	1,632
Interest rate caps	946	946	1,423	1,423
Liabilities				
Credit facility				
USD denominated term loan	$ 208,125	$ 205,676	$ 219,375	$ 217,830
Multicurrency revolving line of credit	97,167	95,906	151,837	150,570
Interest rate swaps	934	934	868	868
Foreign exchange forwards	449	449	99	99

The following methods and assumptions were used in estimating fair values:

Cash and cash equivalents: Due to the liquid nature of these instruments, the carrying value approximates fair value (Level 1).

Credit Facility - term loan and multicurrency revolving line of credit: The term loan and revolver are not traded publicly. The fair values, which are determined based upon a hypothetical market participant, are calculated using a discounted cash flow model with Level 2 inputs, including estimates of incremental borrowing rates for debt with similar terms, maturities, and credit profiles. Refer to Note 6 for a further discussion of our debt.

Derivatives: See Note 7 for a description of our methods and assumptions in determining the fair value of our derivatives, which were determined using Level 2 inputs.

Note 16: Segment Information

We operate under the Itron brand worldwide and manage and report under three operating segments, Electricity, Gas, and Water. Our Water operating segment includes both our global water and heat solutions. This structure allows each segment to develop its own go-to-market strategy, prioritize its marketing and product development requirements, and focus on its strategic investments. Our sales, marketing, and delivery functions are managed under each segment. Our product development and manufacturing operations are managed on a worldwide basis to promote a global perspective in our operations and processes and yet still maintain alignment with the segments.

We have three GAAP measures of segment performance: revenues, gross profit (margin), and operating income (margin). Our operating segments have distinct products, and, therefore, intersegment revenues are minimal. Certain operating expenses are allocated to the operating segments based upon internally established allocation methodologies. Corporate operating expenses, interest income, interest expense, other income (expense), and income tax provision are not allocated to the segments, nor are included in the measure of segment profit or loss. In addition, we allocate only certain production assets and intangible assets to our operating segments. We do not manage the performance of the segments on a balance sheet basis.

Segment Products

Electricity	Standard electricity (electromechanical and electronic) meters; smart metering solutions that include one or several of the following: smart electricity meters; smart electricity communication modules; prepayment systems, including smart key, keypad, and smart card communication technologies; smart systems including handheld, mobile, and fixed network collection technologies; smart network technologies; meter data management software; knowledge application solutions; installation; implementation; and professional services including consulting and analysis.
Gas	Standard gas meters; smart metering solutions that include one or several of the following: smart gas meters; smart gas communication modules; prepayment systems, including smart key, keypad, and smart card communication technologies; smart systems, including handheld, mobile, and fixed network collection technologies; smart network technologies; meter data management software; knowledge application solutions installation; implementation; and professional services including consulting and analysis.
Water	Standard water and heat meters; smart metering solutions that include one or several of the following: smart water meters and communication modules; smart heat meters; smart systems including handheld, mobile, and fixed network collection technologies; meter data management software; knowledge application solutions; installation; implementation; and professional services including consulting and analysis.

Revenues, gross profit, and operating income associated with our segments were as follows:

	Year Ended December 31,		
	2016	**2015**	**2014**
	(in thousands)		
Revenues			
Electricity	$ 938,374	$ 820,306	$ 771,857
Gas	569,476	543,805	599,091
Water	505,336	519,422	576,668
Total Company	$ 2,013,186	$ 1,883,533	$ 1,947,616
Gross profit			
Electricity	$ 282,677	$ 225,446	$ 200,249
Gas	205,063	185,559	211,623
Water	172,580	145,680	202,178
Total Company	$ 660,320	$ 556,685	$ 614,050
Operating income (loss)			
Electricity	$ 68,287	$ 31,104	$ (77,751)
Gas	66,813	67,471	76,101
Water	37,266	19,864	71,356
Corporate unallocated	(76,155)	(65,593)	(69,226)
Total Company	96,211	52,846	480
Total other income (expense)	(11,584)	(15,744)	(18,745)
Income (loss) before income taxes	$ 84,627	$ 37,102	$ (18,265)

During the second quarter of 2015, we concluded it was necessary to issue a product replacement notification to customers of our Water segment who had purchased certain communication modules manufactured between July 2013 and December 2014. We determined that a component of the modules was failing prematurely. This resulted in a decrease to gross profit of $29.4 million for the year ended December 31, 2015. After adjusting for the tax impact, this charge resulted in a decrease to basic and diluted EPS of $0.47 for the year ended December 31, 2015.

During 2014, in our Electricity segment, we revised our estimate of the cost to complete an OpenWay project in North America. This resulted in a decrease to gross profit of $15.9 million , which decreased basic and diluted EPS by $0.25 for the year ended December 31, 2014.

For the years ended December 31, 2016 , 2015, and 2014, no single customer represented more than 10% of total Company or the Gas or Water operating segment revenues. Two customers represented 12% and 10% of total Electricity revenue, respectively, for the year ended December 31, 2016 . No customer represented more than 10% of Electricity revenue for the years ended December 31, 2015 and 2014.

Revenues by region were as follows:

	Year Ended December 31,		
	2016	2015	2014
	(in thousands)		
United States and Canada	$ 1,126,787	$ 997,293	$ 875,796
Europe, Middle East, and Africa (EMEA)	698,106	701,301	849,841
Other	188,293	184,939	221,979
Total Company	$ 2,013,186	$ 1,883,533	$ 1,947,616

Revenues are allocated to countries and regions based on the location of the selling entity.

Property, plant, and equipment, net, by geographic area were as follows:

	At December 31,	
	2016	2015
	(in thousands)	
United States	$ 70,435	$ 72,179
Outside United States	106,023	118,077
Total Company	$ 176,458	$ 190,256

Depreciation and amortization expense associated with our segments was as follows:

	Year Ended December 31,		
	2016	2015	2014
	(in thousands)		
Electricity	$ 28,468	$ 35,896	$ 47,889
Gas	20,714	20,288	25,706
Water	18,675	19,459	24,257
Corporate Unallocated	461	350	287
Total Company	$ 68,318	$ 75,993	$ 98,139

Note 17: Quarterly Results (Unaudited)

	First Quarter		Second Quarter		Third Quarter		Fourth Quarter		Total Year
				(in thousands, except per share data)					
2016									
Statement of operations data (unaudited):									
Revenues	$	497,590	$	513,024	$	506,859	$	495,713	$	2,013,186
Gross profit		163,203		169,705		170,749		156,663		660,320
Net income (loss) attributable to Itron, Inc.		10,089		19,917		(9,885)		11,649		31,770
Earnings (loss) per common share - Basic [(1)]	$	0.27	$	0.52	$	(0.26)	$	0.30	$	0.83
Earnings (loss) per common share - Diluted [(1)]	$	0.26	$	0.52	$	(0.26)	$	0.30	$	0.82

		First Quarter		Second Quarter		Third Quarter		Fourth Quarter		Total Year
					(in thousands, except per share data)					
2015										
Statement of operations data (unaudited):										
Revenues	$	446,746	$	470,811	$	469,528	$	496,448	$	1,883,533
Gross profit		138,422		118,554		147,290		152,419		556,685
Net income (loss) attributable to Itron, Inc.		5,398		(14,346)		12,640		8,986		12,678
Earnings (loss) per common share - Basic [(1)]	$	0.14	$	(0.37)	$	0.33	$	0.23	$	0.33
Earnings (loss) per common share - Diluted [(1)]	$	0.14	$	(0.37)	$	0.33	$	0.23	$	0.33

(1) The sum of the quarterly EPS data presented in the table may not equal the annual results due to rounding and the impact of dilutive securities on the annual versus the quarterly EPS calculations.

During the third quarter of 2016, we announced the 2016 Projects to restructure various company activities in order to improve operational efficiencies, reduce expenses and improve competiveness. As a result, we recognized $40.0 million and $7.8 million in restructuring costs during the third and fourth quarters of 2016, respectively, related to the 2016 Projects.

For the year ended December 31, 2015, management concluded earnings fell below the threshold at which incentive compensation was appropriate. As a result, $13.3 million of previously accrued compensation expense was reversed in the fourth quarter of 2015.

During the second quarter of 2015, we concluded it was necessary to issue a product replacement notification to customers of our Water segment who had purchased certain communication modules manufactured between July 2013 and December 2014. We determined that a component of the modules was failing prematurely. As a result, we recognized a warranty charge of $23.6 million during the second quarter of 2015.

Note 18: Subsequent Events

Stock Repurchases

On February 23, 2017, Itron's Board of Directors authorized a new repurchase program of up to $50 million of our common stock over a 12-month period, beginning February 23, 2017. Repurchases are made in the open market or in privately negotiated transactions and in accordance with applicable securities laws. Repurchases are subject to the Company's alternative uses of capital as well as financial, market, and industry conditions.

ITEM 9: CHANGES IN AND DISAGREEMENTS WITH ACCOUNTANTS ON ACCOUNTING AND FINANCIAL DISCLOSURE

There were no disagreements with our independent accountants on accounting and financial disclosure matters within the three year period ended December 31, 2016 , or in any period subsequent to such date, through the date of this report.

ITEM 9A: CONTROLS AND PROCEDURES

Evaluation of disclosure controls and procedures

An evaluation was performed under the supervision and with the participation of our Company's management, including the Chief Executive Officer and Chief Financial Officer, of the effectiveness of the design and operation of the Company's disclosure controls and procedures (as such term is defined in Rules 13a-15(e) and 15d-15(e)) under the Securities Exchange Act of 1934 as amended. Based on that evaluation, the Company's management, including the Chief Executive Officer and Chief Financial Officer, concluded that as of December 31, 2016, the Company's disclosure controls and procedures were effective to ensure the information required to be disclosed by an issuer in the reports that it files or submits under the Securities Exchange Act of 1934 is accumulated and communicated to our management, including our principal executive and principal financial officers, or persons performing similar functions, as appropriate to allow timely decisions regarding required disclosure. There are inherent limitations to the effectiveness of any system of disclosure controls and procedures, including the possibility of human error and the circumvention or overriding of the controls and procedures. Accordingly, even effective disclosure controls and procedures can only provide reasonable assurance of achieving their control objectives.

Management's Annual Report on Internal Control Over Financial Reporting

Our management is responsible for establishing and maintaining adequate internal control over financial reporting, as such term is defined in Exchange Act Rules 13a-15(f). Under the supervision and with the participation of our management, including our Chief Executive Officer and Chief Financial Officer, we conducted an evaluation of the effectiveness of our internal control over financial reporting based on the framework in *Internal Control— Integrated Framework* issued by the Committee of Sponsoring Organizations of the Treadway Commission (2013 Framework). Based on our evaluation under the 2013 Framework, management concluded that our internal control over financial reporting was effective as of December 31, 2016 .

The effectiveness of our internal control over financial reporting as of December 31, 2016 has been audited by Deloitte & Touche LLP, an independent registered public accounting firm, as stated in their report that is included in this Annual Report on Form 10-K.

Changes in internal control over financial reporting

In the ordinary course of business, we review our system of internal control over financial reporting and make changes to our applications and processes to improve such controls and increase efficiency, while ensuring that we maintain an effective internal control environment. Changes may include such activities as implementing new, more efficient applications and automating manual processes. We are currently upgrading our global enterprise resource software applications at certain of our locations outside of the United States. We will continue to upgrade our financial applications in stages, and we believe the related changes to processes and internal controls will allow us to be more efficient and further enhance our internal control over financial reporting.

Additionally, we have established a shared services center in Europe, and we are currently transitioning certain finance and accounting activities to the shared services center in a staged approach. The transition to shared services is ongoing, and we believe the related changes to processes and internal control will allow us to be more efficient and further enhance our internal control over financial reporting.

Except for these changes and the remediation of the prior year material weakness noted below, there have been no other changes in our internal control over financial reporting during the three months ended December 31, 2016 that materially affected, or are reasonably likely to materially affect, internal control over financial reporting.

Remediation of prior year material weakness in internal control over financial reporting

As disclosed in Item 9A of the Annual Report on Form 10-K for the fiscal year ended December 31, 2015, and for each interim period in Item 4 of our Quarterly Reports on Form 10-Q for the quarters ended March 31, June 30, and September 30, 2016 we previously did not maintain effective internal controls over financial reporting, specifically relating to our revenue processes and controls to determine whether vendor specific objective evidence (VSOE) of fair value could be demonstrated for substantially

all maintenance contracts associated with certain software solutions and whether software was essential to the functionality of certain hardware.

As of December 31, 2016, we completed our remediation of the prior year material weakness in our internal controls over financial reporting. This remediation included the following:

- Performing a revenue controls gap assessment and root cause analysis with the assistance of external advisers and developing detailed remediation plans for all gaps identified;
- Implementing a more precise VSOE analysis to determine fair value for Itron's software products;
- Implementing additional revenue internal controls to more effectively monitor complex arrangements; including those containing software elements;
- Updating revenue recognition policies and procedures;
- Hiring additional resources with technical revenue recognition accounting expertise;
- Completion of training for revenue accounting employees and other employees directly associated with sales contracts; and
- Engaging external advisers to assist with technical matters related to complex sales contracts.

Based on the implementation and monitoring of these enhancements in internal controls over financial reporting, the Company concluded that the material weakness as described above was remediated as of December 31, 2016.

Report of Independent Registered Public Accounting Firm

To the Board of Directors and Shareholders of
Itron, Inc.
Liberty Lake, Washington

We have audited the internal control over financial reporting of Itron, Inc. and subsidiaries (the "Company") as of December 31, 2016, based on criteria established in *Internal Control - Integrated Framework (2013)* issued by the Committee of Sponsoring Organizations of the Treadway Commission. The Company's management is responsible for maintaining effective internal control over financial reporting and for its assessment of the effectiveness of internal control over financial reporting, included in the accompanying *Management's Annual Report on Internal Control over Financial Reporting* . Our responsibility is to express an opinion on the Company's internal control over financial reporting based on our audit.

We conducted our audit in accordance with the standards of the Public Company Accounting Oversight Board (United States). Those standards require that we plan and perform the audit to obtain reasonable assurance about whether effective internal control over financial reporting was maintained in all material respects. Our audit included obtaining an understanding of internal control over financial reporting, assessing the risk that a material weakness exists, testing and evaluating the design and operating effectiveness of internal control based on the assessed risk, and performing such other procedures as we considered necessary in the circumstances. We believe that our audit provides a reasonable basis for our opinion.

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

Because of the inherent limitations of internal control over financial reporting, including the possibility of collusion or improper management override of controls, material misstatements due to error or fraud may not be prevented or detected on a timely basis. Also, projections of any evaluation of the effectiveness of the internal control over financial reporting to future periods are subject to the risk that the controls may become inadequate because of changes in conditions, or that the degree of compliance with the policies or procedures may deteriorate.

In our opinion, the Company maintained, in all material respects, effective internal control over financial reporting as of December 31, 2016, based on the criteria established in *Internal Control* - *Integrated Framework (2013)* issued by the Committee of Sponsoring Organizations of the Treadway Commission.

We have also audited, in accordance with the standards of the Public Company Accounting Oversight Board (United States), the consolidated financial statements and financial statement schedule as of and for the year ended December 31, 2016 of the Company and our report dated February 28, 2017 expressed an unqualified opinion on those financial statements and financial statement schedule.

/s/ DELOITTE & TOUCHE LLP

Seattle, Washington

February 28, 2017

ITEM 9B: OTHER INFORMATION

Departure of Directors or Certain Officers; Election of Directors; Appointment of Certain Officers; Compensatory Arrangements of Certain Officers

1. On February 23, 2017, Jon Eliassen and Charlie Gaylord, each members of the Board of Itron, Inc. (the "Company") informed the Board that they will not stand for re-election and will retire at the Company's next annual general meeting. Mr. Eliassen also serves as a member of the Corporate Governance Committee and the Value Enhancement Committee. Mr. Gaylord also serves as a member of the Audit/Finance Committee and the Corporate Governance Committee. There were no disagreements with the Company on any matter related to the Company's operations, policies or practices that led to Mr. Eliassen's or Mr. Gaylord's decision to retire from the Board. Both directors plan to continue serving on the Board until the Company's next annual general meeting in the second quarter of 2017. The Company would like to thank each of Mr. Eliassen and Mr. Gaylord for their many contributions to the Company and wish them the best in their future endeavors.

2. On February 23, 2017, the Board of the Company authorized the forms of Performance Restricted Share Unit Award Agreement (the "PRSU Agreement"), Stock Option Agreement (the "Stock Option Agreement") and Restricted Share Unit Award Agreement (the "RSU Agreement" and collectively, the "Award Agreements") to be used for grants under the Amended and Restated Itron, Inc. 2010 Stock Incentive Plan to, among others, the Company's executives covered by Section 16 of the Securities Exchange Act of 1934.

   The PRSU Agreement provides for an award of a target number of restricted share units based on the Company's achievement of specified financial performance goals (performance conditions) and total shareholder return (TSR) over a three year period relative to a peer group (market condition). Common shares are delivered to the participant only if the performance conditions have been achieved and certified by the Compensation Committee, and the participant has become vested in the restricted share units. The actual number of shares to be earned in each performance period ranges between 0% and 160% of the target amount as determined by the achievement of the performance conditions. At the end of the performance periods, if the performance conditions are achieved at or above threshold, the number of shares earned is further adjusted by a TSR multiplier payout percentage, which ranges between 75% and 125%, based on the market condition. Therefore, based on the attainment of the performance and market conditions, the actual number of shares that vest may range from 0% to 200% of the target amount. As soon as practicable following the last day of the performance period, the Compensation Committee will certify the extent to which the performance and market conditions have been achieved and the corresponding multiplier. Subject to continued employment with the Company, or except as otherwise provided in the PRSU Agreement, the restricted share units delivered under the PRSU Agreement, if any, will vest on the third anniversary of the award date. Under the terms of the PRSU Agreement, upon termination due to death or disability, the award will continue to vest subject to actual achievement of the performance goals after the performance period ending in the year of death or disability. Upon termination, due to retirement after the second anniversary of the award date, the award will continue to vest subject to actual achievement of the performance and market conditions. In the event of a change in control where the award is not assumed by the acquirer, the performance period will terminate on the date of the change in control and will vest at the greater of the target number of PRSUs or the number of PRSUs based on actual achievement of the performance and market conditions for the year in which the change in control occurs.

   The Stock Option Agreement and RSU Agreement generally provide for vesting of one third of the applicable award on each of the first, second and third anniversaries of the date of grant, subject to the participant's continued employment with the Company. Upon termination of employment due to death or disability, awards under the Stock Option Agreement and RSU Agreement will become vested in full. Upon termination of employment due to retirement after the second anniversary of the award date, awards under the Stock Option Agreement and RSU Agreement will continue to vest over the remaining vesting schedule until fully vested. Vested options under the Stock Option Agreement are exercisable at any time before the earliest to occur of: (i) the tenth anniversary of the date of grant, (ii) in the event of termination of employment due to retirement, the earlier to occur of the third anniversary of the retirement date or the tenth anniversary of the grant date, (iii) in the event of termination of employment due to death or disability, the tenth anniversary of the date of grant, (iv) ninety days following termination of employment for any reason other than cause or (v) immediately upon notification of termination of employment for cause. Under the RSU Agreement, participants will receive one common share of the Company for each vested restricted share unit as soon as practicable following the applicable vesting date.

   Each of the Award Agreements provides that in the event the participant's employment with the Company is terminated by the Company without cause or by the participant for good reason, in each case within twenty-four months of a change in control, all unvested awards will become immediately vested. For purposes of the Award Agreements, the definition of "good reason" is the definition contained in the Award Agreements. If the Award Agreements are not assumed or substituted under

the terms of the Award Agreements in connection with a change in control, all unvested portions of the awards will become vested immediately upon the occurrence of the change in control.

The Award Agreements also contain covenants regarding confidential information, non-solicitation and non-competition that are effective following termination due to retirement. If a participant breaches any of these covenants during the restricted period following the date of termination, any unvested portion of the award will be forfeited.

PART III

ITEM 10: DIRECTORS, EXECUTIVE OFFICERS AND CORPORATE GOVERNANCE

The section entitled "Proposal 1 – Election of Directors" appearing in our Proxy Statement for the Annual Meeting of Shareholders to be held on May 12, 2017 (the 2017 Proxy Statement) sets forth certain information with regard to our directors as required by Item 401 of Regulation S-K and is incorporated herein by reference.

Certain information with respect to persons who are or may be deemed to be executive officers of Itron, Inc. as required by Item 401 of Regulation S-K is set forth under the caption "Executive Officers" in Part I of this Annual Report on Form 10-K.

The section entitled "Section 16(a) Beneficial Ownership Reporting Compliance" appearing in the 2017 Proxy Statement sets forth certain information as required by Item 405 of Regulation S-K and is incorporated herein by reference.

The section entitled "Corporate Governance" appearing in the 2017 Proxy Statement sets forth certain information with respect to the Registrant's code of conduct and ethics as required by Item 406 of Regulation S-K and is incorporated herein by reference. Our code of conduct and ethics can be accessed on our website, at www.itron.com under the Investors section.

There were no material changes to the procedures by which security holders may recommend nominees to Itron's board of directors during 2017 , as set forth by Item 407(c)(3) of Regulation S-K.

The section entitled "Corporate Governance" appearing in the 2017 Proxy Statement sets forth certain information regarding the Audit/Finance Committee, including the members of the Committee and the Audit/Finance Committee financial experts, as set forth by Item 407(d)(4) and (d)(5) of Regulation S-K and is incorporated herein by reference.

ITEM 11: EXECUTIVE COMPENSATION

The sections entitled "Compensation of Directors" and "Executive Compensation" appearing in the 2017 Proxy Statement set forth certain information with respect to the compensation of directors and management of Itron as required by Item 402 of Regulation S-K and are incorporated herein by reference.

The section entitled "Corporate Governance" appearing in the 2017 Proxy Statement sets forth certain information regarding members of the Compensation Committee required by Item 407(e)(4) of Regulation S-K and is incorporated herein by reference.

The section entitled "Compensation Committee Report" appearing in the 2017 Proxy Statement sets forth certain information required by Item 407(e)(5) of Regulation S-K and is incorporated herein by reference.

ITEM 12: SECURITY OWNERSHIP OF CERTAIN BENEFICIAL OWNERS AND MANAGEMENT AND RELATED STOCKHOLDER MATTERS

The section entitled "Equity Compensation Plan Information" appearing in the 2017 Proxy Statement sets forth certain information required by Item 201(d) of Regulation S-K and is incorporated herein by reference.

The section entitled "Security Ownership of Certain Beneficial Owners and Management" appearing in the 2017 Proxy Statement sets forth certain information with respect to the ownership of our common stock as required by Item 403 of Regulation S-K and is incorporated herein by reference.

ITEM 13: CERTAIN RELATIONSHIPS AND RELATED TRANSACTIONS, AND DIRECTOR INDEPENDENCE

The section entitled "Corporate Governance" appearing in the 2017 Proxy Statement sets forth certain information required by Item 404 of Regulation S-K and is incorporated herein by reference.

The section entitled "Corporate Governance" appearing in the 2017 Proxy Statement sets forth certain information with respect to director independence as required by Item 407(a) of Regulation S-K and is incorporated herein by reference.

ITEM 14: PRINCIPAL ACCOUNTING FEES AND SERVICES

The section entitled “Independent Registered Public Accounting Firm’s Audit Fees and Services” appearing in the 2017 Proxy Statement sets forth certain information with respect to the principal accounting fees and services and the Audit/Finance Committee’s policy on pre-approval of audit and permissible non-audit services performed by our independent auditors as required by Item 9(e) of Schedule 14A and is incorporated herein by reference.

PART IV

ITEM 15: EXHIBITS, FINANCIAL STATEMENT SCHEDULE

(a) (1) Financial Statements:

The financial statements required by this item are submitted in Item 8 of this Annual Report on Form 10-K.

(a) (2) Financial Statement Schedule:

Schedule II: Valuation and Qualifying Accounts

Financial Statement Schedules not listed above have been omitted because of the absence of conditions under which they are required or because the required information is included in the consolidated financial statements or the notes thereto.

(a) (3) Exhibits:

Exhibit Number	Description of Exhibits
3.1	Amended and Restated Articles of Incorporation of Itron, Inc. (Filed as Exhibit 3.1 to Itron, Inc.'s Annual Report on Form 10-K, filed on March 27, 2003)
3.2	Amended and Restated Bylaws of Itron, Inc. (Filed as Exhibit 3.2 to Itron, Inc.'s Annual Report on Form 10-K, filed on June 30, 2016)
4.1	Amended and Restated Credit Agreement dated June 23, 2015 among Itron, Inc. and a syndicate of banks led by Wells Fargo Bank, National Association, JPMorgan Chase Bank, N.A., J.P. Morgan Europe Limited, and BNP Paribas. (Filed as Exhibit 4.1 to Itron, Inc.'s Current Report on Form 8-K, filed on June 23, 2015)
4.2	First Amendment to Security Agreement dated June 23, 2015 among Itron, Inc. and Wells Fargo Bank, National Association. (Filed as Exhibit 4.2 to Itron, Inc.'s Current Report on Form 8-K, filed on June 23, 2015)
10.1*	Form of Amended and Restated Change in Control Severance Agreement for Executive Officers. (Filed as Exhibit 10.1 to Itron, Inc.'s Annual Report on Form 10-K, filed on February 22, 2013)
10.2*	Schedule of certain executive officers who are parties to Change in Control Severance Agreements with Itron, Inc. (filed with this report)
10.3*	Form of Indemnification Agreements between Itron, Inc. and certain directors and officers. (Filed as Exhibit 10.9 to Itron, Inc.'s Annual Report on Form 10-K, filed on March 30, 2000)
10.4*	Schedule of directors and executive officers who are parties to Indemnification Agreements with Itron, Inc. (filed with this report)
10.5	Amended and Restated 2000 Stock Incentive Plan. (Filed as Appendix A to Itron, Inc.'s Proxy Statement for the 2007 Annual Meeting of Shareholders, filed on March 26, 2007)
10.6	Amended and Restated 2010 Stock Incentive Plan. (Filed as Appendix A to Itron, Inc.'s Proxy Statement for the 2014 Annual Meeting of Shareholders, filed on March 13, 2014)
10.7*	Rules of Itron Inc.'s Amended and Restated 2010 Stock Incentive Plan for the grant of Restricted Stock Unit (RSU's) to participants in France. (Filed as Exhibit 10.6 to Itron Inc.'s Quarterly Report on Form 10-Q, filed on August 8, 2014)
10.8*	Executive Management Incentive Plan. (Filed as Appendix B to Itron, Inc.'s Proxy Statement for the 2010 Annual Meeting of Shareholders, filed on March 17, 2010)

Exhibit Number	Description of Exhibits
10.9	Terms of the Amended and Restated Equity Grant Program for Nonemployee Directors under the Itron, Inc. Amended and Restated 2000 Stock Incentive Plan. (Filed as Exhibit 10.4 to Itron, Inc.’s Annual Report on Form 10-K, filed on February 26, 2008)
10.10	Form of Non-Qualified Stock Option Grant Notice and Agreement for Nonemployee Directors under the Itron, Inc. Amended and Restated 2000 Stock Incentive Plan. (Filed as Exhibit 10.9 to Itron, Inc.’s Annual Report on Form 10-K, filed on February 26, 2009)
10.11*	Form of Stock Option Grant Notice and Agreement for use in connection with both incentive and non-qualified stock options granted under Itron, Inc.'s Amended and Restated 2000 Stock Incentive Plan. (Filed as Exhibit 10.6 to Itron, Inc.’s Current Report on Form 8-K, filed on February 18, 2010)
10.12*	Form of RSU Award Notice and Agreement for U.S. Participants for use in connection with the Company’s Long-Term Performance Plan (LTPP) and issued under Itron, Inc.'s Amended and Restated 2000 Stock Incentive Plan. (Filed as Exhibit 10.1 to Itron, Inc.’s Current Report on Form 8-K, filed on February 18, 2010)
10.13*	Form of RSU Award Notice and Agreement for International Participants (excluding France) for use in connection with the Company’s LTPP and issued under Itron, Inc.'s Amended and Restated 2000 Stock Incentive Plan. (Filed as Exhibit 10.2 to Itron, Inc.’s Current Report on Form 8-K, filed on February 18, 2010)
10.14*	Form of RSU Award Notice and Agreement for Participants in France for use in connection with Itron, Inc.'s LTPP and issued under Itron, Inc.'s Amended and Restated 2000 Stock Incentive Plan. (Filed as Exhibit 10.3 to Itron, Inc.’s Current Report on Form 8-K, filed on February 18, 2010)
10.15*	Form of RSU Award Notice and Agreement for all Participants (excluding France) for use in connection with Itron, Inc.'s Amended and Restated 2000 Stock Incentive Plan. (Filed as Exhibit 10.4 to Itron, Inc.’s Current Report on Form 8-K, filed on February 18, 2010)
10.16*	Form of RSU Award Notice and Agreement for Participants in France for use in connection with Itron, Inc.'s Amended and Restated 2000 Stock Incentive Plan. (Filed as Exhibit 10.5 to Itron, Inc.’s Current Report on Form 8-K, filed on February 18, 2010)
10.17*	Form of Long Term Performance RSU Award Notice and Agreement for U.S. Participants for use in connection with Itron, Inc.'s Amended and Restated 2010 Stock Incentive Plan. (Filed as Exhibit 10.4 to Itron, Inc.’s Quarterly Report on Form 10-Q, filed on August 6, 2014)
10.18*	Form of Long Term Performance RSU Award Notice and Agreement for International Participants (excluding France) for use in connection with Itron, Inc.'s Amended and Restated 2010 Stock Incentive Plan. (Filed as Exhibit 10.19 to Itron, Inc.’s Annual Report on Form 10-K, filed on February 25, 2011)
10.19*	Form of Long Term Performance RSU Award Notice and Agreement for Participants in France for use in connection with Itron, Inc.'s Amended and Restated 2010 Stock Incentive Plan. (Filed as Exhibit 10.5 to Itron, Inc.’s Quarterly Report on Form 10-Q, filed on August 6, 2014)
10.20*	Form of RSU Award Notice and Agreement for all Participants (excluding France) for use in connection with Itron, Inc.'s Amended and Restated 2010 Stock Incentive Plan. (Filed as Exhibit 10.2 to Itron, Inc.’s Quarterly Report on Form 10-Q, filed on August 6, 2014)
10.21*	Form of RSU Award Notice and Agreement for Participants in France for use in connection with Itron, Inc.'s Amended and Restated 2010 Stock Incentive Plan. (Filed as Exhibit 10.3 to Itron, Inc.’s Quarterly Report on Form 10-Q, filed on August 6, 2014)
10.22*	Form of RSU Award Notice and Agreement for Non-employee Directors for use in connection with Itron, Inc.'s Amended and Restated 2010 Stock Incentive Plan. (Filed as Exhibit 10.3 to Itron, Inc.’s Quarterly Report on Form 10-Q, filed on May 3, 2013)

Exhibit Number	Description of Exhibits
10.23*	Form of Stock Option Grant Notice and Agreement for use in connection with both incentive and non-qualified stock options granted under Itron, Inc.'s Amended and Restated 2010 Stock Incentive Plan. (Filed as Exhibit 10.1 to Itron, Inc's Quarterly Report on Form 10-Q, filed on August 6, 2014 - File No. 22418)
10.24*	Restated and Amended Executive Deferred Compensation Plan. (Filed as Exhibit 10.1 to Itron, Inc.'s Quarterly Report on Form 10-Q, filed on November 3, 2016)
10.25	Amended and Restated 2002 Employee Stock Purchase Plan. (Filed as Exhibit 10.20 to Itron's Annual Report on Form 10-K, filed on February 26, 2009)
10.26	Stock Option Plan for Nonemployee Directors. (Filed as Exhibit 10.11 to Itron, Inc.'s Registration Statement on Form S-1 dated July 22, 1992)
10.27*	Offer Letter, dated as of November 16, 2012, between Itron, Inc. and Philip C. Mezey. (Filed as Exhibit 10.1 to Itron, Inc.'s Current Report on Form 8-K, filed on November 19, 2012)
10.28*	Offer Letter, dated as of November 16, 2012, between Itron, Inc. and John W. Holleran. (Filed as Exhibit 10.2 to Itron, Inc.'s Current Report on Form 8-K, filed on November 19, 2012)
10.29	Amendment to Cooperation Agreement by and among Itron, Inc., Coppersmith Capital Management LLC, Scopia Management, Inc. and certain of their specified affiliates, Jerome J. Lande and Peter Mainz. (Filed as Exhibit 10.2 to Itron, Inc.'s Quarterly Report on Form 10-Q, filed on November 3, 2016)
12.1	Computation of Ratio of Earnings to Fixed Charges. (filed with this report)
21.1	Subsidiaries of Itron, Inc. (filed with this report)
23.1	Consent of Deloitte & Touche LLP Independent Registered Public Accounting Firm. (filed with this report)
23.2	Consent of Ernst & Young LLP, Independent Registered Public Accounting Firm. (filed with this report)
31.1	Certification Pursuant to Section 302 of the Sarbanes-Oxley Act of 2002. (filed with this report)
31.2	Certification Pursuant to Section 302 of the Sarbanes-Oxley Act of 2002. (filed with this report)
32.1	Certification Pursuant to Section 906 of the Sarbanes-Oxley Act of 2002. (furnished with this report)
101.INS	XBRL Instance Document. (submitted electronically with this report in accordance with the provisions of Regulation S-T)
101.SCH	XBRL Taxonomy Extension Schema. (submitted electronically with this report in accordance with the provisions of Regulation S-T)
101.CAL	XBRL Taxonomy Extension Calculation Linkbase. (submitted electronically with this report in accordance with the provisions of Regulation S-T)
101.DEF	XBRL Taxonomy Extension Definition Linkbase. (submitted electronically with this report in accordance with the provisions of Regulation S-T)
101.LAB	XBRL Taxonomy Extension Label Linkbase. (submitted electronically with this report in accordance with the provisions of Regulation S-T)
101.PRE	XBRL Taxonomy Extension Presentation Linkbase. (submitted electronically with this report in accordance with the provisions of Regulation S-T)
*	Management contract or compensatory plan or arrangement.

SIGNATURES

Pursuant to the requirements of Section 13 or 15(d) of the Securities Exchange Act of 1934, the Registrant has duly caused this report to be signed on its behalf by the undersigned, thereunto duly authorized, in the City of Liberty Lake, State of Washington, on the 28th day of February, 2017 .

ITRON, INC.

By: /s/ W. MARK SCHMITZ

W. Mark Schmitz

Executive Vice President and Chief Financial Officer

Pursuant to the requirements of the Securities Exchange Act of 1934, this report has been signed below by the following persons on behalf of the Registrant and in the capacities indicated on the 28th day of February, 2017 .

Signatures	Title
/s/ PHILIP C. MEZEY **Philip C. Mezey**	President and Chief Executive Officer (Principal Executive Officer), Director
/s/ W. MARK SCHMITZ **W. Mark Schmitz**	Executive Vice President and Chief Financial Officer (Principal Financial and Accounting Officer)
/s/ KIRBY A. DYESS **Kirby A. Dyess**	Director
/s/ JON E. ELIASSEN **Jon E. Eliassen**	Director
/s/ CHARLES H. GAYLORD, JR. **Charles H. Gaylord, Jr.**	Director
/s/ THOMAS S. GLANVILLE **Thomas S. Glanville**	Director
/s/ FRANK M. JAEHNERT **Frank M. Jaehnert**	Director
/s/ JEROME J. LANDE **Jerome J. Lande**	Director
/s/ TIMOTHY M. LEYDEN **Timothy M. Leyden**	Director
/s/ PETER MAINZ **Peter Mainz**	Director
/s/ DANIEL S. PELINO **Daniel S. Pelino**	Director
/s/ GARY E. PRUITT **Gary E. Pruitt**	Director
/s/ DIANA D. TREMBLAY **Diana D. Tremblay**	Director
/s/ LYNDA L. ZIEGLER **Lynda L. Ziegler**	Chair of the Board

SCHEDULE II: VALUATION AND QUALIFYING ACCOUNTS

Description	Balance at Beginning of Period	Other Adjustments	Additions Charged to Costs and Expenses	Balance at End of Period, Noncurrent
		(in thousands)		
Year ended December 31, 2016:				
Deferred tax assets valuation allowance	$ 235,339	$ (12,419)	$ 26,640	$ 249,560
Year ended December 31, 2015:				
Deferred tax assets valuation allowance	$ 257,728	$ (62,791)	$ 40,402	$ 235,339
Year ended December 31, 2014:				
Deferred tax assets valuation allowance	$ 162,588	$ (4,913)	$ 100,053	$ 257,728

Exhibit 10.2

CHANGE IN CONTROL AGREEMENTS

Richard J. Christensen
Michel C. Cadieux
Mark de Vere White
Thomas L. Deitrich
R. Bruce Douglas
Barbara J. Doyle
Dennis Faerber
Robert G. Hrivnak
Charles McAtee
Philip C. Mezey
Sharelynn F. Moore
Simon Pontin
W. Mark Schmitz
Russell E. Vanos
Shannon M. Votava

Exhibit 10.4

INDEMNIFICATION AGREEMENTS

MariLyn R. Blair
Robert M. Burks, Jr.
Michel C. Cadieux
Thomas Deitrich
R. Bruce Douglas
Barbara J. Doyle
Deloris R. Duquette
Kirby A. Dyess
Jon E. Eliassen
Charles H. Gaylord
Thomas S. Glanville
Frank Jaehnert
Jerome Lande
Timothy Leyden
Peter Mainz
Charles McAtee
Philip C. Mezey
Sharelynn F. Moore
Daniel S. Pelino
Simon Pontin
Carl W. Porter
Gary E. Pruitt
W. Mark Schmitz
Diana Tremblay
Russell E. Vanos
Shannon M. Votava
Lynda L. Ziegler

Exhibit 12.1

COMPUTATION OF RATIO OF EARNINGS TO FIXED CHARGES [(1)]

	Year Ended December 31,				
	2016	**2015**	**2014**	**2013**	**2012**
	(in thousands, except ratios)				
Earnings					
Pre-tax income (loss)	$ 84,627	$ 37,102	$ (18,265)	$ (153,400)	$ 125,194
Add: dividends received from equity investees	335	444	681	707	571
Less: noncontrolling interest income	(3,283)	(2,325)	(1,370)	(2,219)	(1,949)
Less: income from equity investees	(393)	(807)	(270)	(954)	(517)
	81,286	34,414	(19,224)	(155,866)	123,299
Fixed charges: [(2)]					
Interest expense, gross [(3)]	10,948	12,289	11,602	10,686	10,115
Interest portion of rent expense	4,958	5,405	6,832	6,651	6,462
a) Fixed charges	15,906	17,694	18,434	17,337	16,577
b) Earnings for ratio [(4)]	$ 97,192	$ 52,108	$ (790)	$ (138,529)	$ 139,876
Ratios:					
Earnings to fixed charges (b/a) [(5)]	6.1	2.9	N/A	N/A	8.4
Deficit of earnings to fixed charges	N/A	N/A	$ (19,224)	$ (155,866)	N/A

(1) We had no preferred stock outstanding for any period presented and accordingly our ratio of earnings to combined fixed charges and preferred stock dividends is the same as our ratio of earnings to fixed charges for all periods presented.

(2) *Fixed charges* consist of interest on indebtedness and amortization of debt issuance costs plus that portion of lease rental expense representative of the interest factor.

(3) *Interest expense, gross* , includes amortization of prepaid debt fees.

(4) *Earnings for ratio* consists of income (loss) from continuing operations before income taxes, plus dividends received from equity method investments, less income from equity investees, less income attributable to noncontrolling interests.

(5) *Earnings to fixed charges ratio* is not calculated for years with a *Deficit of earnings to fixed charges* amount as the ratio is less than 1:1.

CONSOLIDATED SUBSIDIARIES OF THE REGISTRANT AT DECEMBER 31, 2016 **Exhibit 21.1**

Itron, Inc. Domestic Subsidiaries	State of Incorporation
Itron International, Inc.	Delaware
Itron Brazil I, LLC	Washington
Itron Brazil II, LLC	Washington

Itron, Inc. International Subsidiaries	Jurisdiction of Incorporation or Organization
Itron Argentina S.A.	Argentina
Itron Australasia Pty Limited	Australia
Itron Austria GmbH	Austria
Itron Holding Belgium SPRL	Belgium
Itron Management Services SA	Belgium
Contigea SA	Belgium
Itron Sistemas e Tecnologia Ltda	Brazil
Itron Soluções para Energia e Àgua Ltda.	Brazil
Itron China Gas Holding Co. Ltd. (J.V. Majority)	British Virgin Islands
Itron Canada, Inc.	Canada
Compañía Chilena de Medición S.A.	Chile
Itron Metering Solutions (Suzhou) Co., Ltd.	China
Itron Metering Systems (Suzhou) Co., Ltd.	China
Itron Czech Republic s.r.o.	Czech Republic
Asais	France
Asais Conseil	France
Itron France S.A.S.	France
Itron Holding France S.A.S.	France
Itron Holding Germany GmbH	Germany
Itron GmbH	Germany
Itron Zähler & Systemtechnik GmbH	Germany
Itron Unterstutzungskasse GmbH	Germany
Allmess GmbH	Germany
Itron Unterstutzungseinrichtung GmbH	Germany
SEWA GmbH	Germany
Ganz Meter Company Ltd.	Hungary
Itron India Private Limited	India
Itron Metering Solutions India Private Limited	India
PT Mecoindo (J.V.)	Indonesia
Itron Management Services Ireland, Limited	Ireland
Temetra Limited	Ireland
Itron Italia SpA	Italy
Itron Japan Co., Ltd.	Japan
Itron Metering Solutions Luxembourg	Luxembourg
Itron Global	Luxembourg
Metertek Sdn Bhd (J.V. 100% indirectly owned)	Malaysia

Itron, Inc. International Subsidiaries	Jurisdiction of Incorporation or Organization
Itron Servicios, S.A. de C.V.	Mexico
Itron Distribución S.A. de C.V.	Mexico
Inal-Industria Nacional de Precisão Limitada (J.V.)	Mozambique
Itron Nederland B.V.	Netherlands
Itron Polska SP ZOO	Poland
Itron Portugal, Unipessoal, LDA.	Portugal
Itron Imobiliaria, Unipessoal, LDA.	Portugal
Itron Sistemas de Medição Lda.	Portugal
Itron Middle East LLC	Qatar
Itron Measurement and Systems (Proprietary) Limited	Republic of South Africa
Itron LLC	Russia
Arabian Metering Company	Saudi Arabia
Itron Metering Systems Singapore Pte Ltd.	Singapore
Itron Spain SLU	Spain
Itron Sweden AB	Sweden
Itron Ukraine	Ukraine
Itron Ukrgas Meters Company (J.V. Majority)	Ukraine
Itron Metering Solutions UK Ltd.	United Kingdom
Itron Development UK Ltd.	United Kingdom

Exhibit 23.1

CONSENT OF INDEPENDENT REGISTERED PUBLIC ACCOUNTING FIRM

We consent to the incorporation by reference in Registration Statement Nos. 333-40356, 333-89966, 333-97571, 333-110703, 333-115987, 333-125461, 333-134749, 333-143048, 333-166601, 333-181685, 333-193970, and No. 333-195633 on Form S-8 of our reports dated February 28, 2017 , relating to the consolidated financial statements and financial statement schedule of Itron, Inc. and subsidiaries ("the Company"), and the effectiveness of the Company's internal control over financial reporting, appearing in this Annual Report on Form 10-K of Itron, Inc. for the year ended December 31, 2016 .

/s/ DELOITTE & TOUCHE LLP

Seattle, Washington

February 28, 2017

Exhibit 23.2

Consent of Ernst & Young LLP, Independent Registered Public Accounting Firm

We consent to the incorporation by reference in the following Registration Statements:

(1) Registration Statement (Form S-8 No. 333-40356) pertaining to the Itron, Inc. 2000 Stock Incentive Compensation Plan,
(2) Registration Statement (Form S-8 No. 333-89966) pertaining to the Itron, Inc. 2002 Employee Stock Purchase Plan,
(3) Registration Statement (Form S-8 No. 333-97571) pertaining to the Itron, Inc. Amended and Restated 2000 Stock Incentive Plan,
(4) Registration Statement (Form S-8 No. 333-110703) pertaining to the Itron, Inc. Incentive Savings Plan,
(5) Registration Statement (Form S-8 No. 333-115987) pertaining to the Itron, Inc. Amended and Restated 2000 Stock Incentive Plan,
(6) Registration Statement (Form S-8 No. 333-125461) pertaining to the Itron, Inc. Amended and Restated 2000 Stock Incentive Plan, and the Itron, Inc. Amended and Restated 2002 Employee Stock Purchase Plan,
(7) Registration Statement (Form S-8 No. 333-134749) pertaining to the Itron, Inc. Amended and Restated 2000 Stock Incentive Plan,
(8) Registration Statement (Form S-8 No. 333-143048) pertaining to the Itron, Inc. Amended and Restated 2000 Stock Incentive Plan,
(9) Registration Statement (Form S-8 No. 333-166601) pertaining to the Itron, Inc. 2010 Stock Incentive Plan,
(10) Registration Statement (Form S-8 No. 333-181685) pertaining to the Itron, Inc. 2012 Employee Stock Purchase Plan,
(11) Registration Statement (Form S-8 No. 333-193970) pertaining to the Itron, Inc. 2010 Stock Incentive Plan, and
(12) Registration Statement (Form S-8 No. 333-195633) pertaining to the Itron, Inc. Amended and Restated 2010 Stock Incentive Plan.

of our report dated June 29, 2016, with respect to the consolidated financial statements and schedule of Itron, Inc. included in this Annual Report (Form 10-K) of Itron, Inc. for the year ended December 31, 2016.

/s/ Ernst & Young LLP

Seattle, Washington
February 28, 2017

Exhibit 31.1

**CERTIFICATION PURSUANT TO 18 U.S.C. SECTION 1350
AS ADOPTED PURSUANT TO SECTION 302 OF THE
SARBANES-OXLEY ACT OF 2002**

I, Philip C. Mezey, certify that:

1. I have reviewed this Annual Report on Form 10-K of Itron, Inc.;
2. Based on my knowledge, this report does not contain any untrue statement of a material fact or omit to state a material fact necessary to make the statements made, in light of the circumstances under which such statements were made, not misleading with respect to the period covered by this report;
3. Based on my knowledge, the financial statements, and other financial information included in this report, fairly present in all material respects the financial condition, results of operations, and cash flows of the registrant as of, and for, the periods presented in this report;
4. The registrant's other certifying officer and I are responsible for establishing and maintaining disclosure controls and procedures (as defined in Exchange Act Rules 13a-15(e) and 15d-15(e)) and internal control over financial reporting (as defined in Exchange Act Rules 13a-15(f) and 15d-15(f)) for the registrant and have:

   a) Designed such disclosure controls and procedures, or caused such disclosure controls and procedures to be designed under our supervision, to ensure that material information relating to the registrant, including its consolidated subsidiaries, is made known to us by others within those entities, particularly during the period in which this report is being prepared;

   b) Designed such internal control over financial reporting, or caused such internal control over financial reporting to be designed under our supervision, to provide reasonable assurance regarding the reliability of financial reporting and the preparation of financial statements for external purposes in accordance with generally accepted accounting principles;

   c) Evaluated the effectiveness of the registrant's disclosure controls and procedures and presented in this report our conclusions about the effectiveness of the disclosure controls and procedures, as of the end of the period covered by this report based on such evaluation; and

   d) Disclosed in this report any change in the registrant's internal control over financial reporting that occurred during the registrant's most recent fiscal quarter (the registrant's fourth fiscal quarter in the case of an annual report) that has materially affected, or is reasonably likely to materially affect, the registrant's internal control over financial reporting; and

5. The registrant's other certifying officer and I have disclosed, based on our most recent evaluation of internal control over financial reporting, to the registrant's auditors and the audit committee of the registrant's board of directors (or persons performing the equivalent functions):

   a) All significant deficiencies and material weaknesses in the design or operation of internal control over financial reporting, which are reasonably likely to adversely affect the registrant's ability to record, process, summarize, and report financial information; and

   b) Any fraud, whether or not material that involves management or other employees who have a significant role in the registrant's internal control over financial reporting.

ITRON, INC.

By: /s/ PHILIP C. MEZEY

Philip C. Mezey President and Chief Executive Officer

Date: February 28, 2017

Exhibit 31.2

**CERTIFICATION PURSUANT TO 18 U.S.C. SECTION 1350
AS ADOPTED PURSUANT TO SECTION 302 OF THE
SARBANES-OXLEY ACT OF 2002**

I, W. Mark Schmitz, certify that:

1. I have reviewed this Annual Report on Form 10-K of Itron, Inc.;

2. Based on my knowledge, this report does not contain any untrue statement of a material fact or omit to state a material fact necessary to make the statements made, in light of the circumstances under which such statements were made, not misleading with respect to the period covered by this report;

3. Based on my knowledge, the financial statements, and other financial information included in this report, fairly present in all material respects the financial condition, results of operations, and cash flows of the registrant as of, and for, the periods presented in this report;

4. The registrant's other certifying officer and I are responsible for establishing and maintaining disclosure controls and procedures (as defined in Exchange Act Rules 13a-15(e) and 15d-15(e)) and internal control over financial reporting (as defined in Exchange Act Rules 13a-15(f) and 15d-15(f)) for the registrant and have:

    a) Designed such disclosure controls and procedures, or caused such disclosure controls and procedures to be designed under our supervision, to ensure that material information relating to the registrant, including its consolidated subsidiaries, is made known to us by others within those entities, particularly during the period in which this report is being prepared;

    b) Designed such internal control over financial reporting, or caused such internal control over financial reporting to be designed under our supervision, to provide reasonable assurance regarding the reliability of financial reporting and the preparation of financial statements for external purposes in accordance with generally accepted accounting principles;

    c) Evaluated the effectiveness of the registrant's disclosure controls and procedures and presented in this report our conclusions about the effectiveness of the disclosure controls and procedures, as of the end of the period covered by this report based on such evaluation; and

    d) Disclosed in this report any change in the registrant's internal control over financial reporting that occurred during the registrant's most recent fiscal quarter (the registrant's fourth fiscal quarter in the case of an annual report) that has materially affected, or is reasonably likely to materially affect, the registrant's internal control over financial reporting; and

5. The registrant's other certifying officer and I have disclosed, based on our most recent evaluation of internal control over financial reporting, to the registrant's auditors and the audit committee of the registrant's board of directors (or persons performing the equivalent functions):

    a) All significant deficiencies and material weaknesses in the design or operation of internal control over financial reporting, which are reasonably likely to adversely affect the registrant's ability to record, process, summarize, and report financial information; and

    b) Any fraud, whether or not material that involves management or other employees who have a significant role in the registrant's internal control over financial reporting.

ITRON, INC.

By: /s/ W. MARK SCHMITZ

W. Mark Schmitz
Executive Vice President and Chief Financial Officer

Date February 28, 2017

Exhibit 32.1

CERTIFICATION PURSUANT TO 18 U.S.C. SECTION 1350
AS ADOPTED PURSUANT TO SECTION 906 OF THE
SARBANES-OXLEY ACT OF 2002

The certification set forth below is being submitted in connection with the Annual Report of Itron, Inc. (the Company) on Form 10-K for the year ended December 31, 2016 (the Report) for the purpose of complying with Rule 13a-14(b) or Rule 15d-14(b) of the Securities Exchange Act of 1934 and Section 1350 of Chapter 63 of Title 18 of the United States Code.

Philip C. Mezey, the Chief Executive Officer and W. Mark Schmitz, the Chief Financial Officer of the Company, each certifies that to the best of his knowledge:

(1) The Report fully complies with the requirements of Section 13(a) or 15(d) of the Securities Exchange Act of 1934; and

(2) The information contained in the Report fairly presents, in all material respects, the financial condition and results of operations of the Company.

/s/ PHILIP C. MEZEY

Philip C. Mezey
President and Chief Executive Officer
February 28, 2017

/s/ W. MARK SCHMITZ

W. Mark Schmitz
Executive Vice President and Chief Financial Officer
February 28, 2017