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

FORM 10-Q

x **QUARTERLY REPORT PURSUANT TO SECTION 13 OR 15(d) OF THE SECURITIES EXCHANGE ACT OF 1934**
For the quarterly period ended September 30, 2018

OR

o **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)

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 x No ☐

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

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

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

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

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

As of October 31, 2018, there were outstanding 39,416,335 shares of the registrant's common stock, no par value, which is the only class of common stock of the registrant.

Itron, Inc.

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PART I: FINANCIAL INFORMATION

Item 1: Financial Statements (Unaudited)

ITRON, INC.
CONSOLIDATED STATEMENTS OF OPERATIONS
(UNAUDITED)

	Three Months Ended September 30,		Nine Months Ended September 30,	
	2018	2017	2018	2017
	(in thousands, except per share data)			
Revenues				
Product revenues	$ 525,716	$ 433,984	$ 1,578,740	$ 1,321,062
Service revenues	70,246	52,763	210,333	146,359
Total revenues	595,962	486,747	1,789,073	1,467,421
Cost of revenues				
Product cost of revenues	357,194	284,762	1,106,586	865,288
Service cost of revenues	41,671	36,230	128,958	100,464
Total cost of revenues	398,865	320,992	1,235,544	965,752
Gross profit	197,097	165,755	553,529	501,669
Operating expenses				
Sales and marketing	47,204	40,529	144,573	126,298
Research and development	47,239	42,455	162,298	126,246
General and administrative	42,352	39,598	188,260	119,883
Amortization of intangible assets	17,960	5,625	53,699	15,144
Restructuring	666	(678)	82,908	7,417
Total operating expenses	155,421	127,529	631,738	394,988
Operating income (loss)	41,676	38,226	(78,209)	106,681
Other income (expense)				
Interest income	431	729	1,725	1,468
Interest expense	(14,171)	(3,466)	(44,320)	(10,076)
Other income (expense), net	(2,434)	(1,995)	(2,598)	(7,951)
Total other income (expense)	(16,174)	(4,732)	(45,193)	(16,559)
Income (loss) before income taxes	25,502	33,494	(123,402)	90,122
Income tax benefit (provision)	(5,715)	(6,640)	1,692	(32,247)
Net income (loss)	19,787	26,854	(121,710)	57,875
Net income (loss) attributable to noncontrolling interests	(95)	1,278	1,417	2,357
Net income (loss) attributable to Itron, Inc.	$ 19,882	$ 25,576	$ (123,127)	$ 55,518
Earnings (loss) per common share - Basic	$ 0.51	$ 0.66	$ (3.14)	$ 1.44
Earnings (loss) per common share - Diluted	$ 0.50	$ 0.65	$ (3.14)	$ 1.41
Weighted average common shares outstanding - Basic	39,340	38,713	39,177	38,624
Weighted average common shares outstanding - Diluted	39,909	39,467	39,177	39,339

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

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

	Three Months Ended September 30,		Nine Months Ended September 30,	
	2018	**2017**	**2018**	**2017**
		(in thousands)		
Net income (loss)	$ 19,787	$ 26,854	$ (121,710)	$ 57,875
Other comprehensive income, net of tax:				
Foreign currency translation adjustments	(678)	14,930	(18,538)	50,393
Net unrealized gain (loss) on derivative instruments, designated as cash flow hedges	908	126	2,563	187
Pension benefit obligation adjustment	392	410	1,207	1,004
Total other comprehensive income (loss), net of tax	622	15,466	(14,768)	51,584
Total comprehensive income (loss), net of tax	20,409	42,320	(136,478)	109,459
Comprehensive income (loss) attributable to noncontrolling interests, net of tax	(95)	1,278	1,417	2,357
Comprehensive income (loss) attributable to Itron, Inc.	$ 20,504	$ 41,042	$ (137,895)	$ 107,102

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

ITRON, INC.
CONSOLIDATED BALANCE SHEETS
(UNAUDITED)

	September 30, 2018	December 31, 2017
	(in thousands)	
ASSETS		
Current assets		
Cash and cash equivalents	$ 109,044	$ 176,274
Accounts receivable, net	449,592	398,029
Inventories	208,038	193,835
Other current assets	101,511	81,604
Total current assets	868,185	849,742
Property, plant, and equipment, net	220,795	200,768
Deferred tax assets, net	56,874	49,971
Restricted cash	2,055	311,010
Other long-term assets	48,746	43,666
Intangible assets, net	278,192	95,228
Goodwill	1,121,895	555,762
Total assets	$ 2,596,742	$ 2,106,147
LIABILITIES AND EQUITY		
Current liabilities		
Accounts payable	$ 274,950	$ 262,166
Other current liabilities	72,385	56,736
Wages and benefits payable	101,491	90,505
Taxes payable	20,558	16,100
Current portion of debt	24,375	19,688
Current portion of warranty	29,736	21,150
Unearned revenue	92,350	41,438
Total current liabilities	615,845	507,783
Long-term debt	1,005,377	593,572
Long-term warranty	13,624	13,712
Pension benefit obligation	96,081	95,717
Deferred tax liabilities, net	1,462	1,525
Other long-term obligations	152,021	88,206
Total liabilities	1,884,410	1,300,515
Commitments and contingencies (Note 11)		
Equity		
Preferred stock, no par value, 10 million shares authorized, no shares issued or outstanding	—	—
Common stock, no par value, 75 million shares authorized, 39,400 and 38,771 shares issued and outstanding	1,326,719	1,294,767
Accumulated other comprehensive loss, net	(185,246)	(170,478)
Accumulated deficit	(449,273)	(337,873)
Total Itron, Inc. shareholders' equity	692,200	786,416
Noncontrolling interests	20,132	19,216
Total equity	712,332	805,632
Total liabilities and equity	$ 2,596,742	$ 2,106,147

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

ITRON, INC.
CONSOLIDATED STATEMENTS OF CASH FLOWS
(UNAUDITED)

	Nine Months Ended September 30,	
	2018	2017
	(in thousands)	
Operating activities		
Net income (loss)	$ (121,710)	$ 57,875
Adjustments to reconcile net income (loss) to net cash provided by operating activities:		
Depreciation and amortization	92,428	46,000
Stock-based compensation	23,069	15,254
Amortization of prepaid debt fees	5,825	800
Deferred taxes, net	(13,141)	7,615
Restructuring, non-cash	569	(720)
Other adjustments, net	(30)	3,111
Changes in operating assets and liabilities, net of acquisitions:		
Accounts receivable	7,774	2,537
Inventories	(10,072)	(30,843)
Other current assets	(9,797)	(23,492)
Other long-term assets	3,817	10,460
Accounts payable, other current liabilities, and taxes payable	4,494	34,987
Wages and benefits payable	2,166	6,218
Unearned revenue	27,869	(5,679)
Warranty	3,167	(10,285)
Other operating, net	50,955	663
Net cash provided by operating activities	67,383	114,501
Investing activities		
Acquisitions of property, plant, and equipment	(42,493)	(33,493)
Business acquisitions, net of cash equivalents acquired	(803,075)	(98,848)
Other investing, net	(181)	10
Net cash used in investing activities	(845,749)	(132,331)
Financing activities		
Proceeds from borrowings	611,938	35,000
Payments on debt	(182,297)	(24,844)
Issuance of common stock	8,283	2,797
Prepaid debt fees	(24,042)	—
Other financing, net	(5,526)	1,216
Net cash provided by financing activities	408,356	14,169
Effect of foreign exchange rate changes on cash, cash equivalents, and restricted cash	(6,175)	7,680
(Decrease) increase in cash, cash equivalents, and restricted cash	(376,185)	4,019
Cash, cash equivalents, and restricted cash at beginning of period	487,335	133,565
Cash, cash equivalents, and restricted cash at end of period	$ 111,150	$ 137,584
Supplemental disclosure of cash flow information:		
Cash paid during the period for:		
Income taxes, net	$ 6,367	$ 25,423
Interest	34,539	7,629

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

ITRON, INC.
NOTES TO CONDENSED CONSOLIDATED FINANCIAL STATEMENTS
September 30, 2018
(UNAUDITED)

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

Note 1: Summary of Significant Accounting Policies

Financial Statement Preparation
The condensed consolidated financial statements presented in this Quarterly Report on Form 10-Q are unaudited and reflect entries necessary for the fair presentation of the Consolidated Statements of Operations and the Consolidated Statements of Comprehensive Income (Loss) for the three and nine months ended September 30, 2018 and 2017, the Consolidated Balance Sheets as of September 30, 2018 and December 31, 2017, and the Consolidated Statements of Cash Flows for the nine months ended September 30, 2018 and 2017 of Itron, Inc. and its subsidiaries. All entries required for the fair presentation of the financial statements are of a normal recurring nature, except as disclosed. The results of operations for the three and nine months ended September 30, 2018 are not necessarily indicative of the results expected for the full year or for any other period.

Certain information and notes normally included in financial statements prepared in accordance with U.S. generally accepted accounting principles (GAAP) have been condensed or omitted pursuant to the rules and regulations of the Securities and Exchange Commission (SEC) regarding interim results. These condensed consolidated financial statements should be read in conjunction with the audited financial statements and notes included in our 2017 Annual Report on Form 10-K filed with the SEC on
February 28, 2018. There have been no significant changes in financial statement preparation or significant accounting policies since December 31, 2017, with the exception of the adoption of Accounting Standards Codification (ASC) 606, *Revenue from Contracts with Customers* (ASC 606).

On January 1, 2018, we adopted ASC 606 using the modified retrospective method applied to those contracts that were not completed. Results for reporting periods beginning after January 1, 2018 are presented under ASC 606, while prior period amounts are not adjusted and continue to be reported in accordance with our historic accounting under ASC 605, *Revenue Recognition* (ASC 605). The cumulative impact of adoption was a net decrease to accumulated deficit of $10.9 million as of January 1, 2018, with the impact primarily related to multiple element arrangements that contain software and software related elements. As we had not established vendor specific objective evidence of fair value for certain of our software and software related elements, we historically combined them as one unit of account and recognized the combined unit of account using the combined services approach. Under ASC 606, these software and software related elements are generally determined to be distinct performance obligations. As such, we are able to recognize revenue as we satisfy the performance obligations, either at a point in time or over time. For contracts that were modified prior to January 1, 2018, we have reflected the aggregate effect of all modifications prior to the date of initial adoption in order to identify the satisfied and unsatisfied performance obligations, determine the transaction price, and allocate the transaction price to satisfied and unsatisfied performance obligations. The impact to revenues for the three and nine months ended September 30, 2018 was immaterial as a result of applying ASC 606.

Refer to the updated Revenue Recognition accounting policy described below and Note 16 for additional disclosures regarding our revenues from contracts with customers and the adoption of ASC 606.

Reclassifications
Certain reclassifications have been made to prior period consolidated financial statements to conform to classifications used in the current period. These reclassifications had no impact on net income (loss), shareholders' equity or cash flows as previously reported.

Restricted Cash and Cash Equivalents
Cash and cash equivalents that are contractually restricted from operating use are classified as restricted cash and cash equivalents.

The following table provides a reconciliation of cash, cash equivalents, and restricted cash reported within the Consolidated Balance Sheets that sum to the total of the same such amounts shown in the Consolidated Statements of Cash Flows:

	September 30, 2018	December 31, 2017	September 30, 2017
		(in thousands)	
Cash and cash equivalents	$ 109,044	$ 176,274	$ 137,584
Current restricted cash included in other current assets	51	51	—
Long-term restricted cash	2,055	311,010	—
Total cash, cash equivalents, and restricted cash	$ 111,150	$ 487,335	$ 137,584

Revenue Recognition

The majority of our revenues consist primarily of hardware sales, but may also include the license of software, software implementation services, cloud services and software as a service ("SaaS"), project management services, installation services, consulting services, post-sale maintenance support, and extended or noncustomary warranties. We account for a contract when it has approval and commitment from both parties, the rights of the parties are identified, payment terms are identified, the contract has commercial substance, and collectability of consideration is probable. In determining whether the definition of a contract has been met, we will consider whether the arrangement creates enforceable rights and obligations, which involves evaluation of agreement terms that would allow for the customer to terminate the agreement. If the customer is able to terminate the agreement without providing further consideration to us, the agreement would not be considered to meet the definition of a contract.

Many of our revenue arrangements involve multiple performance obligations consisting of hardware, meter reading system software, installation, and/or project management services. Separate contracts entered into with the same customer (or related parties of the customer) at or near the same time are accounted for as a single contract where one or more of the following criteria are met:

- The contracts are negotiated as a package with a single commercial objective;
- The amount of consideration to be paid in one contract depends on the price or performance of the other contract; or
- The goods or services promised in the contracts (or some goods or services promised in each of the contracts) are a single performance obligation.

Once the contract has been defined, we evaluate whether the promises in the contract should be accounted for as more than one performance obligation. This evaluation requires significant judgment, and the decision to separate the combined or single contract into multiple performance obligations could change the amount of revenue and profit recognized in a given period. For some of our contracts, the customer contracts with us to provide a significant service of integrating, customizing or modifying goods or services in the contract in which case the goods or services would be combined into a single performance obligation. It is common that we may promise to provide multiple distinct goods or services within a contract in which case we separate the contract into more than one performance obligation. If a contract is separated into more than one performance obligation, we allocate the total transaction price to each performance obligation in an amount based on the estimated relative standalone selling prices of the promised goods or services underlying each performance obligation. If applicable, for goods or services where we have observable standalone sales, the observable standalone sales are used to determine the standalone selling price. For the majority of our goods and services, we do not have observable standalone sales. As a result, we estimate the standalone selling price using either the adjusted market assessment approach or the expected cost plus a margin approach. Approaches used to estimate the standalone selling price for a given good or service will maximize the use of observable inputs and considers several factors, including our pricing practices, costs to provide a good or service, the type of good or service, and availability of other transactional data, among others.

We determine the estimated standalone selling prices of goods or services used in our allocation of arrangement consideration on an annual basis or more frequently if there is a significant change in our business or if we experience significant variances in our transaction prices.

Many of our contracts with customers include variable consideration, which can include liquidated damage provisions, rebates and volume and early payment discounts. Some of our contracts with customers 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 the probability and magnitude of having to pay liquidated damages. We estimate variable consideration using the expected value method, taking into consideration contract terms, historical customer behavior and historical sales. In the case of liquidated damages, we also take into consideration progress towards meeting contractual milestones, including whether milestones have not been achieved, specified rates, if applicable, stated in the contract, and history of paying liquidated damages to the customer or similar customers. Variable consideration is included in the transaction price if, in our judgment, it is probable that a significant future reversal of cumulative revenue under the contract will not occur.

In the normal course of business, we do not accept product returns unless the item is defective as manufactured. We establish provisions for estimated returns and warranties. In addition, we do not typically provide customers with the right to a refund.

Hardware revenues are recognized at a point in time. Transfer of control is typically at the time of shipment, receipt by the customer, or, if applicable, upon receipt of customer acceptance provisions. We will recognize revenue prior to receipt of customer acceptance for hardware in cases where the customer acceptance provision is determined to be a formality. Transfer of control would not occur until receipt of customer acceptance in hardware arrangements where such provisions are subjective or where we do not have history of meeting the acceptance criteria.

Perpetual software licenses are considered to be a right to use intellectual property and are recognized at a point in time. Transfer of control is considered to be at the point at which it is available to the customer to download and use or upon receipt of customer acceptance. In certain contracts, software licenses may be sold with professional services that include implementation services that include a significant service of integrating, customizing or modifying the software. In these instances, the software license is combined into single performance obligation with the implementation services and recognized over time as the implementation services are performed.

Hardware and software licenses (when not combined with professional services) are typically billed when shipped and revenue recognized at a point-in-time. As a result, the timing of revenue recognition and invoicing does not have a significant impact on contract assets and liabilities.

Professional services, which include implementation, project management, installation, and consulting services are recognized over time. We measure progress towards satisfying these performance obligations using input methods, most commonly based on the costs incurred in relation to the total expected costs to provide the service. We expect this method to best depict our performance in transferring control of services promised to the customer or represents a reasonable proxy for measuring progress. The estimate of expected costs to provide services requires judgment. Cost estimates take into consideration past history and the specific scope requested by the customer and are updated quarterly. We may also offer professional services on a stand-ready basis over a specified period of time, in which case revenue would be recognized ratably over the term. Invoicing of these services is commensurate with performance and occurs on a monthly basis. As such, these services do not have a significant impact on contract assets and contract liabilities.

Cloud services and 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 over time, ratably over the contact term commencing with the date the services are made available to the customer.

Services, including professional services, cloud services and SaaS arrangements, are commonly billed on a monthly basis in arrears and typically result in an unbilled receivable, which is not considered a contract asset as our right to consideration is unconditional.

Certain of our revenue arrangements include an extended or noncustomary warranty provisions 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, such warranties are considered to be a separate good or service, and a portion of the transaction price is allocated to this extended warranty performance obligation. This revenue is recognized, ratably over the extended warranty coverage period.

Hardware and software post-sale maintenance support fees are recognized over time, 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. Support fees are typically billed on an annual basis, resulting in a contract liability.

Payment terms with customers can vary by customer; however, amounts billed are typically payable within 30 to 90 days, depending on the destination country. We do not make a practice of offering financing as part of our contracts with customers.

We incur certain incremental costs to obtain contracts with customers, primarily in the form of sales commissions. Where the amortization period is one year or less, we have elected to apply the practical expedient and recognize the related commissions expense as incurred. Otherwise, such incremental costs are capitalized and amortized over the contract period. Capitalized incremental costs are not material.

New Accounting Pronouncements

In February 2016, the Financial Accounting Standards Board (FASB) issued Accounting Standards Update (ASU) 2016-02, *Leases (Topic 842)* (ASU 2016-02), 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. In July 2018, the FASB issued ASU 2018-10, *Codification Improvements to Topic 842, Leases* (ASU 2018-10), to clarify, improve, and correct various aspects of ASU 2016-02, and also issued ASU 2018-11, *Targeted Improvements to Topic 842, Leases* (ASU 2018-11), to simplify transition requirements and, for lessors, provide a practical expedient for the separation of nonlease components from lease components. The effective date and transition requirements in ASU 2018-10 and ASU 2018-11 are the same as the effective date and transition requirements of ASU 2016-02. We currently believe the most significant impact relates to our real estate leases and the increased financial statement disclosures, 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 June 2016, the FASB issued ASU 2016-13, *Financial Instruments - Credit Losses (Topic 326)* (ASU 2016-13), which replaces the incurred loss impairment methodology in current GAAP with a methodology based on expected credit losses. This estimate of expected credit losses uses a broader range of reasonable and supportable information. This change will result in earlier recognition of credit losses. ASU 2016-13 is effective for annual reporting periods, and interim periods within those years, beginning after December 15, 2019. We are currently evaluating the impact of this standard on our consolidated financial statements, including accounting policies, processes, and systems.

In October 2016, the FASB issued ASU 2016-16, *Income Taxes: Intra-Entity Transfers of Assets Other Than Inventory (Topic 740)* (ASU 2016-16), which removes the prohibition in ASC 740 against the immediate recognition of the current and deferred income tax effects of intra-entity transfers of assets other than inventory. Under ASU 2016-16, the selling entity is required to recognize a current tax expense or benefit upon transfer of the asset. Similarly, the purchasing entity is required to recognize a deferred tax asset or deferred tax liability, as well as the related deferred tax benefit or expense, upon receipt of the asset. The resulting deferred tax asset or deferred tax liability is measured by computing the difference between the tax basis of the asset in the buyer's jurisdiction and its financial reporting carrying value in the consolidated financial statements and multiplying such difference by the enacted tax rate in the buyer's jurisdiction. ASU 2016-16 is effective for fiscal years beginning after December 15, 2017 with early adoption permitted. We adopted this standard effective January 1, 2018 using the modified retrospective transition method, recognizing a $0.9 million one-time decrease to accumulated deficit.

In March 2017, the FASB issued ASU 2017-07, *Improving the Presentation of Net Periodic Pension Cost and Net Periodic Postretirement Benefit Cost* (ASU 2017-07), which provides additional guidance on the presentation of net benefit costs in the income statement. ASU 2017-07 requires an employer disaggregate the service cost component from the other components of net benefit cost and to disclose other components outside of a subtotal of income from operations. It also allows only the service cost component of net benefit costs to be eligible for capitalization. ASU 2017-07 is effective for fiscal years beginning after December 15, 2017 with early adoption permitted.

We adopted this standard on January 1, 2018 retrospectively for the presentation of the service cost component of net periodic pension cost in the statement of operations, and prospectively for the capitalization of the service cost component of net periodic pension cost. For applying the retrospective presentation requirements, we elected to utilize amounts previously disclosed in our defined benefit pension plan footnote for the prior comparative periods as the estimation basis for applying the retrospective presentation. This resulted in a reclassification of an immaterial amount of net periodic pension benefit costs from operating income to other income (expense) in all periods presented on the Consolidated Statements of Operations.

In August 2017, the FASB issued ASU 2017-12, *Targeted Improvements to Accounting for Hedging Activities* (ASU 2017-12), which amends and simplifies existing guidance in order to allow companies to more accurately present the economic effects of risk management activities in the financial statements. This update expands and refines hedge accounting for both nonfinancial and financial risk components and aligns the recognition and presentation of the effects of the hedging instrument and the hedged item in the financial statements. Additionally, the amendments in ASU 2017-12 provide new guidance about income statement classification and eliminates the requirement to separately measure and report hedge ineffectiveness. ASU 2017-12 is effective for fiscal years beginning after December 15, 2018, with early adoption permitted. We adopted this standard on April 1, 2018 and it did not materially impact our consolidated results of operations, financial position, cash flows, or related financial statement disclosures.

In August 2018, the FASB issued ASU 2018-13, *Disclosure Framework—Changes to the Disclosure Requirements for Fair Value Measurement* (ASU 2018-13) which amends the disclosure requirements under ASC 820, *Fair Value Measurements*. ASU 2018-13 is effective for us beginning with our interim financial reports for the first quarter of 2020.

In August 2018, the FASB issued ASU 2018-14, *Disclosure Framework—Changes to the Disclosure Requirements for Defined Benefit Plans* (ASU 2018-14) which amends the disclosure requirements under ASC 715-20, *Compensation—Retirement Benefits—Defined Benefit Plans*. ASU 2018-14 is effective for our financial reporting in 2020.

Note 2: Earnings Per Share

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

	Three Months Ended September 30,		Nine Months Ended September 30,	
	2018	2017	2018	2017
	(in thousands, except per share data)			
Net income (loss) available to common shareholders	$ 19,882	$ 25,576	$ (123,127)	$ 55,518
Weighted average common shares outstanding - Basic	39,340	38,713	39,177	38,624
Dilutive effect of stock-based awards	569	754	—	715
Weighted average common shares outstanding - Diluted	39,909	39,467	39,177	39,339
Earnings (loss) per common share - Basic	$ 0.51	$ 0.66	$ (3.14)	$ 1.44
Earnings (loss) per common share - Diluted	$ 0.50	$ 0.65	$ (3.14)	$ 1.41

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 and the future compensation cost associated with the stock award. Approximately 0.5 million and 1.1 million stock-based awards were excluded from the calculation of diluted EPS for the three and nine months ended September 30, 2018, respectively, because they were anti-dilutive. Approximately 0.2 million stock-based awards were excluded from the calculation of diluted EPS for both the three and nine months ended September 30, 2017 because they were anti-dilutive. These stock-based awards could be dilutive in future periods.

Note 3: Certain Balance Sheet Components

A summary of accounts receivable from contracts with customers is as follows:

Accounts receivable, net	September 30, 2018	December 31, 2017
	(in thousands)	
Trade receivables (net of allowance of $3,822 and $3,957)	$ 422,567	$ 369,047
Unbilled receivables	27,025	28,982
Total accounts receivable, net	$ 449,592	$ 398,029

Allowance for doubtful accounts activity	Three Months Ended September 30,		Nine Months Ended September 30,	
	2018	2017	2018	2017
	(in thousands)			
Beginning balance	$ 4,552	$ 3,502	$ 3,957	$ 3,320
Provision (recovery) for doubtful accounts, net	(105)	769	1,149	1,513
Accounts written-off	(624)	(310)	(1,129)	(1,115)
Effect of change in exchange rates	(1)	30	(155)	273
Ending balance	$ 3,822	$ 3,991	$ 3,822	$ 3,991

Inventories	September 30, 2018	December 31, 2017
	(in thousands)	
Materials	$ 128,744	$ 126,656
Work in process	8,595	9,863
Finished goods	70,699	57,316
Total inventories	$ 208,038	$ 193,835

Property, plant, and equipment, net	September 30, 2018	December 31, 2017
	(in thousands)	
Machinery and equipment	$ 318,218	$ 310,753
Computers and software	112,681	104,384
Buildings, furniture, and improvements	149,934	135,566
Land	15,463	18,433
Construction in progress, including purchased equipment	41,423	39,946
Total cost	637,719	609,082
Accumulated depreciation	(416,924)	(408,314)
Property, plant, and equipment, net	$ 220,795	$ 200,768

Depreciation expense	Three Months Ended September 30,		Nine Months Ended September 30,	
	2018	2017	2018	2017
	(in thousands)			
Depreciation expense	$ 12,489	$ 10,907	$ 38,729	$ 30,856

Note 4: Intangible Assets and Liabilities

The gross carrying amount and accumulated amortization (accretion) of our intangible assets and liabilities, other than goodwill, were as follows:

	September 30, 2018			December 31, 2017		
	Gross	Accumulated (Amortization) Accretion	Net	Gross	Accumulated (Amortization) Accretion	Net
	(in thousands)					
Intangible Assets						
Core-developed technology	$ 515,949	$ (427,069)	$ 88,880	$ 429,548	$ (399,969)	$ 29,579
Customer contracts and relationships	385,148	(210,735)	174,413	258,586	(197,582)	61,004
Trademarks and trade names	79,739	(69,376)	10,363	70,056	(66,004)	4,052
Other	12,602	(11,166)	1,436	11,661	(11,068)	593
Total intangible assets subject to amortization	$ 993,438	$ (718,346)	$ 275,092	$ 769,851	$ (674,623)	$ 95,228
In-process research and development	3,100	—	3,100	—	—	—
Total intangible assets	$ 996,538	$ (718,346)	$ 278,192	$ 769,851	$ (674,623)	$ 95,228
Intangible Liabilities						
Customer contracts and relationships	$ (23,900)	$ 3,913	$ (19,987)	$ —	$ —	$ —

A summary of intangible assets and liabilities activity is as follows:

	Nine Months Ended September 30,	
	2018	2017
	(in thousands)	
Beginning balance, intangible assets, gross	$ 769,851	$ 669,896
Intangible assets acquired	242,039	36,500
Effect of change in exchange rates	(15,352)	57,640
Ending balance, intangible assets, gross	$ 996,538	$ 764,036
Beginning balance, intangible liabilities, gross	$ —	$ —
Intangible liabilities acquired	(23,900)	—
Effect of change in exchange rates	—	—
Ending balance, intangible liabilities, gross	$ (23,900)	$ —

On January 5, 2018, we completed our acquisition of Silver Spring Networks, Inc. (SSNI) by purchasing 100% of the voting stock. Intangible assets acquired in 2018 are primarily based on the preliminary purchase price allocation relating to this acquisition. Acquired intangible assets include in-process research and development (IPR&D), which is not amortized until such time as the associated development projects are completed. Of these projects, $11.3 million were completed during the nine months ended September 30, 2018 and are included in core-developed technology. The remaining IPR&D is expected to be completed in the next year. Acquired intangible liabilities reflect the present value of the projected cash outflows for an existing contract where remaining costs are expected to exceed projected revenues. Refer to Note 17 for additional information regarding this acquisition.

Estimated future annual amortization (accretion) is as follows:

Year Ending December 31,	Amortization	Accretion	Estimated Annual Amortization, net
		(in thousands)	
2018 (amount remaining at September 30, 2018)	$ 19,547	$ (1,304)	$ 18,243
2019	72,681	(8,233)	64,448
2020	52,727	(8,028)	44,699
2021	37,314	(1,963)	35,351
2022	27,160	(459)	26,701
Beyond 2022	65,663	—	65,663
Total intangible assets subject to amortization (accretion)	$ 275,092	$ (19,987)	$ 255,105

We have recognized $18.0 million and $5.6 million of net amortization of intangible assets for the three months ended September 30, 2018 and 2017, respectively, and $53.7 million and $15.1 million for the nine months ended September 30, 2018 and 2017, respectively within operating expenses in the Consolidated Statement of Operations. These expenses relate to intangible assets and liabilities acquired as part of a business combination.

Note 5: Goodwill

The following table reflects goodwill allocated to each reporting unit:

	Electricity	Gas	Water	Networks	Total Company
			(in thousands)		
Goodwill balance at January 1, 2018					
Goodwill before impairment	$ 500,625	$ 352,703	$ 378,901	$ —	$ 1,232,229
Accumulated impairment losses	(386,384)	—	(290,083)	—	(676,467)
Goodwill, net	114,241	352,703	88,818	—	555,762
Goodwill acquired	—	—	—	570,790	570,790
Effect of change in exchange rates	(370)	(3,259)	(785)	(243)	(4,657)
Goodwill balance at September 30, 2018					
Goodwill before impairment	496,565	349,444	374,569	570,547	1,791,125
Accumulated impairment losses	(382,694)	—	(286,536)	—	(669,230)
Goodwill, net	$ 113,871	$ 349,444	$ 88,033	$ 570,547	$ 1,121,895

Note 6: Debt

The components of our borrowings were as follows:

	September 30, 2018	December 31, 2017
	(in thousands)	
Credit facility:		
USD denominated term loan	$ 641,875	$ 194,063
Multicurrency revolving line of credit	10,000	125,414
Senior notes	400,000	300,000
Total debt	1,051,875	619,477
Less: current portion of debt	24,375	19,688
Less: unamortized prepaid debt fees - term loan	5,208	629
Less: unamortized prepaid debt fees - senior notes	16,915	5,588
Long-term debt	$ 1,005,377	$ 593,572

Credit Facility

On January 5, 2018, we entered into a credit agreement providing for committed credit facilities in the amount of $1.2 billion U.S. dollars (the 2018 credit facility) which amended and restated in its entirety our credit agreement dated June 23, 2015 and replaced committed facilities in the amount of $725 million. The 2018 credit facility consists of a $650 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 $300 million standby letter of credit sub-facility and a $50 million swingline sub-facility. Both the term loan and the revolver mature on January 5, 2023 and can be repaid without penalty. Amounts repaid on the term loan may not be reborrowed and amounts borrowed under the revolver may be repaid and reborrowed until the revolver's maturity, at which time 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 0.35% per annum depending on our total leverage ratio as of the most recently ended fiscal quarter.

The 2018 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 2018 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 their related assets. This includes 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 first-tier foreign subsidiaries. In addition, the obligations of any foreign subsidiary who is a foreign borrower, as defined by the 2018 credit facility, are guaranteed by the foreign subsidiary and by its direct and indirect foreign parents. The 2018 credit facility includes debt covenants, which contain certain financial thresholds and place certain restrictions on the incurrence of debt, investments, and the issuance of dividends. We were in compliance with the debt covenants under the 2018 credit facility at September 30, 2018.

Under the 2018 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 (subject to a 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 0.50%, or (iii) one-month LIBOR plus 1.00%. At September 30, 2018, the interest rate for both the term loan and revolver was 4.25%, which includes the LIBOR rate plus a margin of 2.00%.

Senior Notes

On December 22, 2017 and January 19, 2018, we issued $300 million and $100 million, respectively, of aggregate principal amount of 5.00% senior notes maturing January 15, 2026 (Notes). The proceeds were used to refinance existing indebtedness related to the acquisition of SSNI, pay related fees and expenses, and for general corporate purposes. Interest on the Notes is payable semi-annually in arrears on January 15 and July 15, commencing on July 15, 2018. The Notes are fully and unconditionally guaranteed, jointly and severally, on a senior unsecured basis by each of our subsidiaries that guarantee the senior credit facilities.

Prior to maturity we may redeem some or all of the Notes, together with accrued and unpaid interest, if any, plus a "make-whole" premium. On or after January 15, 2021, we may redeem some or all of the Notes at any time at declining redemption prices equal to 102.50% beginning on January 15, 2021, 101.25% beginning on January 15, 2022 and 100.00% beginning on January15, 2023 and thereafter to the applicable redemption date. In addition, before January 15, 2021, and subject to certain conditions, we may redeem up to 35% of the aggregate principal amount of Notes with the net proceeds of certain equity offerings at 105.00% of the principal amount thereof to the date of redemption; provided that (i) at least 65% of the aggregate principal amount of Notes remains outstanding after such redemption and (ii) the redemption occurs within 60 days of the closing of any such equity offering.

Debt Maturities

The amount of required minimum principal payments on our long-term debt in aggregate over the next five years, are as follows:

Year Ending December 31,	**Minimum Payments**
	(in thousands)
2018 (amount remaining at September 30, 2018)	$ 4,063
2019	28,438
2020	44,777
2021	60,937
2022	65,000
2023	448,660
Total minimum payments on debt	$ 651,875

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 13 and Note 14 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 were as follows:

		Fair Value	
Derivative Assets	**Balance Sheet Location**	**September 30, 2018**	**December 31, 2017**
Derivatives designated as hedging instruments under Subtopic 815-20		(in thousands)	
Interest rate swap contract	Other current assets	$ 2,051	$ 658
Interest rate cap contracts	Other current assets	607	17
Cross currency swap contract	Other current assets	1,711	—
Interest rate swap contract	Other long-term assets	1,733	1,712
Interest rate cap contracts	Other long-term assets	728	179
Cross currency swap contract	Other long-term assets	738	—
Derivatives not designated as hedging instruments under Subtopic 815-20			
Foreign exchange forward contracts	Other current assets	69	41
Interest rate cap contracts	Other current assets	—	25
Interest rate cap contracts	Other long-term assets	—	268
Total asset derivatives		$ 7,637	$ 2,900

Derivative Liabilities			
Derivatives not designated as hedging instruments under Subtopic 815-20			
Foreign exchange forward contracts	Other current liabilities	$ 240	$ 289

The changes in accumulated other comprehensive income (loss) (AOCI), net of tax, for our derivative and nonderivative hedging instruments, were as follows:

	2018	2017
	(in thousands)	
Net unrealized gain (loss) on hedging instruments at January 1,	$ (13,414)	$ (14,337)
Unrealized gain (loss) on hedging instruments	4,770	(295)
Realized loss (gain) reclassified into net income	(2,207)	482
Net unrealized gain (loss) on hedging instruments at September 30,	$ (10,851)	$ (14,150)

Reclassification of amounts related to hedging instruments are included in interest expense in the Consolidated Statements of Operations for the periods ended September 30, 2018 and 2017. Included in the net unrealized gain (loss) on hedging instruments at September 30, 2018 and 2017 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 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 of Recognized Assets Presented in the Consolidated Balance Sheets	Gross Amounts Not Offset in the Consolidated Balance Sheets		Net Amount
		Derivative Financial Instruments	Cash Collateral Received	
	(in thousands)			
September 30, 2018	$ 7,637	$ (102)	$ —	$ 7,535
December 31, 2017	$ 2,900	$ (90)	$ —	$ 2,810

Offsetting of Derivative Liabilities	Gross Amounts of Recognized Liabilities Presented in the Consolidated Balance Sheets	Gross Amounts Not Offset in the Consolidated Balance Sheets		Net Amount
		Derivative Financial Instruments	Cash Collateral Pledged	
	(in thousands)			
September 30, 2018	$ 240	$ (102)	$ —	$ 138
December 31, 2017	$ 289	$ (90)	$ —	$ 199

Our derivative assets and liabilities subject to netting arrangements consist of foreign exchange forward and interest rate contracts with five counterparties at September 30, 2018 and three counterparties at December 31, 2017. No derivative asset or liability balance with any of our counterparties was individually significant at September 30, 2018 or December 31, 2017. 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 interest rate caps and swaps to reduce the variability of cash flows from increases in the LIBOR based borrowing rates on our floating rate credit facility. These instruments do not protect us from changes to the applicable margin under our credit facility. At September 30, 2018, our LIBOR-based debt balance was $652.0 million.

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. Changes in the fair value of the interest rate swap are recognized as a component of other comprehensive income (OCI) and are 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 along with the earnings effect of the hedged item. The amount of net gains expected to be reclassified into earnings in the next 12 months is $2.1 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. As of December 31, 2016, due to the accelerated revolver payments from surplus cash, we elected to de-designate two of the interest rate cap contracts as cash flow hedges and discontinued the use of cash flow hedge accounting. The amounts recognized in AOCI from de-designated interest rate cap contracts were maintained in AOCI as the forecasted transactions were still probable to occur, and subsequent changes in fair value were recognized within interest expense. In April 2018, due to increases in our total LIBOR-based debt, we elected to re-designate the two interest rate cap contracts as cash flow hedges. Future changes in the fair value of these instruments will be recognized as a component of OCI, and these changes together with amounts previously maintained in AOCI 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 along with the earnings effect of the hedged item. The amount of net losses expected to be reclassified into earnings for all interest rate cap contracts in the next 12 months is $0.1 million.

In April 2018, we entered into a cross-currency swap which converts $56.0 million of floating LIBOR-based U.S. Dollar denominated debt into 1.38% fixed rate euro denominated debt. This cross-currency swap matures on April 30, 2021 and mitigates the risk associated with fluctuations in currency rates impacting cash flows related to U.S. Dollar denominated debt in a euro functional currency entity. Changes in the fair value of the cross-currency swap are 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 along with the earnings effect of the hedged item. The amount of net gains expected to be reclassified into earnings in the next 12 months is $1.7 million.

The before-tax effects of our accounting for derivative instruments designated as hedges on AOCI were as follows:

Derivatives in Subtopic 815-20 Cash Flow Hedging Relationships	Amount of Gain (Loss) Recognized in OCI on Derivative		Gain (Loss) Reclassified from AOCI into Income		
			Location	Amount	
	2018	2017		2018	2017
	(in thousands)			(in thousands)	
Three Months Ended September 30,					
Interest rate swap contract	$ 302	$ 81	Interest expense	$ 314	$ (92)
Interest rate cap contracts	(220)	(24)	Interest expense	(149)	(55)
Cross currency swap contract	599	—	Interest expense	363	—
Cross currency swap contract	—	—	Other income/(expense), net	(733)	—
Nine Months Ended September 30,					
Interest rate swap contract	$ 2,062	$ (255)	Interest expense	$ 649	$ (637)
Interest rate cap contracts	149	(225)	Interest expense	(685)	(148)
Cross currency swap contract	2,975	—	Interest expense	570	—
Cross currency swap contract	—	—	Other income/(expense), net	1,635	—

These reclassification amounts presented above also represent the loss (gain) recognized in net income (loss) on hedging relationships under Subtopic 815-20 on the Consolidated Statements of Operations. For the three and nine months ended September 30, 2018 and 2017, there were no amounts reclassified from AOCI as a result that a forecasted transaction is no longer probable of occurring, and no amounts excluded from effectiveness testing recognized in earnings based on changes in fair value.

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 September 30, 2018, a total of 52 contracts were offsetting our exposures from the Euro, Pound Sterling, Mexican Peso, Chinese Yuan, Canadian Dollar, Hungarian Forint and various other currencies, with notional amounts ranging from $183,000 to $55.5 million.

The effect of our derivative instruments not designated as hedges on the Consolidated Statements of Operations was as follows:

Derivatives Not Designated as Hedging Instrument under Subtopic 815-20	Location	Gain (Loss) Recognized on Derivatives in Other Income (Expense)	
		2018	2017
Three Months Ended September 30,		(in thousands)	
Foreign exchange forward contracts	Other income (expense), net	$ (1,149)	$ (1,760)
Interest rate cap contracts	Interest expense	—	(36)
Nine Months Ended September 30,			
Foreign exchange forward contracts	Other income (expense), net	$ 964	$ (5,565)
Interest rate cap contracts	Interest expense	377	(337)

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, 2017.

Amounts recognized on the Consolidated Balance Sheets consist of:

	September 30, 2018	December 31, 2017
	(in thousands)	
Assets		
Plan assets in other long-term assets	$ 911	$ 991
Liabilities		
Current portion of pension benefit obligation in wages and benefits payable	3,091	3,260
Long-term portion of pension benefit obligation	96,081	95,717
Pension benefit obligation, net	$ 98,261	$ 97,986

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.

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

	Three Months Ended September 30,		Nine Months Ended September 30,	
	2018	2017	2018	2017
	(in thousands)			
Service cost	$ 1,008	$ 994	$ 3,025	$ 2,846
Interest cost	567	568	1,767	1,628
Expected return on plan assets	(160)	(152)	(510)	(445)
Amortization of actuarial net loss	383	431	1,178	1,225
Amortization of unrecognized prior service costs	16	16	50	46
Net periodic benefit cost	$ 1,814	$ 1,857	$ 5,510	$ 5,300

The components of net periodic benefit cost, other than the service cost component, are included in total other income (expense) on the Consolidated Statements of Operations.

Note 9: Stock-Based Compensation

We maintain the Second Amended and Restated 2010 Stock Incentive Plan (Stock Incentive Plan), which allows us to grant stock-based compensation awards, including stock options, restricted stock units, phantom stock, and unrestricted stock units. Under the Stock Incentive Plan, we have 12,623,538 shares of common stock reserved and authorized for issuance subject to stock splits, dividends, and other similar events. At September 30, 2018, 6,449,209 shares were available for grant under the Stock Incentive Plan. We issue new shares of common stock upon the exercise of stock options or when vesting conditions on restricted stock units are fully satisfied. These shares are subject to a fungible share provision such that 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 share appreciation right.

As part of the acquisition of SSNI, we reserved and authorized 2,880,039 shares, collectively, of Itron common stock to be issued under the Stock Incentive Plan for certain SSNI common stock awards that were converted to Itron common stock awards on January 5, 2018 (Acquisition Date) pursuant to the Agreement and Plan of Merger or were available for issuance pursuant to future awards under the Silver Spring Networks, Inc. 2012 Equity Incentive Plan (SSNI Plan). New stock-based compensation awards originally from the SSNI Plan may only be made to individuals who were not employees of Itron as of the Acquisition Date. Notwithstanding the foregoing, there is no fungible share provision for shares originally from the SSNI Plan.

We also periodically award phantom stock units, which are settled in cash upon vesting and accounted for as liability-based awards with no impact to the shares available for grant.

In addition, we maintain the Employee Stock Purchase Plan (ESPP), for which 305,979 shares of common stock were available for future issuance at September 30, 2018.

Unrestricted stock and ESPP activity for the three and nine months ended September 30, 2018 and 2017 was not significant.

Stock-Based Compensation Expense

Total stock-based compensation expense and the related tax benefit were as follows:

	Three Months Ended September 30,		Nine Months Ended September 30,	
	2018	2017	2018	2017
	(in thousands)			
Stock options	$ 911	$ 717	$ 2,694	$ 1,974
Restricted stock units	5,381	4,170	19,803	12,538
Unrestricted stock awards	158	232	572	742
Phantom stock units	762	626	2,039	1,510
Total stock-based compensation	$ 7,212	$ 5,745	$ 25,108	$ 16,764
Related tax benefit	$ 1,259	$ 1,192	$ 4,387	$ 3,520

Stock Options

A summary of our stock option activity is as follows:

	Shares	Weighted Average Exercise Price per Share	Weighted Average Remaining Contractual Life	Aggregate Intrinsic Value	Weighted Average Grant Date Fair Value
	(in thousands)		(years)	(in thousands)	
Outstanding, January 1, 2017	959	$ 45.64	6.6	$ 19,125	
Granted	135	65.94			$ 21.98
Exercised	(36)	38.68		972	
Forfeited	(35)	47.38			
Expired	(47)	67.43			
Outstanding, September 30, 2017	976	$ 47.60	6.5	$ 30,320	
Outstanding, January 1, 2018	956	$ 47.10	6.3	$ 21,965	
Converted upon acquisition	42	51.86			$ 14.86
Granted	117	68.90			$ 24.55
Exercised	(151)	38.98		4,509	
Forfeited	(3)	68.43			
Expired	(66)	95.31			
Outstanding, September 30, 2018	895	$ 47.92	6.6	$ 15,332	
Exercisable September 30, 2018	590	$ 42.53	5.6	$ 12,867	
Expected to vest, September 30, 2018	305	$ 58.35	8.5	$ 2,466	

At September 30, 2018, total unrecognized stock-based compensation expense related to nonvested stock options was $3.5 million, which is expected to be recognized over a weighted average period of approximately 1.6 years.

The weighted-average assumptions used to estimate the fair value of stock options granted and the resulting weighted average fair value are as follows:

	Three Months Ended September 30,		Nine Months Ended September 30,	
	2018	2017	2018	2017
Expected volatility	28.6%	29.0%	30.6%	32.5%
Risk-free interest rate	2.9%	1.8%	2.8%	2.0%
Expected term (years)	6.1	5.5	6.1	5.5

Restricted Stock Units

The following table summarizes restricted stock unit activity:

	Number of Restricted Stock Units	Weighted Average Grant Date Fair Value	Aggregate Intrinsic Value
	(in thousands)		(in thousands)
Outstanding, January 1, 2017	701		
Granted	141	$ 65.54	
Released	(340)		$ 13,097
Forfeited	(23)		
Outstanding, September 30, 2017	479		
Outstanding, January 1, 2018	556	$ 47.68	
Converted upon acquisition	579	69.40	
Granted	262	65.22	
Released	(494)	54.08	$ 26,753
Forfeited	(102)	68.15	
Outstanding, September 30, 2018	801	62.57	
Vested but not released, September 30, 2018	9		$ 586
Expected to vest, September 30, 2018	741		$ 47,554

At September 30, 2018, total unrecognized compensation expense on restricted stock units was $46.0 million, which is expected to be recognized over a weighted average period of approximately 2.1 years.

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:

	Three Months Ended September 30,		Nine Months Ended September 30,	
	2018	2017	2018	2017
Expected volatility	N/A	27.9%	28.0%	28.0%
Risk-free interest rate	N/A	1.4%	2.2%	1.0%
Expected term (years)	N/A	2.3	2.1	1.7
Weighted average fair value	N/A	$ 80.64	$ 78.56	$ 77.75

There were no performance-based restricted stock units granted for the three months ended September 30, 2018.

Phantom Stock Units

The following table summarizes phantom stock unit activity:

	Number of Phantom Stock Units	Weighted Average Grant Date Fair Value
	(in thousands)	
Outstanding, January 1, 2017	62	
Granted	32	$ 65.55
Released	(20)	
Forfeited	(7)	
Outstanding, September 30, 2017	67	
Expected to vest, September 30, 2017	67	
Outstanding, January 1, 2018	63	$ 51.88
Converted upon acquisition	21	69.40
Granted	37	68.06
Released	(34)	53.55
Forfeited	(3)	56.47
Outstanding, September 30, 2018	84	62.53
Expected to vest, September 30, 2018	84	

At September 30, 2018, total unrecognized compensation expense on phantom stock units was $3.9 million which is expected to be recognized over a weighted average period of approximately 2.0 years. As of both September 30, 2018 and December 31, 2017, we have recognized a phantom stock liability of $1.7 million within wages and benefits payable in the Consolidated Balance Sheets.

Note 10: Income Taxes

We determine the interim tax benefit (provision) by applying an estimate of the annual effective tax rate to the year-to-date pretax book income (loss) and adjusting for discrete items during the reporting period, if any. Tax jurisdictions with losses for which tax benefits cannot be realized are excluded.

Our tax rate for the three and nine months ended September 30, 2018 of 22% and 1%, respectively, differed from the federal statutory rate of 21% due primarily to unbenefitted losses experienced in jurisdictions with valuation allowances on deferred tax assets as well as the forecasted mix of earnings in domestic and international jurisdictions, a benefit related to excess stock-based compensation, and uncertain tax positions.

Our tax rate for the three and nine months ended September 30, 2017 of 20% and 36% respectively, differed from the federal statutory rate of 35% due to the forecasted mix of earnings in domestic and international jurisdictions, a benefit related to excess stock-based compensation, and losses experienced in jurisdictions with valuation allowances on deferred tax assets.

The tax provision for December 31, 2017 included the provisional determination of the impact to our deferred tax positions of the Tax Cuts and Jobs Act. We will continue to review any additional guidance issued by the U.S. Department of the Treasury, Internal Revenue Service, Financial Accounting Standards Board, or other regulatory bodies and adjust our provisional amount during the measurement period, which should not extend beyond one year from the enactment date of December 22, 2017. For the three and nine months ended September 30, 2018, no changes to these provisional amounts have been recognized.

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

	Three Months Ended September 30,		Nine Months Ended September 30,	
	2018	2017	2018	2017
	(in thousands)			
Net interest and penalties expense (benefit)	$ 414	$ (746)	$ 1,152	$ (334)

Accrued interest and penalties recognized were as follows:

	September 30, 2018	December 31, 2017
	(in thousands)	
Accrued interest	$ 3,707	$ 2,706
Accrued penalties	2,396	2,426

Unrecognized tax benefits related to uncertain tax positions and the amount of unrecognized tax benefits that, if recognized, would affect our effective tax rate were as follows:

	September 30, 2018	December 31, 2017
	(in thousands)	
Unrecognized tax benefits related to uncertain tax positions	$ 78,332	$ 56,702
The amount of unrecognized tax benefits that, if recognized, would affect our effective tax rate	76,958	55,312

The increase in unrecognized tax benefits at September 30, 2018 related primarily to $16.7 million of unrecognized tax benefits recognized through purchase accounting on January 5, 2018 as a result of the acquisition of SSNI.

At September 30, 2018, we are under examination by certain tax authorities for the 2010 to 2016 tax years. The material jurisdictions where we are subject to examination include, among others, the United States, France, Germany, Italy, Brazil and the United Kingdom. No material changes have occurred to previously disclosed assessments. 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 liquidity.

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.

Note 11: Commitments and Contingencies

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 performance bonds were as follows:

	September 30, 2018	December 31, 2017
	(in thousands)	
Credit facilities		
Multicurrency revolving line of credit	$ 500,000	$ 500,000
Long-term borrowings	(10,000)	(125,414)
Standby LOCs issued and outstanding	(41,108)	(31,881)
Net available for additional borrowings under the multi-currency revolving line of credit	$ 448,892	$ 342,705
Net available for additional standby LOCs under sub-facility	258,892	218,119
Unsecured multicurrency revolving lines of credit with various financial institutions		
Multicurrency revolving lines of credit	$ 106,281	$ 110,477
Standby LOCs issued and outstanding	(19,577)	(21,030)
Short-term borrowings	(180)	(916)
Net available for additional borrowings and LOCs	$ 86,524	$ 88,531
Unsecured surety bonds in force	$ 96,157	$ 51,344

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: 1) the customer promptly notifies us in writing of the claim and 2) 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 would disclose contingencies for which a material loss is reasonably possible, but not probable.

Warranty

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

	Three Months Ended September 30,		Nine Months Ended September 30,	
	2018	2017	2018	2017
	(in thousands)			
Beginning balance	$ 43,719	$ 39,810	$ 34,862	$ 43,302
Assumed liabilities from acquisition	—	—	5,742	—
New product warranties	869	2,708	3,151	6,637
Other adjustments and expirations	659	(4,346)	9,141	(2,445)
Claims activity	(2,164)	(3,773)	(8,981)	(14,372)
Effect of change in exchange rates	277	523	(555)	1,800
Ending balance	43,360	34,922	43,360	34,922
Less: current portion of warranty	29,736	21,697	29,736	21,697
Long-term warranty	$ 13,624	$ 13,225	$ 13,624	$ 13,225

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

	Three Months Ended September 30,		Nine Months Ended September 30,	
	2018	2017	2018	2017
	(in thousands)			
Total warranty expense (benefit)	$ 1,528	$ (3,148)	$ 12,291	$ (5,318)

Warranty expense increased during the nine months ended September 30, 2018 compared with the same periods in 2017 primarily due to an insurance recovery in our Water operating segment of $8.0 million recognized during the second quarter of 2017. This recovery is associated with warranty costs previously recognized as a result of our 2015 product replacement notification to customers who had purchased certain communication modules.

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:

	Three Months Ended September 30,		Nine Months Ended September 30,	
	2018	2017	2018	2017
	(in thousands)			
Plan costs	$ 9,205	$ 6,096	$ 25,559	$ 21,592

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

	September 30, 2018	December 31, 2017
	(in thousands)	
IBNR accrual	$ 3,449	$ 2,664

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 12: Restructuring

2018 Projects

On February 22, 2018, our Board of Directors approved a restructuring plan (the 2018 Projects) to continue our efforts to optimize our global supply chain and manufacturing operations, research and development, and sales and marketing organizations. We expect to substantially complete the plan by the end of 2020. 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, and the remaining expected restructuring costs related to the 2018 Projects are as follows:

	Total Expected Costs at September 30, 2018	Costs Recognized During the Nine Months Ended September 30, 2018	Expected Remaining Costs to be Recognized at September 30, 2018
		(in thousands)	
Employee severance costs	$ 81,669	$ 81,669	$ —
Asset impairments & net loss on sale or disposal	115	115	—
Other restructuring costs	19,356	1,280	18,076
Total	$ 101,140	$ 83,064	$ 18,076
Segments:			
Electricity	$ 20,609	$ 19,109	$ 1,500
Gas	52,289	41,583	10,706
Water	21,804	15,934	5,870
Corporate unallocated	6,438	6,438	—
Total	$ 101,140	$ 83,064	$ 18,076

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 competitiveness. We expect to close or consolidate several facilities and reduce our global workforce as a result of the restructuring. The 2016 Projects were initiated during the third quarter of 2016, and we expect to substantially complete the 2016 Projects by the end of 2018.

The total expected restructuring costs, the restructuring costs recognized, and the remaining expected restructuring costs related to the 2016 Projects are as follows:

	Total Expected Costs at September 30, 2018	Costs Recognized in Prior Periods	Costs Recognized During the Nine Months Ended September 30, 2018	Expected Remaining Costs to be Recognized at September 30, 2018
	(in thousands)			
Employee severance costs	$ 37,197	$ 39,855	$ (2,658)	$ —
Asset impairments & net loss on sale or disposal	5,375	4,922	453	—
Other restructuring costs	16,064	9,435	2,049	4,580
Total	$ 58,636	$ 54,212	$ (156)	$ 4,580
Segments:				
Electricity	$ 11,029	$ 9,025	$ 696	$ 1,308
Gas	30,287	29,181	(791)	1,897
Water	14,678	13,761	(302)	1,219
Corporate unallocated	2,642	2,245	241	156
Total	$ 58,636	$ 54,212	$ (156)	$ 4,580

The following table summarizes the activity within the restructuring related balance sheet accounts for the 2018 and 2016 Projects during the nine months ended September 30, 2018:

	Accrued Employee Severance	Asset Impairments & Net Loss on Sale or Disposal	Other Accrued Costs	Total
	(in thousands)			
Beginning balance, January 1, 2018	$ 37,654	$ —	$ 2,471	$ 40,125
Costs charged to expense	79,011	568	3,329	82,908
Cash (payments) receipts	(23,302)	332	(4,478)	(27,448)
Net assets disposed and impaired	—	(900)	—	(900)
Effect of change in exchange rates	(3,996)	—	(2)	(3,998)
Ending balance, September 30, 2018	$ 89,367	$ —	$ 1,320	$ 90,687

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 portion of restructuring liabilities were $42.2 million and $32.5 million as of September 30, 2018 and December 31, 2017. The current portion of restructuring liabilities are classified within other current liabilities on the Consolidated Balance Sheets. The long-term portion of restructuring liabilities balances were $48.5 million and $7.6 million as of September 30, 2018 and December 31, 2017. The long-term portion of restructuring liabilities are classified within other long-term obligations on the Consolidated Balance Sheets, and include severance accruals and facility exit costs.

Note 13: 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 the Board of Directors prior to any payment to holders of common stock. There was no preferred stock issued or outstanding at September 30, 2018 and December 31, 2017.

Other Comprehensive Income (Loss)

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

	Three Months Ended September 30,		Nine Months Ended September 30,	
	2018	2017	2018	2017
	(in thousands)			
Before-tax amount				
Foreign currency translation adjustment	$ (576)	$ 14,169	$ (18,554)	$ 49,755
Foreign currency translation adjustment reclassified into net income	—	1,089	—	1,089
Net unrealized gain (loss) on derivative instruments designated as cash flow hedges	712	57	5,216	(480)
Net hedging (gain) loss reclassified into net income	175	148	(2,198)	785
Net defined benefit plan loss reclassified to net income	399	447	1,228	1,271
Total other comprehensive income (loss), before tax	710	15,910	(14,308)	52,420
Tax (provision) benefit				
Foreign currency translation adjustment	(102)	(328)	16	(451)
Net unrealized gain (loss) on derivative instruments designated as cash flow hedges	(20)	(22)	(446)	185
Net hedging (gain) loss reclassified into net income	41	(57)	(9)	(303)
Net defined benefit plan loss reclassified to net income	(7)	(37)	(21)	(267)
Total other comprehensive income (loss) tax benefit	(88)	(444)	(460)	(836)
Net-of-tax amount				
Foreign currency translation adjustment	(678)	13,841	(18,538)	49,304
Foreign currency translation adjustment reclassified into net income	—	1,089	—	1,089
Net unrealized gain (loss) on derivative instruments designated as cash flow hedges	692	35	4,770	(295)
Net hedging (gain) loss reclassified into net income	216	91	(2,207)	482
Net defined benefit plan loss reclassified to net income	392	410	1,207	1,004
Total other comprehensive income (loss), net of tax	$ 622	$ 15,466	$ (14,768)	$ 51,584

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, 2017	$ (182,986)	$ 43	$ (14,380)	$ (32,004)	$ (229,327)
OCI before reclassifications	49,304	(295)	—	—	49,009
Amounts reclassified from AOCI	1,089	482	—	1,004	2,575
Total other comprehensive income (loss)	50,393	187	—	1,004	51,584
Balances at September 30, 2017	$ (132,593)	$ 230	$ (14,380)	$ (31,000)	$ (177,743)
Balances at January 1, 2018	$ (128,648)	$ 966	$ (14,380)	$ (28,416)	$ (170,478)
OCI before reclassifications	(18,538)	4,770	—	—	(13,768)
Amounts reclassified from AOCI	—	(2,207)	—	1,207	(1,000)
Total other comprehensive income (loss)	(18,538)	2,563	—	1,207	(14,768)
Balances at September 30, 2018	$ (147,186)	$ 3,529	$ (14,380)	$ (27,209)	$ (185,246)

Note 14: Fair Values of Financial Instruments

The following table presents the fair values of our financial instruments:

	September 30, 2018		December 31, 2017	
	Carrying Amount	Fair Value	Carrying Amount	Fair Value
	(in thousands)			
Assets				
Cash and cash equivalents	$ 109,044	$ 109,044	$ 176,274	$ 176,274
Restricted cash	2,106	2,106	311,061	311,061
Foreign exchange forwards	69	69	41	41
Interest rate swaps	3,784	3,784	2,370	2,370
Interest rate caps	1,335	1,335	489	489
Cross currency swaps	2,449	2,449	—	—
Liabilities				
Credit facility				
USD denominated term loan	$ 641,875	$ 649,686	$ 194,063	$ 192,295
Multicurrency revolving line of credit	10,000	10,137	125,414	124,100
Senior notes	400,000	383,000	300,000	301,125
Foreign exchange forwards	240	240	289	289

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

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

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.

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.

Senior Notes: The Notes are not registered securities nor listed on any securities exchange, but may be actively traded by qualified institutional buyers. The fair value is estimated using Level 1 inputs, as it is based on quoted prices for these instruments in active markets.

The fair values at September 30, 2018 and December 31, 2017 do not reflect subsequent changes in the economy, interest rates, tax rates, and other variables that may affect the determination of fair value.

Note 15: Segment Information

We operate under the Itron brand worldwide and manage and report under four operating segments: Electricity, Gas, Water, and Networks. Our Water operating segment includes our global water, and heat and allocation solutions. Networks became a new operating segment with the acquisition of SSNI. This structure allows each operating segment to develop its own go-to-market strategy, prioritize its marketing and research and development requirements, and focus on its strategic investments. Our sales and marketing function is managed under each operating segment. Our research and development, service delivery, 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 operating segments.

We have three GAAP measures of segment performance: revenue, gross profit (margin), and operating income (margin). Intersegment revenues are minimal. Certain operating expenses are allocated to our Electricity, Gas, and Water operating segments based upon internally established allocation methodologies. We will not allocate operating expenses to our Networks operating segment until it is fully integrated and managed centrally. Corporate operating expenses, interest income, interest expense, other income (expense), and income tax provision are not allocated to the operating segments, nor are included in the measure of operating 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 operating segments on a balance sheet basis.

Segment Products

Electricity	Standard electricity (electromechanical and electronic) meters; smart network and data platform 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 network and data platform 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 network and data platform 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.
Networks	Smart network and data platform solutions for electricity, gas, water and smart cities including advanced metering, distribution automation, demand-side management, and street lights. Solutions include one or several of the following: communications modules, access points, relays and bridges; network operating software, grid management, security and grid analytics managed services and SaaS; installation; implementation; and professional services including consulting and analysis.

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

	Three Months Ended September 30,		Nine Months Ended September 30,	
	2018	2017	2018	2017
	(in thousands)			
Product revenues				
Electricity	$ 198,026	$ 199,784	$ 624,139	$ 620,958
Gas	148,660	124,556	408,300	372,555
Water	106,653	109,644	350,814	327,549
Networks	72,377	—	195,487	—
Total Company	$ 525,716	$ 433,984	$ 1,578,740	$ 1,321,062
Service revenues				
Electricity	$ 38,816	$ 40,358	$ 115,686	$ 108,267
Gas	8,087	7,224	23,218	22,136
Water	5,931	5,181	17,601	15,956
Networks	17,412	—	53,828	—
Total Company	$ 70,246	$ 52,763	$ 210,333	$ 146,359
Total revenues				
Electricity	$ 236,842	$ 240,142	$ 739,825	$ 729,225
Gas	156,747	131,780	431,518	394,691
Water	112,584	114,825	368,415	343,505
Networks	89,789	—	249,315	—
Total Company	$ 595,962	$ 486,747	$ 1,789,073	$ 1,467,421
Gross profit				
Electricity	$ 74,549	$ 76,492	$ 221,511	$ 222,387
Gas	55,812	46,529	139,826	147,880
Water	35,139	42,734	110,779	131,402
Networks	31,597	—	81,413	—
Total Company	$ 197,097	$ 165,755	$ 553,529	$ 501,669
Operating income (loss)				
Electricity	$ 25,853	$ 17,317	$ 52,082	$ 52,240
Gas	31,279	20,469	18,176	59,177
Water	6,859	15,032	3,973	40,702
Networks	(15,624)	—	(119,353)	—
Corporate unallocated	(6,691)	(14,592)	(33,087)	(45,438)
Total Company	41,676	38,226	(78,209)	106,681
Total other income (expense)	(16,174)	(4,732)	(45,193)	(16,559)
Income (loss) before income taxes	$ 25,502	$ 33,494	$ (123,402)	$ 90,122

For all periods presented, no customer represents more than 10% of total company revenues.

We currently buy a majority of our integrated circuit board assemblies from three suppliers. Management believes that other suppliers could provide similar products, but a change in suppliers, disputes with our suppliers, or unexpected constraints on the suppliers' production capacity could adversely affect operating results.

Revenues by region were as follows:

	Three Months Ended September 30,		Nine Months Ended September 30,	
	2018	2017	2018	2017
	(in thousands)			
United States and Canada	$ 376,676	$ 259,796	$ 1,080,709	$ 824,630
Europe, Middle East, and Africa	177,356	171,924	564,178	493,505
Other[(1)]	41,930	55,027	144,186	149,286
Total revenues	$ 595,962	$ 486,747	$ 1,789,073	$ 1,467,421

(1) The Other region includes our operations in Latin America and Asia Pacific.

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

	Three Months Ended September 30,		Nine Months Ended September 30,	
	2018	2017	2018	2017
	(in thousands)			
Electricity	$ 6,008	$ 6,687	$ 18,952	$ 17,772
Gas	4,363	5,084	12,819	13,831
Water	3,824	3,860	11,941	11,706
Networks	15,214	—	45,449	—
Corporate unallocated	1,040	901	3,267	2,691
Total Company	$ 30,449	$ 16,532	$ 92,428	$ 46,000

Subsequent Event

On October 1, 2018, we realigned our operational reporting segmentation from Electricity, Gas, Water, and Networks to Device Solutions, Networked Solutions, and Outcomes. We will report segment information under the new segment structure in our 2018 Annual Report on Form 10-K.

Note 16: Revenues

A summary of significant net changes in the contract assets and the contract liabilities balances during the period is as follows:

	2018
	Contract liabilities, less contract assets
	(in thousands)
Beginning balance, January 1	$ 59,808
Changes due to business combination	36,936
Revenues recognized from beginning contract liability	(31,688)
Increases due to amounts collected or due	200,428
Revenues recognized from current period increases	(142,439)
Other	(847)
Ending balance, September 30	$ 122,198

On January 1, 2018, total contract assets were $11.3 million and total contract liabilities were $71.1 million. On September 30, 2018, total contract assets were $15.7 million and total contract liabilities were $137.9 million. The contract assets primarily relate to contracts that include a retention clause and allocations related to contracts with multiple performance obligations. The contract liabilities primarily relate to deferred revenue, such as extended warranty and maintenance cost. During the three months ended September 30, 2018, revenue recognized of $1.6 million was related to amounts that was included as a contract liability at January 1, 2018.

Transaction price allocated to the remaining performance obligations
Total transaction price allocated to remaining performance obligations represent committed but undelivered products and services for contracts and purchase orders at period end. Twelve-month remaining performance obligations represent the portion of total transaction price allocated to remaining performance obligations that we estimate will be recognized as revenue over the next 12 months. Total transaction price allocated to remaining performance obligations is not a complete measure of our future revenues as we also receive orders where the customer may have legal termination rights but are not likely to terminate.

Total transaction price allocated to remaining performance obligations related to contracts is approximately $1.1 billion for the next twelve months and approximately $706 million for periods longer than 12 months. The total remaining performance obligations is comprised of product and service components. The service component relates primarily to maintenance agreements for which customers pay a full year's maintenance in advance, and service revenues are generally recognized over the service period. Total transaction price allocated to remaining performance obligations also includes our extended warranty contracts, for which revenue is recognized over the warranty period, and hardware, which is recognized as units are delivered. The estimate of when remaining performance obligations will be recognized requires significant judgment.

Cost to obtain a contract and cost to fulfill a contract with a customer
Cost to obtain a contract and costs to fulfill a contract were capitalized and amortized using a systematic rational approached to align with the transfer of control of underlying contracts with customers. While amounts were capitalized, amounts are not material for disclosure.

Disaggregation of revenue
Refer to Note 15 and the Consolidated Statement of Operations for disclosure regarding the disaggregation of revenue into categories which depict how revenue and cash flows are affected by economic factors. Specifically, our operating segments and geographical regions as disclosed, and categories for products, which include hardware and software and services as presented.

Impacts on financial statements
Under the modified retrospective transition method, we are required to provide additional disclosures during 2018 of the amount by which each financial statement line item is affected in the current reporting period, as compared with the guidance that was in effect before the change, and an explanation of the reasons for significant changes, if any.

The effects of ASC 606 and Subtopic ASC 340-40 on our Consolidated Balance Sheet as of September 30, 2018 were total deferred revenue would have been higher by approximately $23 million, of which, approximately $11 million would have been classified as short term. The difference in deferred revenue reflects the timing of revenue recognition related to certain of our customer contracts. The net impact of all adjustments would have resulted in an increase to our accumulated deficit of approximately
$18 million. The difference in accumulated deficit reflects the cumulative effect of adoption and the net effect thereof on the Consolidated Statement of Operations for the three and nine months ended September 30, 2018. The impact of the adoption was not material to the other line items.

The effect of ASC 606 and Subtopic ASC 340-40 was not material to the Consolidated Statements of Operations for the three and nine months ended September 30, 2018.

Note 17: Business Combinations

Silver Spring Networks, Inc.
On January 5, 2018, we completed the acquisition of SSNI by purchasing 100% of SSNI's outstanding stock. The acquisition was financed through incremental borrowings and cash on hand. Refer to Note 6 for further discussion of our debt.

SSNI provided smart network and data platform solutions for electricity, gas, water and smart cities including advanced metering, distribution automation, demand-side management, and street lights. Solutions include one or several of the following: communications modules, access points, relays and bridges; network operating software, grid management, security and grid analytics managed services and SaaS; installation; implementation; and professional services including consulting and analysis. Itron is managing the SSNI business as our Networks operating segment.

The purchase price of SSNI was $809.2 million, which is net of $97.8 million of acquired cash and cash equivalents. Of the total consideration $802.5 million was paid in cash. The remaining $6.7 million relates to the fair value of pre-acquisition service for replacement awards of unvested SSNI options and restricted stock unit awards with an Itron equivalent award. We made a preliminary allocation of the purchase price to the assets acquired and liabilities assumed based on estimated fair value assessments during the first quarter. We are continuing to collect information to determine the fair values of certain intangible assets, working capital, and deferred income taxes, all of which could affect goodwill. The fair values of these assets and liabilities are provisional until we are able to complete our assessment.

The following reflects our preliminary allocation of purchase price as of January 5, 2018:

	Fair Value		Weighted Average Useful Life
	(in thousands)		(in years)
Current Assets	$	86,444	
Property, plant, and equipment		27,670	
Other long-term assets [1]		(290)	
Identifiable intangible assets			
Core-developed technology		81,900	5
Customer contract and relationships		134,000	10
Trademark and trade names		10,800	3
Total identified intangible assets subject to amortization		226,700	8
In-process research and development (IPR&D)		14,400	
Total identified intangible assets		241,100	
Goodwill		570,790	
Current liabilities		(90,034)	
Customer contract and relationships		(23,900)	5
Long-term liabilities		(2,565)	
Total net assets acquired	$	809,215	

(1) Reflects adjustments to deferred tax assets and liabilities, net as a result of the acquisition, and is classified as part of our overall consolidated deferred tax asset. This unfavorable deferred tax asset more than offsets the fair value of other noncurrent assets acquired.

The fair values for the identified trademarks and core-developed technology intangible assets were estimated using the relief from royalty method, which values the assets by estimating the savings achieved by ownership of trademark or technology when compared with the cost of licensing it from an independent owner.

The fair value of customer contracts and relationship were estimated using the income approach. Under the income approach, the fair value reflects the present value of the projected cash flows that are expected to be generated. The fair value of IPR&D was valued utilizing the replacement cost method, which measures the value of an asset based on the cost to replace the existing asset. IPR&D will be amortized using the straight-line method after the technology is fully developed and is considered a product offering of SSNI. Incremental costs to be incurred for these projects will be recognized as research and development expense as incurred within the Consolidated Statements of Operations.

Core-developed technology represents the fair values of SSNI products that have reached technological feasibility and were part of SSNI's product offerings at the date of the acquisition. Customer contracts and relationships represent the fair value of the relationships developed with its customers, including the backlog. The core-developed technology, trademarks, and customer contracts and relationships intangible assets valued using the income approach will be amortized using the estimated discounted cash flows assumed in the valuation models.

Goodwill of $570.8 million arising from the acquisition consists largely of the synergies expected from combining the operations of Itron and SSNI, as well as certain intangible assets that do not qualify for separate recognition. All of the goodwill balance was assigned to the Networks reporting unit and operating segment. We will not be able to deduct any of the goodwill balance for income tax purposes.

As a part of the business combination, we have incurred $15.6 million of acquisition related expenses for the nine months ended September 30, 2018, which includes such activities as success fees, certain consulting and advisory costs, and incremental legal and accounting costs. In addition, for the three and nine months ended September 30, 2018, we recognized $9.4 million and $68.3 million respectively, of integration costs, which are expenses related to integrating SSNI into Itron, and includes expenses such as accounting and process integration and the related consulting fees, severance, site closure costs, system integration, and travel associated with knowledge transfers as we consolidate redundant positions. All acquisition and integration related expenses are included within general and administrative expenses in the Consolidated Statement of Operations.

The following table presents the revenues and net loss from SSNI operations that are included in our Consolidated Statements of Operations:

	Three Months Ended September 30, 2018	January 5, 2018 - September 30, 2018
	(in thousands)	
Revenues	$ 89,789	$ 249,315
Net loss	(10,738)	(54,411)

The following supplemental pro forma results are based on the individual historical results of Itron and SSNI, with adjustments to give effect to the combined operations as if the acquisition had been consummated on January 1, 2017.

	Three Months Ended September 30,		Nine Months Ended September 30,	
	2018	2017	2018	2017
	(in thousands)			
Revenues	$ 595,962	$ 534,315	$ 1,789,073	$ 1,826,824
Net income (loss)	19,882	5,462	(108,427)	(1,532)

The significant nonrecurring adjustments reflected in the proforma schedule above are considered material and include the following:

- Elimination of transaction costs incurred by SSNI and Itron prior to the acquisition completion
- Reclassification of certain expenses incurred after the acquisition to the appropriate periods assuming the acquisition closed on January 1, 2017

The supplemental pro forma results are intended for information purposes only and do not purport to represent what the combined companies' results of operations would actually have been had the transaction in fact occurred at an earlier date or project the results for any future date or period.

Item 2: Management's Discussion and Analysis of Financial Condition and Results of Operations

The following discussion and analysis should be read in conjunction with the unaudited condensed consolidated financial statements and notes included in this report and with our Annual Report on Form 10-K for the year ended December 31, 2017, filed with the Securities and Exchange Commission (SEC) on February 28, 2018.

Documents we provide to the 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*), at the SEC's Headquarters at 100 F Street, NE, Washington, DC 20549, or by calling 1-800-SEC-0330.

Certain Forward-Looking Statements

This document contains forward-looking statements concerning our operations, financial performance, revenues, earnings growth, liquidity, restructuring, and other items. This document reflects our current plans and expectations and is based on information currently available as of the date of this Quarterly Report on Form 10-Q. 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. Although we believe that these assumptions and estimates are reasonable, any of these assumptions and estimates could prove to be inaccurate and the forward looking statements based on them could be incorrect and cause our actual results to vary materially from expected results. For a more complete description of these and other risks, refer to Item 1A: "Risk Factors" included in our Annual Report on Form 10-K for the fiscal year ended December 31, 2017, which was filed with the SEC on February 28, 2018 and our other reports on file with the SEC. We do not undertake any obligation to update or revise any forward-looking statement in this document.

Overview

We are a technology company, offering end-to-end solutions to enhance productivity and efficiency, primarily focused on utilities and municipalities around the 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.

Through September 30, 2018, we operated under the Itron brand worldwide and managed and reported under four operating segments: Electricity, Gas, Water, and Networks. Our Water operating segment included our global water, and heat and allocation solutions. Networks became a new operating segment with the acquisition of Silver Springs Networks, Inc. (SSNI) in January 2018. Our sales and marketing function was managed under each operating segment. Our research and development, service delivery, and manufacturing operations were managed on a worldwide basis to promote a global perspective in our operations and processes and yet still maintains alignment with the operating segments.

As reported in this quarterly report under the Electricity, Gas, Water, and Networks operating segments, we had three measures of segment performance: revenues, gross profit (margin), and operating income (margin). Intersegment revenues were minimal. Certain operating expenses were 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 were neither allocated to the segments nor included in the measures of segment performance.

Effective October 1, 2018, we reorganized our operational reporting segmentation from Electricity, Gas, Water, and Networks to Device Solutions, Networked Solutions, and Outcomes. As part of our reorganization, we are actively integrating recent acquisitions, driving supply chain transformation projects, making investment decisions, and implementing an organizational structure that aligns with these new segments. In conjunction with the rollout of our new operating segments, we have unified our go-to-market strategy with a single, global, sales force that will sell the full portfolio of Itron solutions, products and services. We will continue to manage our product development, service delivery, and manufacturing operations on a worldwide basis to promote global, integrated oversight of our operations and to ensure consistency and interoperability between our operating segments.

With this reorganization, we will continue to operate under the Itron brand worldwide and will manage and report under the three operating segments: Device Solutions, Networked Solutions, and Outcomes. The product and operating definitions of the three segments are as follows:

Device Solutions: primarily includes hardware products used for measurement, control, or sensing that do not have communications capability embedded for use with our broader Itron systems, i.e., products where Itron is not offering the complete “end-to-end” solution, but only the hardware elements. Examples of the Device Solutions portfolio include basic meters that are shipped without

Itron communications, such as our standard gas meters, electricity IEC meters, and water meters, in addition to our heat and allocation products; communicating meters that are not a part of an Itron solution such as the Linky meter; and the implementation and installation of non-communicating devices, such as gas regulators.

Networked Solutions: primarily includes a combination of communicating devices (smart meters, modules, endpoints and sensors), network infrastructure, and associated application software designed and sold as a complete solution for acquiring and transporting robust application-specific data. Networked Solutions will combine, into one operating segment, the majority of the assets from the recently acquired Silver Spring Networks organization with our legacy Itron networking products and software, and the implementation and installation of communicating devices into one segment. This will include: communicating measurement, control, or sensing endpoints such as our Itron® and OpenWay® Riva meters, Itron traditional ERT® technology, Intelis Smart gas or water meters, 500G gas communication modules, 500W water communication modules; GenX networking products, network modules and interface cards, and specific network control and management software applications. The industrial Internet of Things (IIoT) solutions supported by this segment include automated meter reading (AMR), advanced metering infrastructure (AMI), smart grid and distribution automation (DA), and smart street lighting and smart city solutions.

Outcomes: represents our value-added, enhanced software and services operating segment in which we manage, organize, analyze, and interpret data to improve decision making, maximize operational profitability, drive resource efficiency, and deliver results for consumers, utilities and smart cities. Outcomes places an emphasis on delivering Itron customers high-value, turn-key, digital experiences by leveraging the footprint of our Device Solutions and Networked Solutions segments. The revenues from these offerings are primarily recurring in nature and would include any direct management of Device Solutions, Networked Solutions, and other products on behalf of our end customers. Examples of these offerings include our meter data management and analytics offerings, our managed service solutions including network-as-a-service and platform-as-a-service, forecasting software and services, and any consulting-based engagement. Within the Outcomes segment we also identify new business models, including performance-based contracting, to drive broader portfolio offerings across utilities and cities.

We will begin reporting under the new segment structure in our 2018 annual report on Form 10-K.

Non-GAAP Measures

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 50-53 for information about these non-GAAP measures and the detailed reconciliation of items that impacted free cash flow, non-GAAP operating expense, non-GAAP operating income, non-GAAP net income, adjusted EBITDA, and non-GAAP diluted EPS in the presented periods.

Total Company Highlights and Unit Shipments

Highlights and significant developments for the three months ended September 30, 2018

- Revenues were $596.0 million compared with $486.7 million in the same period last year, an increase of $109.2 million, or 22%.
- Gross margin was 33.1% compared with 34.1% in the same period last year.
- Operating expenses increased $27.9 million, or 22%, compared with the same period last year.
- Net income attributable to Itron, Inc. was $19.9 million, compared with $25.6 million in the same period last year.
- GAAP diluted EPS decreased by $0.15 to $0.50 as compared with the same period last year.
- Non-GAAP net income attributable to Itron, Inc., was $45.0 million compared with $30.6 million in the same period last year.
- Non-GAAP diluted EPS was $1.13, an increase of $0.36 compared with the same period last year.
- Adjusted EBITDA increased $22.5 million, or 39%, compared with the same period last year.

Highlights and significant developments for the nine months ended September 30, 2018

- Revenues were $1.8 billion compared with $1.5 billion in the same period last year, an increase of $321.7 million, or 22%.
- Gross margin was 30.9% compared with 34.2% in the same period last year.
- Operating expenses were $236.8 million higher compared with the same period last year.
- Net loss attributable to Itron, Inc. was $123.1 million compared with net income of $55.5 million for the same period in 2017.
- Adjusted EBITDA increased $13.2 million, or 8% compared with the same period in 2017.
- GAAP diluted loss per share was $3.14, compared with diluted EPS of $1.41 in 2017.
- Non-GAAP diluted EPS was $1.77, compared with $2.05 in the same period last year.
- Total backlog was $3.1 billion and twelve-month backlog was $1.4 billion at September 30, 2018.

Silver Spring Networks, Inc. Acquisition

On January 5, 2018, we completed our acquisition of SSNI by purchasing all outstanding shares for $16.25 per share, resulting in a total purchase price, net of cash, of $809.2 million. SSNI provided standards-based wireless connectivity platforms and solutions to utilities and cities. The acquisition continues our focus on expanding management services and software-as-a-service solutions, which allows us to provide more value to our customers by optimizing devices, network technologies, outcomes and analytics. Upon acquisition, SSNI changed its name to Itron Networked Solutions, Inc., and will operate separately as our Networks operating segment.

In order to facilitate the funding of the acquisition of SSNI, we entered into a $1.2 billion senior secured credit facility (the 2018 credit facility), which amended and restated our existing senior secured credit facility. The 2018 credit facility consists of a $650 million U.S. dollar term loan and a multicurrency revolving line of credit with a principal amount of up to $500 million. We also issued $300 million of 5% senior notes on December 22, 2017 to fund this acquisition. On January 19, 2018, we issued an additional $100 million of 5% senior notes. For additional information regarding our 2018 credit facility and senior notes, refer to Item 1: "Financial Statements (Unaudited), Note 6: Debt."

We are also implementing an integration plan associated with this acquisition. For the three and nine months ended September 30, 2018 we recognized $9.4 million and $83.9 million of acquisition and integration related expenses. We anticipate annualized savings of $50 million at the conclusion of the integration plan, which we expect to substantially complete by the end of 2020. For further discussion of the acquisition, refer to Item 1: "Financial Statements (Unaudited), Note 17: Business Combinations."

2018 Restructuring Projects

On February 22, 2018, our Board of Directors approved a restructuring plan (2018 Projects) to continue our efforts to optimize our global supply chain and manufacturing operations, research and development, and sales and marketing organizations. We expect to substantially complete the plan by the end of 2020. We recognized restructuring expense of $83.1 million related to the 2018 Projects during the nine months ended September 30, 2018, and we anticipate an additional $18.1 million to be recognized in future periods. At the conclusion of the 2018 Projects, we anticipate annualized savings of $45 million to $50 million. For further discussion of restructuring activities, refer to Item 1: "Financial Statements (Unaudited), Note 12: Restructuring."

The following table summarizes the changes in GAAP and Non-GAAP financial measures:

	Three Months Ended September 30,					Nine Months Ended September 30,				
	2018		2017		% Change	2018		2017		% Change
	(in thousands, except margin and per share data)									
GAAP										
Revenues										
Product revenues	$	525,716	$	433,984	21%	$	1,578,740	$	1,321,062	20%
Service revenues		70,246		52,763	33%		210,333		146,359	44%
Total revenues		595,962		486,747	22%		1,789,073		1,467,421	22%
Gross profit		197,097		165,755	19%		553,529		501,669	10%
Operating expenses		155,421		127,529	22%		631,738		394,988	60%
Operating income (loss)		41,676		38,226	9%		(78,209)		106,681	N/A
Other income (expense)		(16,174)		(4,732)	242%		(45,193)		(16,559)	173%
Income tax benefit (provision)		(5,715)		(6,640)	(14)%		1,692		(32,247)	N/A
Net income (loss) attributable to Itron, Inc.		19,882		25,576	(22)%		(123,127)		55,518	N/A
Non-GAAP(1)										
Non-GAAP operating expenses	$	126,716	$	115,339	10%	$	411,257	$	358,383	15%
Non-GAAP operating income		70,381		50,416	40%		142,272		143,286	(1)%
Non-GAAP net income attributable to Itron, Inc.		45,046		30,585	47%		70,596		80,695	(13)%
Adjusted EBITDA		80,531		58,050	39%		176,986		163,834	8%
GAAP Margins and Earnings Per Share										
Gross margin										
Product gross margin		32.1%		34.4%			29.9 %		34.5%	
Service gross margin		40.7%		31.3%			38.7 %		31.4%	
Total gross margin		33.1%		34.1%			30.9 %		34.2%	
Operating margin		7.0%		7.9%			(4.4)%		7.3%	
Basic EPS	$	0.51	$	0.66		$	(3.14)	$	1.44	
Diluted EPS		0.50		0.65			(3.14)		1.41	
Non-GAAP Earnings Per Share(1)										
Non-GAAP diluted EPS	$	1.13	$	0.77		$	1.77	$	2.05	

(1) These measures exclude certain expenses that we do not believe are indicative of our core operating results. See pages 50-53 for information about these non-GAAP measures and reconciliations to the most comparable GAAP measures.

Meter and 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 and network interface cards can be sold separately from the meter. Any communicating meters, modules, or cards are also referred to as endpoints.

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

	Three Months Ended September 30,		Nine Months Ended September 30,	
	2018	2017	2018	2017
	(units in thousands)			
Meters [(1)]				
Standard	4,050	3,640	12,220	12,000
Smart	2,460	2,590	8,390	7,600
Total meters	6,510	6,230	20,610	19,600
Stand-alone communication modules and network interface cards [(2)]				
Smart	2,970	1,480	7,980	4,410

(1) The Networks operating segment shipped an immaterial number of meters during the three and nine months ended September 30, 2018.
(2) The Networks operating segment shipped approximately 1,090,000 and 3,140,000 network interface cards, respectively, during the three and nine months ended September 30, 2018.

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:

	Three Months Ended September 30,		Effect of Changes in Foreign Currency Exchange Rates	Constant Currency Change[(1)]	Total Change
	2018	2017			
	(in thousands)				
Total Company					
Revenues	$ 595,962	$ 486,747	$ (8,732)	$ 117,947	$ 109,215
Gross profit	197,097	165,755	(2,721)	34,063	31,342

	Nine Months Ended September 30,		Effect of Changes in Foreign Currency Exchange Rates	Constant Currency Change[(1)]	Total Change
	2018	2017			
	(in thousands)				
Total Company					
Revenues	$ 1,789,073	$ 1,467,421	$ 28,568	$ 293,084	$ 321,652
Gross profit	553,529	501,669	8,082	43,778	51,860

(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 $109.2 million, or 22%, for the three months ended September 30, 2018, compared with the same period in 2017. This growth for the three months ended September 30, 2018 was primarily due to our new Networks operating segment, which contributed $89.8 million of revenues for the three months ended September 30, 2018, while changes in exchange rates unfavorably impacted total revenues by $8.7 million during that period. Product revenues increased $91.7 million, or 21%, including $72.4 million from the Networks operating segment. Service revenues during the third quarter of 2018 increased $17.5 million, or 33%, due to $17.4 million contributed from the Networks operating segment.

Revenues increased $321.7 million, or 22%, for the nine months ended September 30, 2018, compared with the same period in 2017. During this period, our Networks operating segment contributed $249.3 million to the growth while changes in exchange rates favorably impacted total revenues by $28.6 million. For the nine months ended September 30, 2018, product revenues increased $257.7 million as compared with the same period in 2017. The Networks operating segment contributed $195.5 million of product revenues growth, while Gas and Water operating segments showed improvement for the nine months ended

September 30, 2018. Service revenues increased $64.0 million during the nine months ended September 30, 2018 as compared with 2017 due to our recent acquisitions of our Networks operating segment and Distributed Energy Management (DEM) business, which contributed $53.8 million and $13.7 million in service revenues growth, respectively.

For all periods presented, no customer represents more than 10% of total company revenues.

Gross Margin

Gross margin for the third quarter of 2018 was 33.1%, compared with 34.1% for the same period in 2017. Our gross margin associated with product sales decreased to 32.1% for the three months ended September 30, 2018 compared with 34.4% for the same period in 2017. Commodity and component price increases and increased costs in our manufacturing operations all resulted in compressed margins in 2018. These impacts were partially offset by reduced variable compensation expense. Gross margin associated with our service revenues increased to 40.7% for the three months ended September 30, 2018 as compared with 31.3% for the same period in 2017. The increase in gross margins resulted primarily from the inclusion of our Networks operating segment.

Gross margin for the nine months ended September 30, 2018 was 30.9%, compared with 34.2% for the same period in 2017. Our gross margin associated with product sales decreased to 29.9% for the nine months ended September 30, 2018 compared with 34.5% for the same period in 2017. This decline was the result of the continued transition of our supply chain and temporary manufacturing inefficiencies, as well as a reduction related to the insurance recovery in 2017 related to a warranty matter. Gross margin associated with our service revenues improved to 38.7% for the nine months ended September 30, 2018 as compared with 31.4% for the same period in 2017. The improvement in gross margin associated with service revenues is due primarily to the inclusion of our Networks operating segment.

Operating Expenses

The actual results and effects of changes in foreign currency exchange rates in operating expenses were as follows:

	Three Months Ended September 30,		Effect of Changes in Foreign Currency Exchange Rates	Constant Currency Change[(1)]	Total Change
	2018	2017			
			(in thousands)		
Total Company					
Sales and marketing	$ 47,204	$ 40,529	$ (771)	$ 7,446	$ 6,675
Research and development	47,239	42,455	110	4,674	4,784
General and administrative	42,352	39,598	(599)	3,353	2,754
Amortization of intangible assets	17,960	5,625	(86)	12,421	12,335
Restructuring	666	(678)	2	1,342	1,344
Total Operating expenses	$ 155,421	$ 127,529	$ (1,344)	$ 29,236	$ 27,892

	Nine Months Ended September 30,		Effect of Changes in Foreign Currency Exchange Rates	Constant Currency Change[(1)]	Total Change
	2018	2017			
			(in thousands)		
Total Company					
Sales and marketing	$ 144,573	$ 126,298	$ 3,453	$ 14,822	$ 18,275
Research and development	162,298	126,246	2,845	33,207	36,052
General and administrative	188,260	119,883	2,425	65,952	68,377
Amortization of intangible assets	53,699	15,144	664	37,891	38,555
Restructuring	82,908	7,417	269	75,222	75,491
Total Operating expenses	$ 631,738	$ 394,988	$ 9,656	$ 227,094	$ 236,750

(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 $27.9 million for the three months ended September 30, 2018 as compared with the same period in 2017. This was primarily due to our acquisition of SSNI and the related amortization of intangible assets, research and development expenses, and acquisitions and integration related expenses. These increases were partially offset by reduced variable compensation in 2018.

Operating expenses increased $236.8 million for the nine months ended September 30, 2018 as compared with the same period in 2017. The was primarily due to increased restructuring expense following the announcement of the 2018 Projects in the first quarter of 2018, increased acquisition and integration related expenses included within general and administrative expenses, and increased amortization of intangible asset and research and development expenses. These increases were partially offset by reduced variable compensation expense in 2018. Operating expenses were unfavorably impacted by $9.7 million due to the effect of changes in foreign currency exchange rates.

Other Income (Expense)

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

	Three Months Ended September 30,			Nine Months Ended September 30,		
	2018	2017	% Change	2018	2017	% Change
	(in thousands)			(in thousands)		
Interest income	$ 431	$ 729	(41)%	$ 1,725	$ 1,468	18%
Interest expense	(12,948)	(3,199)	305%	(38,495)	(9,276)	315%
Amortization of prepaid debt fees	(1,223)	(267)	358%	(5,825)	(800)	628%
Other income (expense), net	(2,434)	(1,995)	22%	(2,598)	(7,951)	(67)%
Total other income (expense)	$ (16,174)	$ (4,732)	242%	$ (45,193)	$ (16,559)	173%

Total other income (expense) for the three and nine months ended September 30, 2018 was a net expense of $16.2 million and $45.2 million, respectively, compared with $4.7 million and $16.6 million in the same periods in 2017. The increases were related to the increase in interest expense and amortization of prepaid debt fees as a result of the funding from the 2018 credit facility and senior secured notes. During the nine month periods, we had reduced losses, classified within other income (expense), resulting from foreign currency exchange fluctuations from transactions denominated in a currency other than our various subsidiary entities' functional currencies.

Income Tax Provision

For the three and nine months ended September 30, 2018, our income tax expense (benefit) was $5.7 million and $(1.7) million compared with income tax expense of $6.6 million and $32.2 million for the same period in 2017. Our tax rate for the three and nine months ended September 30, 2018 of 22% and 1% differed from the federal statutory rate of 21% due to the forecasted mix of earnings in domestic and international jurisdictions, a benefit related to excess stock-based compensation, uncertain tax positions, and losses experienced in jurisdictions with valuation allowances on deferred tax assets. Our tax rate for the three and nine months ended September 30, 2017 of 20% and 36% differed from the federal statutory rate of 35% due to the forecasted mix of earnings in domestic and international jurisdictions, a benefit related to excess stock based compensation, and losses experienced in jurisdictions with valuation allowances on deferred tax assets.

The tax provision for December 31, 2017 included the provisional determination of the impact to our deferred tax positions of the Tax Cuts and Jobs Act. We will continue to review any additional guidance issued by the U.S. Department of the Treasury, Internal Revenue Service, Financial Accounting Standards Board, or other regulatory bodies and adjust our provisional amount during the measurement period, which should not extend beyond one year from the enactment date of December 22, 2017. For the three and nine months ended September 30, 2018, no changes to these provisional amounts have been recognized.

Operating Segment Results

For a description of our operating segments, refer to Item 1: "Financial Statements (Unaudited) Note 15: Segment Information."

	Three Months Ended September 30,			Nine Months Ended September 30,		
	2018	2017	% Change	2018	2017	% Change
Segment Revenues	(in thousands)			(in thousands)		
Electricity	$ 236,842	$ 240,142	(1)%	$ 739,825	$ 729,225	1%
Gas	156,747	131,780	19%	431,518	394,691	9%
Water	112,584	114,825	(2)%	368,415	343,505	7%
Networks	89,789	—	N/A	249,315	—	N/A
Total revenues	$ 595,962	$ 486,747	22%	$ 1,789,073	$ 1,467,421	22%

	Three Months Ended September 30,				Nine Months Ended September 30,			
	2018		2017		2018		2017	
	Gross Profit	*Gross Margin*	*Gross Profit*	*Gross Margin*	*Gross Profit*	*Gross Margin*	*Gross Profit*	*Gross Margin*
Segment Gross Profit and Margin	(in thousands)		(in thousands)		(in thousands)		(in thousands)	
Electricity	$ 74,549	31.5%	$ 76,492	31.9%	$ 221,511	29.9%	$ 222,387	30.5%
Gas	55,812	35.6%	46,529	35.3%	139,826	32.4%	147,880	37.5%
Water	35,139	31.2%	42,734	37.2%	110,779	30.1%	131,402	38.3%
Networks	31,597	35.2%	—	N/A	81,413	32.7%	—	N/A
Total gross profit and margin	$ 197,097	33.1%	$ 165,755	34.1%	$ 553,529	30.9%	$ 501,669	34.2%

	Three Months Ended September 30,			Nine Months Ended September 30,		
	2018	2017	% Change	2018	2017	% Change
Segment Operating Expenses	(in thousands)			(in thousands)		
Electricity	$ 48,696	$ 59,175	(18)%	$ 169,429	$ 170,147	—%
Gas	24,533	26,060	(6)%	121,650	88,703	37%
Water	28,280	27,702	2%	106,806	90,700	18%
Networks	47,221	—	N/A	200,766	—	N/A
Corporate unallocated	6,691	14,592	(54)%	33,087	45,438	(27)%
Total operating expenses	$ 155,421	$ 127,529	22%	$ 631,738	$ 394,988	60%

	Three Months Ended September 30,				Nine Months Ended September 30,			
	2018		2017		2018		2017	
	Operating Income (Loss)	*Operating Margin*	*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)		(in thousands)	
Electricity	$ 25,853	10.9%	$ 17,317	7.2%	$ 52,082	7.0%	$ 52,240	7.2%
Gas	31,279	20.0%	20,469	15.5%	18,176	4.2%	59,177	15.0%
Water	6,859	6.1%	15,032	13.1%	3,973	1.1%	40,702	11.8%
Networks	(15,624)	(17.4)%	—	N/A	(119,353)	(47.9)%	—	N/A
Corporate unallocated	(6,691)	(1.1)%	(14,592)	(3.0)%	(33,087)	(1.8)%	(45,438)	(3.1)%
Total Company	$ 41,676	7.0%	$ 38,226	7.9%	$ (78,209)	(4.4)%	$ 106,681	7.3%

Electricity

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

	Three Months Ended September 30, 2018	Three Months Ended September 30, 2017	Effect of Changes in Foreign Currency Exchange Rates	Constant Currency Change(1)	Total Change
			(in thousands)		
Electricity Segment					
Revenues	$ 236,842	$ 240,142	$ (2,664)	$ (636)	$ (3,300)
Gross profit	74,549	76,492	(863)	(1,080)	(1,943)
Operating expenses	48,696	59,175	(339)	(10,140)	(10,479)

	Nine Months Ended September 30, 2018	Nine Months Ended September 30, 2017	Effect of Changes in Foreign Currency Exchange Rates	Constant Currency Change(1)	Total Change
			(in thousands)		
Electricity Segment					
Revenues	$ 739,825	$ 729,225	$ 10,314	$ 286	$ 10,600
Gross profit	221,511	222,387	2,704	(3,580)	(876)
Operating expenses	169,429	170,147	2,478	(3,196)	(718)

(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 - Three months ended September 30, 2018 vs. Three months ended September 30, 2017
Revenues decreased $3.3 million, or 1% for the three months ended September 30, 2018 compared with the same period in 2017. We had strong product revenue growth in our Europe, Middle East, and Africa (EMEA) region. These increases were offset by a decline in North America product revenues. Changes in foreign currency exchange rates unfavorably impacted revenues by $2.7 million.

Revenues - Nine months ended September 30, 2018 vs. Nine months ended September 30, 2017
Revenues increased $10.6 million, or 1%, primarily due to strong growth in EMEA product revenues in 2018. Our DEM business revenues increased $20.7 million, along with $10.3 million of favorable foreign currency exchange rate impacts, in 2018 as compared with 2017. These were partially offset by reduced product revenues in North America in 2018.

Gross Margin - Three months ended September 30, 2018 vs. Three months ended September 30, 2017
Gross margin was 31.5% for the three months ended September 30, 2018, compared with 31.9% for the same period in 2017. The 40 basis point decrease over the prior year was primarily the result of reduced margins in North America due to unfavorable product mix and increased component costs, offset by reduced variable compensation expense.

Gross Margin - Nine months ended September 30, 2018 vs. Nine months ended September 30, 2017
For the nine months ended September 30, 2018, gross margin was 29.9%, compared with 30.5% for the same period in 2017. The 60 basis point reduction over the prior year was primarily the result of increased component costs and unfavorable product mix. These unfavorable impacts were partially offset by reduced variable compensation expense.

Operating Expenses - Three months ended September 30, 2018 vs. Three months ended September 30, 2017
Operating expenses decreased $10.5 million, or 18%, for the three months ended September 30, 2018, compared with the same period in 2017. The decrease was primarily a result of lower acquisition and integration expenses associated with the Comverge Inc. acquisition in 2017 and a decrease in general and administrative expense.

Operating Expenses - Nine months ended September 30, 2018 vs. Nine months ended September 30, 2017
Operating expenses decreased $0.7 million, for the nine months ended September 30, 2018, compared with the same period in 2017. The decrease resulted primarily from lower acquisition and integration related expenses and general and administrative expenses, partially offset by higher restructuring expenses following the announcement of the 2018 Projects.

Gas

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

	Three Months Ended September 30,		Effect of Changes in Foreign Currency Exchange Rates	Constant Currency Change[1]	Total Change
	2018	2017			
			(in thousands)		
Gas Segment					
Revenues	$ 156,747	$ 131,780	$ (2,540)	$ 27,507	$ 24,967
Gross profit	55,812	46,529	(641)	9,924	9,283
Operating expenses	24,533	26,060	(213)	(1,314)	(1,527)

	Nine Months Ended September 30,		Effect of Changes in Foreign Currency Exchange Rates	Constant Currency Change[1]	Total Change
	2018	2017			
			(in thousands)		
Gas Segment					
Revenues	$ 431,518	$ 394,691	$ 6,071	$ 30,756	$ 36,827
Gross profit	139,826	147,880	533	(8,587)	(8,054)
Operating expenses	121,650	88,703	1,946	31,001	32,947

(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 - Three months ended September 30, 2018 vs. Three months ended September 30, 2017
Revenues increased $25.0 million, or 19%, for the three months ended September 30, 2018 compared with the same period in 2017. This was primarily related to increased product sales in North America and EMEA offset by $2.5 million of unfavorable changes in foreign currency exchange rates.

Revenues - Nine months ended September 30, 2018 vs. Nine months ended September 30, 2017
Revenues increased $36.8 million, or 9%, compared with the same period in 2017. This increase was due to strong product sales in EMEA and North America. Changes in foreign currency exchange rates favorably impacted revenues by $6.1 million.

Gross Margin - Three months ended September 30, 2018 vs. Three months ended September 30, 2017
Gross margin was 35.6% for the three months ended September 30, 2018, compared with 35.3% for the same period in 2017. The 30 basis point increase was related to higher product revenues offset by supply chain transition inefficiencies and increased component costs.

Gross Margin - Nine months ended September 30, 2018 vs. Nine months ended September 30, 2017
Gross margin was 32.4%, compared with 37.5% for the same period last year. The 510 basis point decrease was related to unfavorable product mix, supply chain transitions combined with higher component costs and increased warranty expense.

Operating Expenses - Three months ended September 30, 2018 vs. Three months ended September 30, 2017
Operating expenses decreased $1.5 million, or 6%, for the three months ended September 30, 2018, compared with the same period in 2017, primarily related to lower research and development costs.

Operating Expenses - Nine months ended September 30, 2018 vs. Nine months ended September 30, 2017
Operating expenses increased $32.9 million, or 37%, for the nine months ended September 30, 2018, compared with the same period in 2017. The increase is due to higher restructuring expenses following the announcement of the 2018 Projects partially offset by lower research and development costs and general and administrative expenses.

Water

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

	Three Months Ended September 30, 2018	Three Months Ended September 30, 2017	Effect of Changes in Foreign Currency Exchange Rates	Constant Currency Change[1]	Total Change
			(in thousands)		
Water Segment					
Revenues	$ 112,584	$ 114,825	$ (3,529)	$ 1,288	$ (2,241)
Gross profit	35,139	42,734	(1,218)	(6,377)	(7,595)
Operating expenses	28,280	27,702	(393)	971	578

	Nine Months Ended September 30, 2018	Nine Months Ended September 30, 2017	Effect of Changes in Foreign Currency Exchange Rates	Constant Currency Change[1]	Total Change
			(in thousands)		
Water Segment					
Revenues	$ 368,415	$ 343,505	$ 12,183	$ 12,727	$ 24,910
Gross profit	110,779	131,402	4,846	(25,469)	(20,623)
Operating expenses	106,806	90,700	3,312	12,794	16,106

[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 - Three months ended September 30, 2018 vs. Three months ended September 30, 2017

Revenues decreased $2.2 million, or 2%, for the three months ended September 30, 2018, compared with the same period in 2017. This was primarily related to decreased product revenues in North America and EMEA. Revenues were unfavorably impacted by $3.5 million due to changes in foreign currency exchange rates.

Revenues - Nine months ended September 30, 2018 vs. Nine months ended September 30, 2017

Revenues increased $24.9 million, or 7%, for the nine months ended September 30, 2018, compared with the same period in 2017. This growth was driven by product revenues in North America, Latin America, and Asia Pacific. Revenues were favorably impacted by $12.2 million due to changes in foreign currency exchange rates.

Gross Margin - Three months ended September 30, 2018 vs. Three months ended September 30, 2017

Gross margin decreased to 31.2%, compared with 37.2% in 2017. The 600 basis point decrease in gross margin was driven primarily by the reversal of warranty provisions in 2017. In addition, higher commodity prices and product mix unfavorably impacted margins in 2018.

Gross Margin - Nine months ended September 30, 2018 vs. Nine months ended September 30, 2017

Gross margin decreased to 30.1% for the nine months ended September 30, 2018, compared with 38.3% for the same period last year, primarily as the result of an insurance recovery related to a warranty matter and the release of specific warranty reserves in 2017. Higher commodity and supply costs and unfavorable product mix also contributed to the reduced gross margin in 2018.

Operating Expenses - Three months ended September 30, 2018 vs. Three months ended September 30, 2017

Operating expenses for the three months ended September 30, 2018 increased $0.6 million, or 2%, compared with 2017. This was primarily related to the release of restructuring expenses in 2017, partially offset by a decrease in sales and marketing expenses in 2018.

Operating Expenses - Nine months ended September 30, 2018 vs. Nine months ended September 30, 2017

Operating expenses for the nine months ended September 30, 2018 increased $16.1 million, or 18%, compared with the same period last year, primarily as the result of increase in restructuring expenses following the announcement of the 2018 Projects early in the year.

Networks

Networks is a new operating segment with the acquisition of SSNI; therefore no data for comparable periods is available. The Networks operating segment financial results were as follows:

	Three Months Ended September 30,		Effect of Changes in Foreign Currency Exchange Rates	Constant Currency Change(1)	Total Change
	2018	2017			
			(in thousands)		
Networks Segment					
Revenues	$ 89,789	$ —	$ —	$ 89,789	$ 89,789
Gross profit	31,597	—	—	31,597	31,597
Operating expenses	47,221	—	—	47,221	47,221

	Nine Months Ended September 30,		Effect of Changes in Foreign Currency Exchange Rates	Constant Currency Change(1)	Total Change
	2018	2017			
			(in thousands)		
Networks Segment					
Revenues	$ 249,315	$ —	$ —	$ 249,315	$ 249,315
Gross profit	81,413	—	—	81,413	81,413
Operating expenses	200,766	—	—	200,766	200,766

Revenues - Three months ended September 30, 2018

The Networks operating segment recognized $89.8 million in revenues for the three months ended September 30, 2018. This revenue was primarily related to product revenues in North America.

Revenues - Nine months ended September 30, 2018

The Networks operating segment recognized $249.3 million in revenues for the nine months ended September 30, 2018. This revenue was primarily related to product revenues in North America.

Gross Margin - Three months ended September 30, 2018

Gross margin for the Networks operating segment was 35.2% for the third quarter of 2018.

Gross Margin - Nine months ended September 30, 2018

Gross margin for the Networks operating segment was 32.7% for the nine months ended September 30, 2018.

Operating Expenses - Three months ended September 30, 2018

Operating expenses for the three months ended September 30, 2018 were $47.2 million. This was primarily comprised of acquisition and integration related expenses of $9.4 million, net amortization of acquired intangible assets and liabilities of $13.3 million, and sales and marketing expenses of $11.1 million.

Operating Expenses - Nine months ended September 30, 2018

Operating expenses for the nine months ended September 30, 2018 were $200.8 million. This included acquisition and integration related expenses of $83.9 million, net amortization of acquired intangible assets and liabilities of $39.4 million, and research and development expenses of $39.6 million.

Corporate unallocated

Corporate Unallocated Expenses - Three months ended September 30, 2018 vs. Three months ended September 30, 2017

Operating expenses not directly associated with an operating segment are classified as "Corporate unallocated." These expenses decreased by $7.9 million, or 54%, for the three months ended September 30, 2018 compared with the same period in 2017. The decrease was primarily due to reduced variable compensation expense and acquisition and integration expenses in 2018.

Corporate Unallocated Expenses - Nine months ended September 30, 2018 vs. Nine months ended September 30, 2017

Corporate unallocated expenses decreased by $12.4 million, or 27%, for the nine months ended September 30, 2018 compared with the same period in 2017. The decrease was primarily due to reduced variable compensation expense and lower litigation expenses in 2018.

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 products and services for 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 as well as frame contracts. 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. Total bookings and backlog include certain contracts with termination for convenience clause, which will not agree to the total transaction price allocated to remaining performance obligations disclosed in Item 1: "Financial Statements (Unaudited), Note 16: Revenues."

Quarter Ended	Quarterly Bookings	Ending Total Backlog [1]	Ending 12-Month Backlog [2]
		(in millions)	
September 30, 2018	$ 593	$ 3,112	$ 1,350
June 30, 2018	579	3,113	1,426
March 31, 2018	557	3,139	1,363
December 31, 2017	810	1,750	931
September 30, 2017	343	1,488	847

[1] Ending total backlog related to the Networks operating segment includes $1.5 billion as of September 30, 2018 and $1.4 billion as of both June 30, 2018 and March 31, 2018.

[2] Ending 12-month backlog includes $406.4 million, $377.7 million and $336.9 million related to the Networks operating segment as of September 30, 2018, June 30, 2018 and March 31, 2018, respectively.

Information on bookings by our operating segments is as follows:

Quarter Ended	Total Bookings	Electricity	Gas	Water	Networks
			(in millions)		
September 30, 2018	$ 593	$ 278	$ 75	$ 99	$ 141
June 30, 2018	579	283	90	145	61
March 31, 2018	557	217	126	134	80
December 31, 2017	810	477	199	134	—
September 30, 2017	343	136	83	124	—

Financial Condition

Cash Flow Information:

	Nine Months Ended September 30, 2018	Nine Months Ended September 30, 2017
	(in thousands)	
Cash provided by operating activities	$ 67,383	$ 114,501
Cash used in investing activities	(845,749)	(132,331)
Cash provided by financing activities	408,356	14,169
Effect of exchange rates on cash and cash equivalents	(6,175)	7,680
(Decrease) increase in cash, cash equivalents, and restricted cash	$ (376,185)	$ 4,019

Cash, cash equivalents, and restricted cash was $111.2 million at September 30, 2018, compared with $487.3 million at

December 31, 2017. The $376.2 million decrease in cash, cash equivalents, and restricted cash for the nine months ended September 30, 2018 was primarily the result of investing activities related to our acquisition of SSNI and a decrease in cash flows provided by operating activities, due to SSNI acquisition and integration costs, partially offset by increased net proceeds from borrowings associated with financing the acquisition of SSNI.

Operating activities
Cash provided by operating activities during the nine months ended September 30, 2018 was $67.4 million compared with $114.5 million during the same period in 2017. The decrease was primarily due to a reduction in net income (loss) adjusted for non-cash items and changes in operating asset and liabilities. Net income (loss) for the nine months ended September 30, 2018 includes $83.9 million of acquisition and integration related expenses, most of which were paid in cash. In addition, cash used for accounts payable increased $34.1 million due to the timing of payments. These were partially offset by $83.1 million of accrued severance recognized for the 2018 Projects, most of which will be paid in future periods.

Investing activities
Cash used by investing activities during the nine months ended September 30, 2018 was $713.4 million higher compared with the same period in 2017. This increased use of cash was primarily related to the larger acquisition of SSNI in 2018 as compared with our acquisition of Comverge Inc. in 2017.

Financing activities
Net cash provided by financing activities during the nine months ended September 30, 2018 was $408.4 million, compared with $14.2 million for the same period in 2017. The increase in cash provided by financing activities was primarily caused by $576.9 million of proceeds from borrowings utilized for the acquisition of SSNI in 2018. This was partially offset by a $157.5 million increased use of cash for debt repayments, and a $24.0 million increased use of cash for debt issuance costs.

Effect of exchange rates on cash and cash equivalents
The effect of exchange rates on the cash balances of currencies held in foreign denominations for the nine months ended September 30, 2018 was a decrease of $6.2 million, compared with an increase of $7.7 million for the same period in 2017. The impact of exchange rates is the result of an increase in the U.S. dollar value compared with most foreign currencies during the nine months ended September 30, 2018, compared with a decrease in value compared with most foreign currencies during the same period in 2017.

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:

	Nine Months Ended September 30,	
	2018	**2017**
	(in thousands)	
Net cash provided by operating activities	$ 67,383	$ 114,501
Acquisitions of property, plant, and equipment	(42,493)	(33,493)
Free cash flow	$ 24,890	$ 81,008

Free cash flow decreased primarily as a result of lower cash provided by operating activities. See the cash flow discussion of operating activities above. In addition, acquisition of property, plant, and equipment increased $9.0 million during the nine months ended September 30, 2018 primarily due to investments related to our strategic sourcing projects and related manufacturing and supplier transitions.

Off-balance sheet arrangements:

We have no off-balance sheet financing agreements or guarantees as defined by Item 303 of Regulation S-K at September 30, 2018 and December 31, 2017 that we believe are reasonably likely to have a current or future effect on our financial condition, results of operations, or cash flows.

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 continues to be a net positive position.

Borrowings

On January 5, 2018, we entered into a credit agreement providing for committed credit facilities in the amount of $1.2 billion U.S. dollars which amended and restated in its entirety our credit agreement dated June 23, 2015 and replaced committed facilities in the amount of $725 million. The 2018 credit facility consists of a $650 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 $300 million standby letter of credit sub-facility and a $50 million swingline sub-facility. Both the term loan and the revolver mature on January 5, 2023, and can be repaid without penalty. Amounts repaid on the term loan may not be reborrowed and amounts borrowed under the revolver during the credit facility term may be repaid and reborrowed until the revolver's maturity, at which time all outstanding loans together with all accrued and unpaid interest must be repaid.

For further description of our borrowing, refer to Item 1: "Financial Statements (Unaudited), Note 6: Debt."

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 1: "Financial Statements (Unaudited), Note 11: Commitments and Contingencies."

Silver Spring Networks, Inc. Acquisition

As part of the acquisition of SSNI, we announced an integration plan to obtain approximately $50 million of annualized savings by the end of 2020. We have recognized $83.9 million of the acquisition and integration related expenses during the nine months ended September 30, 2018, and expect to recognize an additional $15 million to $25 million of expenses in future periods, of which approximately 95% will be cash expenses. The majority of the additional expenses are expected to be recognized over the next 12 months.

For further details regarding our acquisition and integration activities, refer to Item 1: "Financial Statements (Unaudited), Note 17: Business Combinations."

Restructuring

As of September 30, 2018, $90.7 million was accrued for restructuring projects, of which $42.2 million is expected to be paid over the next 12 months. We also expect to recognize approximately $23 million in future restructuring costs, which will result in cash expenditures.

For further details regarding our restructuring activities, refer to Item 1: "Financial Statements (Unaudited), Note 12: Restructuring."

Other Liquidity Considerations

We have tax credits and net operating loss carryforwards in various jurisdictions that are available to reduce cash taxes. However, utilization of tax credits and net operating losses are limited in certain jurisdictions. Based on current projections, we expect to pay, net of refunds, approximately $2 million in state taxes and $14 million in local and foreign taxes during 2018. We do not expect to pay any U.S. federal taxes. For a discussion of our tax provision and unrecognized tax benefits, see Item 1: "Financial Statements (Unaudited), Note 10: Income Taxes."

At September 30, 2018, we are under examination by certain tax authorities for the 2010 to 2016 tax years. The material jurisdictions where we are subject to examination include, among others, the United States, France, Germany, Italy, Brazil, and the United Kingdom. No material changes have occurred to previously disclosed assessments. 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 liquidity.

We have not provided for U.S. deferred taxes related to the cash held in certain foreign subsidiaries because our investment is considered permanent in duration. As of September 30, 2018, there was $39.6 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 required. Tax is one of the 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.

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 September 30, 2018, $6.8 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.

General Liquidity Overview

We expect to grow through a combination of internal new research and 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, our dependence on certain key vendors and components, changes in estimated liabilities for product warranties and/or litigation, future business combinations, capital market fluctuations, international risks, and other factors described under "Risk Factors" within Item 1A of Part I of our Annual Report on Form 10-K for the fiscal year ended December 31, 2017, which was filed with the SEC on February 28, 2018, as well as "Quantitative and Qualitative Disclosures About Market Risk" within Item 3 of Part I included in this Quarterly Report on Form 10-Q.

Contingencies

Refer to Item 1: "Financial Statements (Unaudited), Note 11: Commitments and Contingencies."

Critical Accounting Estimates and Policies

The preparation of our consolidated financial statements in conformity with GAAP requires us to make estimates and assumptions that affect amounts reported in the consolidated financial statements. Changes in these estimates and assumptions are considered reasonably possible and may have a material effect on our consolidated financial statements and thus actual results could differ from the amounts reported and disclosed herein. Our critical accounting policies that require the use of estimates and assumptions were discussed in detail in the 2017 Annual Report on Form 10-K and have not changed materially, with the exception of the adoption of ASC 606, *Revenue from Contracts with Customers*.

Refer to Item 1: "Financial Statements (Unaudited), Note 1: Summary of Significant Accounting Policies" included in this Quarterly Report on Form 10-Q for further disclosures regarding new accounting pronouncements.

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 as well as comparisons to our competitors' operating results. Our executive compensation plans exclude non-cash charges related to amortization of intangibles and certain discrete cash and non-cash charges such as acquisition and integration related expenses, restructuring charges or goodwill impairment charges. We believe that both management and investors benefit from referring to these non-GAAP financial measures in assessing our performance and when planning, forecasting and analyzing future periods. We believe these non-GAAP financial measures are useful to investors because they provide greater transparency with respect to key metrics used by management in its financial and operational decision making and because they are used by our institutional investors and the analyst community to analyze the health of our business.

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, acquisition and integration, and goodwill impairment. We define non-GAAP operating income as operating income excluding the expenses related to the amortization of intangible assets, restructuring, acquisition and integration, and goodwill impairment. Acquisition and integration related expenses include costs which are incurred to affect and integrate business combinations, such as professional fees, certain employee retention and salaries related to integration, severances, contract terminations, travel costs related to knowledge transfer, system conversion costs, and asset impairment charges. 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 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. We compensate for these limitations by providing specific information about the GAAP amounts excluded from non-GAAP operating expense and non-GAAP operating income and evaluating non-GAAP operating expense and non-GAAP operating income together with GAAP operating expense and operating income.

Non-GAAP net income and non-GAAP diluted EPS – We define non-GAAP net income as net income attributable to Itron, Inc. excluding the expenses associated with amortization of intangible assets, restructuring, acquisition and integration, goodwill impairment, amortization of debt placement fees, the transition to the Tax Cuts and Jobs Act, 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 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 and amortization, restructuring, acquisition and integration related expense, goodwill impairment and (c) excluding income tax provision 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 operating segment with the most directly comparable GAAP financial measures.

TOTAL COMPANY RECONCILIATIONS	Three Months Ended September 30,		Nine Months Ended September 30,	
	2018	2017	2018	2017
	(in thousands, except per share data)			
NON-GAAP OPERATING EXPENSES				
GAAP operating expenses	$ 155,421	$ 127,529	$ 631,738	$ 394,988
Amortization of intangible assets	(17,960)	(5,625)	(53,699)	(15,144)
Restructuring	(666)	678	(82,908)	(7,417)
Acquisition and integration related expense	(10,079)	(7,243)	(83,874)	(14,044)
Non-GAAP operating expenses	$ 126,716	$ 115,339	$ 411,257	$ 358,383
NON-GAAP OPERATING INCOME				
GAAP operating income (loss)	$ 41,676	$ 38,226	$ (78,209)	$ 106,681
Amortization of intangible assets	17,960	5,625	53,699	15,144
Restructuring	666	(678)	82,908	7,417
Acquisition and integration related expense	10,079	7,243	83,874	14,044
Non-GAAP operating income	$ 70,381	$ 50,416	$ 142,272	$ 143,286
NON-GAAP NET INCOME & DILUTED EPS				
GAAP net income (loss) attributable to Itron, Inc.	$ 19,882	$ 25,576	$ (123,127)	$ 55,518
Amortization of intangible assets	17,960	5,625	53,699	15,144
Amortization of debt placement fees	1,178	242	5,693	725
Restructuring	666	(678)	82,908	7,417
Acquisition and integration related expense	10,079	7,243	83,874	14,044
Income tax effect of non-GAAP adjustments[1]	(4,719)	(7,423)	(32,451)	(12,153)
Non-GAAP net income attributable to Itron, Inc.	$ 45,046	$ 30,585	$ 70,596	$ 80,695
Non-GAAP diluted EPS	$ 1.13	$ 0.77	$ 1.77	$ 2.05
Weighted average common shares outstanding - Diluted	39,909	39,467	39,825	39,339
ADJUSTED EBITDA				
GAAP net income (loss) attributable to Itron, Inc.	$ 19,882	$ 25,576	$ (123,127)	$ 55,518
Interest income	(431)	(729)	(1,725)	(1,468)
Interest expense	14,171	3,466	44,320	10,076
Income tax provision (benefit)	5,715	6,640	(1,692)	32,247
Depreciation and amortization	30,449	16,532	92,428	46,000
Restructuring	666	(678)	82,908	7,417
Acquisition and integration related expense	10,079	7,243	83,874	14,044
Adjusted EBITDA	$ 80,531	$ 58,050	$ 176,986	$ 163,834
FREE CASH FLOW				
Net cash provided (used) by operating activities	$ 50,504	$ 21,057	$ 67,383	$ 114,501
Acquisitions of property, plant, and equipment	(13,184)	(11,595)	(42,493)	(33,493)
Free Cash Flow	$ 37,320	$ 9,462	$ 24,890	$ 81,008

[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.

SEGMENT RECONCILIATIONS	Three Months Ended September 30,		Nine Months Ended September 30,	
	2018	2017	2018	2017
	(in thousands)			
NON-GAAP OPERATING INCOME - ELECTRICITY				
Electricity - GAAP operating income	$ 25,853	$ 17,317	$ 52,082	$ 52,240
Amortization of intangible assets	2,772	3,260	8,494	8,350
Restructuring	350	1,227	19,805	1,557
Acquisition and integration related expense (recovery)	45	3,586	(876)	9,787
Electricity - Non-GAAP operating income	$ 29,020	$ 25,390	$ 79,505	$ 71,934
NON-GAAP OPERATING INCOME - GAS				
Gas - GAAP operating income	$ 31,279	$ 20,469	$ 18,176	$ 59,177
Amortization of intangible assets	1,078	1,375	3,309	3,961
Restructuring	(669)	(706)	40,792	4,717
Gas - Non-GAAP operating income	$ 31,688	$ 21,138	$ 62,277	$ 67,855
NON-GAAP OPERATING INCOME - WATER				
Water - GAAP operating income	$ 6,859	$ 15,032	$ 3,973	$ 40,702
Amortization of intangible assets	809	990	2,452	2,833
Restructuring	639	(1,567)	15,632	446
Acquisition and integration related expenses	49	—	49	—
Water - Non-GAAP operating income	$ 8,356	$ 14,455	$ 22,106	$ 43,981
NON-GAAP OPERATING INCOME - NETWORKS				
Networks - GAAP operating loss	$ (15,624)	$ —	$ (119,353)	$ —
Amortization of intangible assets	13,301	—	39,444	—
Acquisition and integration related expense	9,381	—	83,940	—
Networks - Non-GAAP operating income	$ 7,058	$ —	$ 4,031	$ —
NON-GAAP OPERATING INCOME - CORPORATE UNALLOCATED				
Corporate unallocated - GAAP operating loss	$ (6,691)	$ (14,592)	$ (33,087)	$ (45,438)
Restructuring	346	368	6,679	697
Acquisition and integration related expense	604	3,657	761	4,257
Corporate unallocated - Non-GAAP operating loss	$ (5,741)	$ (10,567)	$ (25,647)	$ (40,484)

Item 3: 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 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 September 30, 2018, our LIBOR-based debt balance was $652.0 million.

In November 2015, we entered into three interest rate cap contracts with a total notional amount of $100 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.

In April 2018, we entered into a cross-currency swap which converts $56.0 million of floating rate U.S. Dollar denominated debt into fixed rate euro denominated debt. This cross-currency swap matures on April 30, 2021 and mitigates the risk associated with fluctuations in interest and currency rates impacting cash flows related to a U.S. Dollar denominated debt in a euro functional currency entity.

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 September 30, 2018. Weighted average variable rates in the table are based on implied forward rates in the Reuters U.S. dollar yield curve as of September 30, 2018 and our estimated leverage ratio, which determines our additional interest rate margin at September 30, 2018.

	2018	2019	2020	2021	2022	2023	Total	Fair Value
Variable Rate Debt								
Principal: U.S. dollar term loan	$ 4,063	$ 28,438	$ 44,777	$ 60,937	$ 65,000	$ 438,660	$ 641,875	$ 649,686
Weighted average interest rate	4.33%	4.81%	5.09%	5.09%	5.04%	5.03%		
Principal: Multicurrency revolving line of credit	$ —	$ —	$ —	$ —	$ —	$ 10,000	$ 10,000	$ 10,137
Weighted average interest rate	4.33%	4.81%	5.09%	5.09%	5.04%	5.03%		
Interest rate swap								
Weighted average interest rate (pay) Fixed	1.42%	1.42%	1.42%					
Weighted average interest rate (receive) Floating LIBOR	2.33%	2.81%	3.09%					
Net/Spread	0.91%	1.39%	1.67%					
Interest rate cap								
Cap rate	2.00%	2.00%	2.00%					
Weighted average interest rate Floating LIBOR	2.33%	2.81%	3.09%					
Weighted average interest rate (receive)	0.33%	0.81%	1.09%					
Cross currency swap								
Weighted average interest rate (pay) Fixed - EURIBOR	1.38%	1.38%	1.38%	1.38%				
Weighted average interest rate (receive) Floating - LIBOR	2.33%	2.81%	3.09%	3.09%				

Based on a sensitivity analysis as of September 30, 2018, we estimate that, if market interest rates average one percentage point higher in 2018 than in the table above, our financial results in 2018 would not be materially impacted.

We continually monitor and assess our interest rate risk and may institute additional 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 39% and 41% of total revenues for the three and nine months ended September 30, 2018 compared with 50% and 47% for the same respective periods in 2017.

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 September 30, 2018, a total of 52 contracts were offsetting our exposures from the Euro, Pound Sterling, Mexican Peso, Chinese Yuan, Canadian Dollar, Hungarian Forint and various other currencies, with notional amounts ranging from $183,000 to $55.5 million. Based on a sensitivity analysis as of September 30, 2018, we estimate that, if foreign currency exchange rates average ten percentage points higher in 2018 for these financial instruments, our financial results in 2018 would not be materially impacted.

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

Item 4: 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 September 30, 2018, 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.

Changes in internal controls 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 as well as locations acquired through acquisitions. 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.

Except for these changes, there have been no other changes in our internal control over financial reporting during the three months ended September 30, 2018 that materially affected, or are reasonably likely to materially affect, internal control over financial reporting.

PART II: OTHER INFORMATION

Item 1: Legal Proceedings

Refer to Item 1: "Financial Statements (Unaudited), Note 11: Commitments and Contingencies."

Item 1A: Risk Factors

There were no material changes to risk factors during the third quarter of 2018 from those previously disclosed in Item 1A: "Risk Factors" of Part I of our Annual Report on Form 10-K for the fiscal year ended December 31, 2017, which was filed with the Securities and Exchange Commission on February 28, 2018.

Item 2: Unregistered Sales of Equity Securities and Use of Proceeds

(a) Not applicable.

(b) Not applicable.

(c) Issuer Repurchased of Equity Securities

Period	Total Number of Shares Purchased [(1)]	Average Price Paid per Share	Total Number of Shares Purchased as Part of Publicly Announced Plans or Programs	Maximum Dollar Value of Shares that May Yet Be Purchased Under the Plans or Programs
July 1, 2018 through July 31, 2018	—	$ —	—	—
August 1, 2018 through August 31, 2018	13,817	62.82	—	—
September 1, 2018 through September 30, 2018	—	—	—	—
Total	13,817	$ 62.82	—	

(1) Shares repurchased represent shares transferred to us by certain employees who vested in restricted stock units and used shares to pay all, or a portion of, the related taxes.

Item 5: Other Information

(a) No information was required to be disclosed in a report on Form 8-K during the third quarter of 2018 that was not reported.

(b) Not applicable.

Item 6: Exhibits

Exhibit Number	Description of Exhibits
12.1	Computation of Ratio of Earnings to Fixed Charges. (filed with this report)
31.1	Certification Pursuant to Section 302 of the Sarbanes-Oxley Act of 2002.
31.2	Certification Pursuant to Section 302 of the Sarbanes-Oxley Act of 2002.
32.1	Certification Pursuant to Section 906 of the Sarbanes-Oxley Act of 2002.
101.INS	XBRL Instance Document. The instance document does not appear in the Interactive Data File because its XBRL tags are embedded within the Inline XBRL document.
101.SCH	XBRL Taxonomy Extension Schema.
101.CAL	XBRL Taxonomy Extension Calculation Linkbase.
101.DEF	XBRL Taxonomy Extension Definition Linkbase.
101.LAB	XBRL Taxonomy Extension Label Linkbase.
101.PRE	XBRL Taxonomy Extension Presentation Linkbase.

SIGNATURE

Pursuant to the requirements 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.

ITRON, INC.

November 5, 2018	By:	/s/ JOAN S. HOOPER
Date		**Joan S. Hooper**
		Senior Vice President and Chief Financial Officer

Exhibit 12.1

COMPUTATION OF RATIO OF EARNINGS TO FIXED CHARGES [1]

	Nine Months Ended September 30, 2018	Year Ended December 31, 2017	2016	2015	2014	2013
	(in thousands, except ratios)					
Earnings						
Pre-tax net income (loss)	$ (123,402)	$ 134,575	$ 84,627	$ 37,102	$ (18,265)	$ (153,400)
Add: dividends received from equity investees	—	719	335	444	681	707
Less: income attributable to noncontrolling interest	(1,417)	(2,951)	(3,283)	(2,325)	(1,370)	(2,219)
Less: net income (loss) from equity investees	423	(542)	(393)	(807)	(270)	(954)
	(124,396)	131,801	81,286	34,414	(19,224)	(155,866)
Fixed charges:[2]						
Interest expense, gross[3]	44,320	13,845	13,521	14,669	15,078	14,041
Interest portion of rent expense	6,341	5,096	4,958	5,405	6,832	6,651
a) Fixed charges	50,661	18,941	18,479	20,074	21,910	20,692
b) Earnings for ratio[4]	$ (73,735)	$ 150,742	$ 99,765	$ 54,488	$ 2,686	$ (135,174)
Ratios:						
Earnings to fixed charges (b/a)[5]	N/A	8.0	5.4	2.7	0.1	N/A
Deficit of earnings to fixed charges	$ (73,735)	N/A	N/A	N/A	N/A	$ (135,174)

(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 net 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, plus fixed charges.

(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.

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 Quarterly Report on Form 10-Q 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: November 5, 2018

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, Joan S. Hooper, certify that:

1. I have reviewed this Quarterly Report on Form 10-Q 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/ JOAN S. HOOPER

Joan S. Hooper
Senior Vice President and Chief Financial Officer

Date: November 5, 2018

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 Quarterly Report of Itron, Inc. (the Company) on Form 10-Q for the quarterly period ended September 30, 2018 (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 Joan S. Hooper, the Chief Financial Officer of the Company, each certifies that to the best of his or her 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
November 5, 2018

/s/ JOAN S. HOOPER

Joan S. Hooper
Senior Vice President and Chief Financial Officer
November 5, 2018