

2020 ANNUAL REPORT creating a more resourceful world

TO OUR SHAREHOLDERS

While 2020 presented a number of unique and difficult challenges, Itron's global workforce, partners and customers effectively mobilized to keep our customers' energy and water critical infrastructure operational. As a community, we emerged stronger with an energized focus on innovation, resiliency, and sustainability to serve utilities and cities, globally.

The work we do at Itron profoundly matters as we keep the world's critical infrastructure running, ensuring the "lights stay on," "home temperatures are comfortable," "cities are bright" and "clean water flows." We are committed to making the most of the energy and water resources that we have today and creating a better tomorrow for our customers, employees and the communities we serve.

Clean, safe, and reliable energy and water form the foundation of society as we know it today. Both are increasingly strained by a variety of dynamic forces, ranging from severe weather, robustly integrating new energy sources, security and aging infrastructure to digital transformation, and rising consumer expectations. We are dedicated to empowering our customers to tackle these challenges in our pursuit to create a more resourceful world.

PROGRESS IN 2020

We made solid progress on our company priorities in 2020. The cumulative number of our distributed intelligence-capable endpoints exceeded 2.7 million as we **expanded our footprint** with over 20 distributed intelligence customers actively deploying our flexible and agile platform and dozens more in the pipeline. Distributed intelligence enables aggregated computing and distributed decision-making at the grid edge. This capability is key in helping our customers better monitor and manage their power grids.

By deploying our advanced networks, we enhance our ability to **expand our value** with our Outcomes segment. We increased our endpoints under management to over 74 million, a 15% increase from 2019.

To accelerate our vision, we have assembled a growing ecosystem of hundreds of global developers and channel partners to **extend our reach** and assist in deploying more advanced applications efficiently and effectively on our secure multipurpose multi-tenant platform.

Based on our industry innovation, we continue to receive recognition and awards for public safety and innovation. Itron was named the winner of a Gold Stevie® Award in the Industrial Products & Services category for our methane gas detectors. As winner of the 2020 IoT Evolution Product of the Year Award, we were recognized for the wastewater monitoring solution developed in collaboration with Miami-Dade County Water & Sewer Department (WASD), Utility Systems Science & Software (US3) and the Avanti Company via the Itron Developer Program.

Furthermore, we reinvigorated our approach to Itron's ESG strategy built upon four key pillars: Environmental and Operational Stewardship; Solution Impact and Community Involvement; Diversity and Our Human Capital Pledge; and Effective Shareholder Advocacy. We are concentrating on inclusiveness by creating an environment where each employee not only has a "seat at the table," but feels "welcome at the table" and feels connected to Itron's purpose. We expanded our ESG reporting framework, aligning to the United Nations Sustainable Development Goals, and are partnering with our stakeholders on finding solutions to make the world more resourceful.

INNOVATION TO DRIVE THE INDUSTRY FORWARD

Looking ahead, we are emerging from the COVID-19 pandemic stronger and with a renewed focus on innovation, resiliency and sustainability to better serve our customers and communities. We are entering 2021 with total backlog at record levels and are well-positioned to build on our successes in 2020.

Itron is stronger and focused on the future. Our priorities of expanding our footprint, increasing our value and extending our reach remain unchanged. As our customers face unrelenting environmental and social challenges, critical infrastructure has taken centerstage. Itron's solutions are helping our customers solve these pressing challenges and enabling them to deliver energy and water more efficiently and reliably.

We continue to see robust activity from our customers looking to deploy higher value solutions and applications that increase efficiency and insight into their operations. By investing in our distributed intelligence platform, we are enabling our customers to improve grid efficiency, reliability, and safety, while transforming customer service and accommodating more distributed energy resources onto the grid. This is coming to life across our customers as they have begun utilizing our multi-purpose network for energy applications, water applications and smart city applications across different organizations.

Further expanding the possibilities for our customers, our technology partners are building a pipeline of new applications leveraging our distributed intelligence platform. As the leader in distributed intelligence for critical infrastructure, Itron's platform provides our customers and partners flexibility that can be deployed today, with a path for tomorrow as their needs and wants change over time.

There has never been a more pivotal time to be in the utility and smart cities space, as we innovate the way utilities and cities manage energy and water. Itron's global workforce, partners and customers continue to put forth tremendous effort to keep our energy, water and cities' critical infrastructure intact and operational. As a community, we were forced to adapt and overcome in 2020. These efforts have collectively made us more agile and capable for the journey ahead.

We are excited about the future and look forward to continuing our efforts to create value for our stakeholders in 2021 and beyond.

Sincerely,

Thomas L. Deitrich

President and Chief Executive Officer

UNITED STATES SECURITIES AND EXCHANGE COMMISSION

Washington, D.C. 20549

FORM 10-K

■ ANNUAL REPORT PURSUANT T 1934	TO SECTION 13 OR 15(d) OI	F THE SECURITIES EXCHANG	GE ACT OF
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For the fiscal year ended Decem	OR		
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☐ TRANSITION REPORT PURSUA OF 1934	ANT TO SECTION 13 OR 15(a) OF THE SECURITIES EXCI	HANGE ACT
For the transition period from	to		
	Commission file number 00	0-22418	
	ITRON, IN	IC.	
O	Exact name of registrant as specified	in its charter)	
Washington	8 1	91-1011792	
(State of Incorporation	on)	(I.R.S. Employer Identification	n Number)
2111 N	Molter Road, Liberty Lake, V	Vashington 99019	
	(509) 924-9900	S	
(Address and	d telephone number of registrant's pr	incipal executive offices)	
Securitie	s registered pursuant to Section	on 12(b) of the Act:	
Title of each class	Trading Symbol(s)	Name of each exchange on wh	nich registered
Common stock, no par value	ITRI	NASDAQ Global Select	t Market
Securit	ties registered pursuant to Section 12	(g) of the Act: None	
Indicate by check mark if the registrant is a well-know	vn seasoned issuer, as defined in Rule 4	05 of the Securities Act. Yes 🗷 No □	
Indicate by check mark if the registrant is not required	I to file reports pursuant to Section 13 o	r Section 15(d) of the Act. Yes □ No 🗷	
Indicate by check mark whether the registrant (1) has the preceding 12 months (or for such shorter period to the past 90 days. Yes \blacksquare No \square	1 1	. ,	
Indicate by check mark whether the registrant has Regulation S-T (§ 232.405 of this chapter) during files). Yes \boxtimes No \square	, ,		
Indicate by check mark whether the registrant is a lemerging growth company. See the definitions of "la in Rule 12b-2 of the Exchange Act.			
Large accelerated filer		Accelerated filer	
	eck if a smaller reporting company)	Smaller reporting company	
		Emerging growth company	
If an emerging growth company, indicate by check marevised financial accounting standards provided pursu	_		ing with any new or
Indicate by check mark whether the registrant has fill over financial reporting under Section 404(b) of the S.	1	e e	

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

As of June 30, 2020 (the last business day of the registrant's most recently completed second fiscal quarter), the aggregate market value of the shares of common stock held by non-affiliates of the registrant (based on the closing price for the common stock on the NASDAQ Global Select Market) was

As of January 31, 2021, there were outstanding 40,455,126 shares of the registrant's common stock, no par value, which is the only class of common stock of the registrant.

DOCUMENTS INCORPORATED BY REFERENCE

audit report.

The information called for by Part III is incorporated by reference to the definitive Proxy Statement for the Annual Meeting of Shareholders of the Company to be held on May 13, 2021.

Itron, Inc.

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

Certain Forward-Looking Statements

This report contains, and our officers and representatives may from time to time make, "forward-looking statements" within the meaning of the safe harbor provisions of the U.S. Private Securities Litigation Reform Act of 1995. Forward-looking statements are neither historical factors nor assurances of future performance. These statements are based on our expectations about, among others, revenues, operations, financial performance, earnings, liquidity, earnings per share, cash flows and restructuring activities including headcount reductions and other cost savings initiatives. This document reflects our current strategy, plans and expectations and is based on information currently available as of the date of this Annual Report on Form 10-K. When we use words such as "expect", "intend", "anticipate", "believe", "plan", "goal", "seek", "project", "estimate", "future", "strategy", "objective", "may", "likely", "should", "will", "will continue", and similar expressions, including related to future periods, they are intended to identify forward-looking statements. Forward-looking statements rely on a number of assumptions and estimates. Although we believe the estimates and assumptions upon which these forward-looking statements are based are reasonable, any of these estimates or assumptions could prove to be inaccurate and the forward-looking statements based on these estimates and assumptions could be incorrect. Our operations involve risks and uncertainties, many of which are outside our control, and any one of which, or a combination of which, could materially affect our results of operations and whether the forward-looking statements ultimately prove to be correct. Actual results and trends in the future may differ materially from those suggested or implied by the forward-looking statements depending on a variety of factors. Therefore, you should not rely on any of these forward-looking statements. Some of the factors that we believe could affect our results include our ability to execute on our restructuring plan, our ability to achieve estimated cost savings, the rate and timing of customer demand for our products, rescheduling of current customer orders, changes in estimated liabilities for product warranties, adverse impacts of litigation, changes in laws and regulations, our dependence on new product development and intellectual property, future acquisitions, changes in estimates for stock-based and bonus compensation, increasing volatility in foreign exchange rates, international business risks, uncertainties caused by adverse economic conditions, including, without limitation those resulting from extraordinary events or circumstances such as the COVID-19 pandemic and other factors that are more fully described in Part I, Item 1A: Risk Factors included in our Annual Report on Form 10-K and other reports on file with the Securities and Exchange Commission. We undertake no obligation to update or revise any forward-looking statement, whether written or oral.

The impact caused by the ongoing COVID-19 pandemic includes uncertainty as to the duration, spread, severity, and any resurgence of the COVID-19 pandemic including other factors contributing to infection rates, such as reinfection or mutation of the virus, the effectiveness or widespread availability and application of any vaccine, the duration and scope of related government orders and restrictions, impact on overall demand, impact on our customers' businesses and workforce levels, disruptions of our business and operations, including the impact on our employees, limitations on, or closures of, our facilities, or the business and operations of our customers or suppliers. Our estimates and statements regarding the impact of COVID-19 are made in good faith to provide insight to our current and future operating and financial environment and any of these may materially change due to factors outside our control. For more information on risks associated with the COVID-19 pandemic, please see our updated risk in Part I, Item 1A: Risk Factors of this document.

PART I

Item 1: Business

Available Information

Documents we provide to the Securities and Exchange Commission (SEC) are available free of charge under the Investors section of our website at *www.itron.com* as soon as practicable after they are filed with or furnished to the SEC. In addition, these documents are available at the SEC's website (*http://www.sec.gov*).

General

Itron is a leader in the Industrial Internet of Things (IIoT), enabling utilities and cities to safely, securely and reliably deliver critical infrastructure solutions to communities in more than 100 countries. Our proven platform enables smart networks, software, services, devices and sensors to help our customers better manage their operations in the energy, water, and smart city spaces. We are among the leading technology and services companies offering end-to-end device solutions, networked solutions, and outcomes-based products and services to the utility and municipal sectors. Our comprehensive offerings measure, monitor, and provide data analytics and services that enable utilities and municipalities to manage their critical resources responsibly and efficiently.

We have over 40 years of experience supporting utilities and municipalities in the management of their data and critical infrastructure needs and we have delivered continuous innovation to help drive the industry forward. Incorporated in 1977 with a focus on meter reading services and technology, we entered the electricity meter manufacturing business with the acquisition of Schlumberger Electricity Metering in 2004. In 2007, we expanded our presence in global meter manufacturing and systems with the acquisition of Actaris Metering Systems SA. In 2017, we completed our acquisition of Comverge by purchasing the stock of its parent, Peak Holding Corp. (Comverge), which enabled us to offer integrated cloud-based demand response, energy efficiency, and customer engagement solutions. In 2018, we strengthened our ability to deliver a broader set of solutions and to increase the pace of growth and innovation in the utility, smart city, and broader IIoT markets with the acquisition of Silver Spring Networks, Inc. (SSNI).

Looking forward, we will continue to innovate and support open standards and maintain a device- and transport-agnostic platform that enables our customers to meet their immediate needs either directly or via our eco-system of over 250 partners. With a networked footprint of over 200 million connected devices, we will continue to develop more applications, new opportunities, and enhanced outcomes for our customers in the future.

The following is a discussion of our solutions, our markets, and our operating segments. Refer to Item 7: Management's Discussion and Analysis of Financial Condition and Results of Operations and Item 8: Financial Statements and Supplementary Data for specific segment results.

Our Business

The way the world manages energy and water will be one of the defining actions of this century. At Itron, we are committed to creating a more resourceful world—one where energy, water, and city resources are managed safely, securely, and reliably, to help improve day-to-day life and promote the well-being of people around the world. We invent new ways for cities and utilities to work together so they can cost-effectively leverage the same infrastructure to deliver multiple services and applications on a reliable, intelligent platform capable of serving all their customers.

Itron helps our customers adapt to a rapidly changing world and address a number of macro trends, including:

- Infrastructure such as aging infrastructure, grid security, renewable energy and storage, and incorporating electric vehicles into the grid
- Environmental such as extreme weather, resource scarcity and sustainability, safety, monitoring, and management
- Social such as increased customer expectations, urbanization, population increase, and the management of "big data" and incorporating IIoT technology into their existing operations.

Our solutions include the deployment of smart networks, software, services, devices, sensors and data analytics upon a platform that allows our customers to not only address the changing macro environment listed above but also to address pressing industry challenges to better manage assets, secure revenue, lower operational costs, improve customer service, develop new business models and revenue streams, improve safety, and enable efficient management of valuable resources. Our comprehensive solutions and data analytics also help our customers address operational issues including increasing demand on resources, non-technical loss, leak detection, environmental and regulatory compliance, integrating renewable and distributed energy sources, and improving operational reliability.

Itron solutions include technology, software, and services delivered as part of a standalone, one-time purchase or end-to-end solution over multiple years. The portfolio includes hardware products used for measurement, control, or sensing with and without communications capability; a combination of endpoints and network infrastructure with embedded intelligence that is designed and sold as a complete solution to acquire and transport application-specific data; and value-added services, software, and products that organize, analyze, and interpret data to gain insights, make decisions, and inform actions. We also offer managed services, software-as-a-service (SaaS), network-as-a-service (NaaS), technical support services, licensing hardware technology, and consulting services.

Industry Drivers

Utility and municipalities are undergoing an evolution in how they operate critical infrastructure, manage scarce resources, and interact with their customers. Efficiently managing resources within energy, water, and cities is a top priority globally, as increasing populations and resource consumption continues to stress an aging infrastructure. The growing demand for energy, water, and municipal services coupled with the proliferation of renewable energy sources, smart communicating devices, sensors, and multiple data-producing technologies is forcing providers to rethink how they operate and service their communities. This evolution comes at a time when utilities and municipalities are challenged by cost constraints, regulatory requirements, environmental concerns, safety, and resource scarcity. Itron provides its customers with a solution-based offering to safely, securely, and reliably optimize their critical infrastructure to improve the efficiency of their services and to better understand their customers with near real-time knowledge of their resource usage. An added benefit of our solutions is the utility or municipality can empower their customers to understand and have control over their resource usage, allowing for better management and conservation of valuable resources.

To address these challenges, utilities and cities are looking to leverage innovations across a networked platform such as edge (or distributed) intelligence to build and maintain critical infrastructure that can:

- Efficiently and effectively operate energy and water systems that are safe, reliable, and resilient
- Reduce the risk and impact of natural disasters
- Think for itself, repair itself, and anticipate problems before they occur
- Deliver enhanced, more personalized services at lower cost
- Accommodate next-generation services through shared infrastructure between utilities and cities/municipalities
- Provide actionable insights for asset management

Our Operating Segments

We operate under the Itron brand worldwide and manage and report under three operating segments: Device Solutions, Networked Solutions, and Outcomes. The following is a description of each of the three segments:

Device Solutions – This segment 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., hardware-based products not part of a complete "end-to-end" solution. Examples from the Device Solutions portfolio include: standard endpoints that are shipped without Itron communications, such as our standard gas, electricity, and water meters for a variety of global markets and adhering to regulations and standards within those markets, as well as our heat and allocation products; communicating meters that are not a part of an Itron end-to-end solution such as Smart Spec meters; and the implementation and installation of non-communicating devices, such as gas regulators.

Networked Solutions – This segment primarily includes a combination of communicating devices (e.g., 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 includes products and software for the implementation, installation, and management of communicating devices and data networks. Examples from the Networked Solutions portfolio 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 IIoT solutions supported by this segment include automated meter reading (AMR), advanced metering infrastructure (AMI), smart grid and distribution automation, smart street lighting and an ever-growing set of smart city applications such as traffic management, smart parking, air quality monitoring, electric vehicle charging, customer engagement, digital signage, acoustic (e.g., gunshot) detection, and leak detection and mitigation for both gas and water systems. Our IIoT platform allows all of these industry and smart city applications to be run and managed on a single, multi-purpose network.

Outcomes – This segment primarily includes our value-added, enhanced software and services 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 to 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 from the Outcomes portfolio include: our meter data management and analytics offerings; our managed service solutions including NaaS and platform-as-a-service, forecasting software and services; our Distributed Intelligence suite of

applications 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.

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 clauses, which will not agree to the total transaction price allocated to the remaining performance obligations disclosed in Item 8: Financial Statements and Supplementary Data, Note 17: Revenues.

Year Ended	Total Booking	ngs	Total Backlog	12-Month Back	klog
In millions					
December 31, 2020	\$	2,213 \$	3,259	\$	1,204
December 31, 2019		2,551	3,207		1,499
December 31, 2018		2,515	3,173		1,349

Sales and Distribution

We use a combination of direct and indirect sales channels in our operating segments. A direct sales force is utilized for large electric, natural gas, and water utilities, with which we have long-established relationships. This direct sales force is focused on solution selling, solving problems and business challenges, and delivering valuable outcomes to our utility and smart city customers. For smaller utilities and municipalities, we typically use an indirect sales channel that extends the reach of Itron's solutions by empowering trusted partners with the right tools, training, and technology to grow their business, deliver results, and help these customers better manage energy and water. These channels consist of distributors, sales representatives, partners, and meter manufacturer representatives.

No single customer represented more than 10% of total revenues for the years ended December 31, 2020, 2019, and 2018. Our 10 largest customers accounted for approximately 33% of total revenues in the years ended December 31, 2020 and 31% in 2019 and 2018.

Manufacturing

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

Our manufacturing facilities are located throughout the world, an overview of which is presented in Item 2: Properties. While we manufacture and assemble a portion of our products, we outsource the manufacturing of many products to various manufacturing partners and drive to create an efficient and cost effective structure. This approach allows us to reduce the costs related to our manufacturing overhead and inventory and also allows us to adjust more quickly to changing customer demand. These manufacturing partners assemble our sub-assemblies and products using design specifications, quality assurance programs, and standards that we establish and procure components and assemble our products based on demand forecasts. These forecasts represent our estimates of future demand for our products based upon historical trends and analysis from our sales and product management functions, as adjusted for overall market conditions.

Partners

In connection with delivering solutions and systems to our customers, we frequently partner with third-party vendors to provide hardware, software, or services, e.g., meter installation and communication network equipment and infrastructure. Due to the interoperable, open-standards based nature of our platform, we have also cultivated a highly diverse and growing ecosystem of partners and third-party developers who can create complementary solutions for our customers that run on the same network and within the same platform framework.

Our ability to perform on our contractual obligations with our customers is dependent on these partners meeting their obligations to us. Refer to Item 1A: Risk Factors for further discussion related to third-party vendors and strategic partners.

Research and Development

Our research and development is focused on both improving existing technology and developing innovative new technology for electricity, natural gas, water and heat endpoints, sensing and control devices, data collection software, communication technologies, data warehousing, software applications, and the IIoT. We invested approximately \$194 million, \$202 million, and \$208 million in research and development in 2020, 2019 and 2018, which represented 9%, 8% and 9% of total revenues for 2020, 2019 and 2018. Refer to Item 1A: Risk Factors for further discussion related to costs of developing competitive products and services.

Human Capital

As of December 31, 2020, we had 6,749 people in our workforce, including 6,153 permanent employees. We have not experienced significant employee work stoppages and consider our employee relations to be good.

We are an equal opportunity employer, and we promote cultural diversity and workforce equality. We monitor our progress through various programs and policies. We offer wages and a range of company-paid benefits we believe are competitive with other companies in our industry. Benefits offered vary depending on the countries where we operate.

The table below provides the breakdown of our employees by region and self-identified gender:

	As of December 31, 2020								
Region	Male	Female	Total Number of Employees	Percentage of Total Employees					
North America	1,933	874	2,807	45 %					
Europe, Middle East and Africa	1,473	777	2,250	37 %					
Asia Pacific & Other	901	195	1,096	18 %					
Total (1)	4,307	1,846	6,153						

⁽¹⁾ These numbers do not include contingent workers (596 as of December 31, 2020)

Competition

We enable utilities and cities to safely, securely, and reliably deliver critical infrastructure services to communities in more than 100 countries. Our portfolio of smart networks, software, services, meters, and sensors help our customers better manage electricity, gas, water, and city infrastructure resources for the people they serve. Consequently, we operate within a large and complex competitive landscape, and our competitors range from small companies to large, established corporations. Some of our competitors have diversified product portfolios and participate in multiple geographic markets, while others focus on specific regional markets and/or certain types of products, including some low-cost suppliers of devices based in China and India. Our primary competitors include Landis+Gyr (formerly part of Toshiba); Hubbell (formerly Aclara Inc.); Xylem, Inc. (formerly Sensus); Badger Meter, Inc.; and Mueller Water Products.

We believe that our competitive advantage is based on our in-depth knowledge of the industries we serve, our capacity to innovate, and our ability to provide complete end-to-end integrated solutions. We also differentiate ourselves with an intelligent IIoT platform that is solution, device, and transport agnostic—a platform that is: backwards compatible and future proofed; able to run a multitude of applications and solutions across it; is highly secure, fully integrated into our portfolio, and highly interoperable; captures, relays, and leverages high-resolution data for near real-time decision making; and includes an evergrowing, diverse ecosystem of partners and third-party developers who can create and deploy very specific point solutions across our network for even greater value for our customers.

We are a global leader in the IIoT category; an industry leader in communication modules deployed; a leading industry innovator; a leader in electricity, gas, and water end-to-end solutions; and a global leader in meters under managed services. We

continue to serve our established customer relationships, and expand upon our track record of delivering reliable, accurate, and long-lived products and services.

Refer to Item 1A: Risk Factors for a discussion of the competitive pressures we face.

Strategic Alliances

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

Intellectual Property

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

Environmental Regulations

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

INFORMATION ABOUT OUR EXECUTIVE OFFICERS

Set forth below are the names, ages, and titles of our executive officers as of February 24, 2021.

Name	Age	Position
Thomas L. Deitrich	54	President and Chief Executive Officer
Joan S. Hooper	63	Senior Vice President and Chief Financial Officer
Michel C. Cadieux	63	Senior Vice President, Human Resources
Sarah E. Hlavinka	56	Senior Vice President, General Counsel and Corporate Secretary
Justin K. Patrick	48	Senior Vice President, Device Solutions
John F. Marcolini	48	Senior Vice President, Networked Solutions
Donald L. Reeves	53	Senior Vice President, Outcomes

Thomas L. Deitrich is President and Chief Executive Officer and a member of our Board of Directors. Mr. Deitrich was appointed to his current position and to the Board of Directors in August 2019. Mr. Deitrich joined Itron in October 2015, serving as Itron's Executive Vice President and Chief Operating Officer until August 2019. From 2012 to September 2015, Mr. Deitrich was Senior Vice President and General Manager for Digital Networking at Freescale Semiconductor, Inc. (Freescale), and he served as the Senior Vice President and General Manager of Freescale's RF, Analog, Sensor, and Cellular Products Group from 2009 to 2012. Mr. Deitrich had other roles of increasing responsibility at Freescale from 2006 to 2009. Prior to Freescale, Mr. Deitrich worked for Flextronics, Sony-Ericsson/Ericsson, and GE. Mr. Deitrich is a director of ON Semiconductor Corporation, a NASDAQ listed company.

Joan S. Hooper is Senior Vice President and Chief Financial Officer. Ms. Hooper was appointed to this role in June 2017. Prior to joining Itron, Ms. Hooper was Chief Financial Officer of CHC Helicopter from 2011 to July 2015. Following Ms. Hooper's departure from CHC, CHC filed a voluntary petition of relief under Chapter 11 of the U.S. Bankruptcy Code in May 2016, and CHC emerged from bankruptcy in March 2017. Prior to CHC, she held several executive finance positions at Dell, Inc. from 2003 to 2010, including Vice President and Chief Financial Officer for its Global Public and Americas business units, Vice President of Corporate Finance and Chief Accounting Officer.

Michel C. Cadieux is Senior Vice President, Human Resources and has been so since joining Itron in February 2014. From 2008 to 2012, Mr. Cadieux was Senior Vice President of Human Resources and Security at Freescale Semiconductor, Inc. (Freescale). Mr. Cadieux has more than 30 years leading HR organizations in global technology and manufacturing companies including Betz Laboratories, the Hudson Bay Company, ING Bank of Canada, Advanced Micro Devices/ATI, and Freescale.

Sarah E. Hlavinka is Senior Vice President, General Counsel and Corporate Secretary. Ms. Hlavinka was appointed to this role in August 2018. Prior to joining Itron, Ms. Hlavinka served as Executive Vice President, General Counsel and Secretary at Xerox Corporation from 2017 to 2018. Prior to Xerox Corporation, Ms. Hlavinka was Executive Vice President, General Counsel and Secretary at ABM Industries Incorporated, a leading provider of integrated facility services from 2007 to 2017. Ms. Hlavinka is a director of Quanterix Corporation, a NASDAQ listed company.

Justin K. Patrick is Senior Vice President, Device Solutions, where he is responsible for Itron's strategy to become a leading global provider of measurement, safety, and operational devices for utilities and cities. Mr. Patrick joined Itron in January 2020. From 2018 to 2020, Mr. Patrick was Vice President & General Manager, Residential Products at Johnson Controls International (JCI). Before that role, he was Vice President & General Manager, Variable Refrigerant Flow Systems and Ductless from 2014 to 2017, and Director, Channel Strategy and Marketing from 2010 to 2014 at JCI. Prior to his time at JCI, Mr. Patrick held a sales leadership role at the Auer Steel and Heating Supply Company, and at Carrier Corporation he had roles of increasing responsibility culminating in general management. Prior to his civilian career, Mr. Patrick served as a Surface Warfare Officer in the United States Navy.

John F. Marcolini is Senior Vice President, Networked Solutions, where he is responsible for product development, marketing and overall strategy for Itron's networking platforms and smart cities strategy and solutions, globally. Mr. Marcolini was appointed to this role in July 2020. Mr. Marcolini joined Itron in January 2018 as part of Itron's acquisition of SSNI as the vice president of product management, responsible for product strategy and lifecycle management across Itron's smart energy, smart city and IIoT portfolios.. He has more than 20 years of product management, business development, and customer delivery experience with deep technical knowledge of networking, radio frequency technologies, and IIoT. Mr. Marcolini has also spent many years working with utility customers to deliver and implement complex product deployments.

Donald L. Reeves is Senior Vice President, Outcomes, where he is responsible for Itron's software and services offerings, delivery teams, managed services operations and customer support. Mr. Reeves was appointed to this role in September 2019. Mr. Reeves joined Itron in January 2018 as part of Itron's acquisition of SSNI, and from 2016 to 2018, he was SSNI's Chief Technology Officer. From 2005 to 2016, Mr. Reeves held several managed services and engineering positions at SSNI. Prior to joining SSNI, Mr. Reeves served as Vice President of Engineering at Black Pearl from 2003 to 2004, and was Vice President of Engineering at Commerce One from 2001 to 2003, and prior to that held leadership positions at several startup technology companies.

Item 1A: Risk Factors

Business and Industry Risks

We are dependent on the utility industry, which has lengthy and unpredictable sales cycles and has experienced volatility in capital spending, each of which has and could cause our operating results to fluctuate significantly.

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

The industries in which we sell our products and services, in particular the utility industry, are subject to substantial government regulation. For example, regulations have often influenced the frequency of customer meter replacements. Sales cycles for our standalone meter products have typically been based on annual or biennial bid-based agreements. Utilities place purchase orders against these agreements as their inventories decline, which can create fluctuations in our sales volumes.

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

We must continually shift and adapt our products and services mix, which requires substantial judgment and investment.

Our market is characterized by increasing complexity driven by evolving technology, increased industry regulatory pressures, and the emergence of new competitive products, all of which impact the manner in which our products and services are designed, developed, marketed, and delivered. The shift in, and increasing complexity of, our products and services mix involves judgment and entails risks. In order to successfully design and develop more complex offerings, we must anticipate the right products, solutions, and technologies to meet estimated market demands. These estimates may prove wrong. Additionally, our complex offerings may contain defects when they are first introduced; their release may be delayed due to unforeseen difficulties during product and service design and development; or they may have reliability, quality, or compatibility problems. We may not be able to successfully design workarounds. Any shift in, or increased complexity of, our products and services mix may not be easily understood or adopted by our current or future customers, who may be reluctant to buy, or may delay purchases of, our products and services.

Additionally, our evolving product mix could cause us to incur substantial additional costs if we need to materially improve our manufacturing infrastructure, develop new systems to deliver our services, or fundamentally change the way in which we deliver services. Also, if one of our new offerings were competitive to our prior offerings and represented an adequate or superior alternative, customers could decide to abandon prior offerings that produce higher revenue or better margins than the new offering. Therefore, the adaptation to new technologies or standards or the development and launch of new products or services could result in lower revenue, lower margins, and/or higher costs, which could unfavorably impact our financial performance.

We have been and will continue to be affected by the ongoing COVID-19 pandemic, and such effects could have an adverse effect on our business operations, results of operations, cash flows, and financial condition.

We have experienced disruptions to our business from the ongoing COVID-19 pandemic, and the full impact of the COVID-19 pandemic on all aspects of our business and geographic markets is highly uncertain and cannot be predicted with confidence. This includes how it may impact our customers, employees, vendors, strategic partners, managed services, and manufacturing

operations. The COVID-19 pandemic has created significant volatility, uncertainty, and economic disruption, which may materially and adversely affect our business operations, cash flows, and financial condition.

The impact of the virus on third parties on which we rely, such as our suppliers, contract manufacturers, distributors, and strategic partners, cannot be fully known or controlled by us. As a result, we may experience difficulties sourcing components, sub-assemblies, outsourced finished goods, and other products and services. The impact of the COVID-19 pandemic on our customers and demand for our products is also uncertain. Due to resulting financial constraints, illness within their organizations, quarantine and travel restrictions placed upon our customers' employees, as well as individual actions our customers may take in response to the spread of COVID-19, our customers may have difficulty in making timely payments to us or may have an inability or unwillingness to purchase our products and services. Also, certain of our projects require regulatory approvals, and our customers may experience delays in regulatory approvals. Any of these effects may materially and adversely affect us.

We continue to take measures, both voluntary and as a result of government directives and guidance, to mitigate the effects of the COVID-19 pandemic on us and others. These measures include, among others, restrictions on our employees' access to our physical work locations and the purchase of personal protective equipment. Additionally, we may implement the temporary closure or reduction in operations of certain of our facilities, which is disruptive to our operations. We have also implemented measures to allow certain employees to work remotely, which may place a burden on our IT systems and may expose us to increased vulnerability to cyber-attack and other cyber-disruption. Many of these measures may result in incremental costs to us, and such costs may not be recoverable or adequately covered by our insurance. Further, any focus by our management on mitigating COVID-19 effects has required, and will continue to require, a large investment of time and resources, which may delay other value-add initiatives.

As a company with global operations, we are subject to numerous government jurisdictions at all levels that are addressing COVID-19 differently. The guidance and directives provided by these governmental authorities is difficult to predict, may be unclear in their application, and are unknown in duration. This includes uncertainty in governmental authorities' assessments of our business as "essential". If governmental authorities were to reverse their designation of our business as "essential", it could have a material effect on our results of operations and cash flows.

In addition, the continued spread of COVID-19 has led to disruption and volatility in the worldwide credit and financial markets, which could limit our ability to obtain external financing on acceptable terms or at all. While the COVID-19 pandemic has not materially impacted our liquidity and capital resources to date, the duration and severity of any further economic or market impact of the pandemic remains uncertain and there can be no assurance that it will not have an adverse effect on our liquidity and capital resources, including our ability to access capital markets, in the future.

The full extent to which the COVID-19 pandemic impacts us depends on numerous evolving factors and future developments that we are not able to predict at this time, including: medical advancements to treat or stop the virus including the effectiveness, widespread availability and application of any vaccine, governmental, business, and other actions (which could include limitations on our operations to provide products or services); the duration and severity of the outbreak, including due to reinfections or mutation of the virus, and the related limitations on our ability to conduct business; or the length of time and velocity at which we will return to more normalized operations. In addition, we cannot predict the impact that COVID-19 will have on our customers, vendors, strategic partners, and other business partners, and each of their financial conditions; however, any material effect on these parties could materially and adversely impact us. The impact of COVID-19 may also include possible impairment or other charges and may exacerbate other risks discussed herein, any of which could have a material effect on us. This situation is changing rapidly and additional impacts may arise that we are not aware of currently.

We face competition which may result in a loss of market share or price erosion of our products and services.

We face competitive pressures from a variety of companies in each of the markets we serve. Some of our present and potential future competitors have, or may have, substantially greater financial, marketing, technical, or manufacturing resources and, in some cases, have greater name recognition, customer relationships, and experience. These competitors may sell products and services at lower prices in order to gain or grow market share, be able to respond more quickly to new or emerging technologies and changes in customer requirements, and may have made or make strategic acquisitions or establish cooperative relationships among themselves or with third parties that enhance their ability to address the needs of our prospective customers. Other companies may also drive technological innovation and develop products and services that are equal in quality and performance or superior to our products and services, which could reduce our market position, reduce our overall sales, and require us to invest additional funds in new technology development. In addition, our products and services may experience price erosion if low-cost providers expand their presence in our markets, improve their quality, or form alliances or cooperative relationships with our competitors or if our products and services become commoditized. For example, some utilities may purchase meters

separately from the communication devices. The specifications for such meters may require interchangeability, which could lead to further commoditization of the meter, driving prices lower and reducing margins. Pricing pressure is also driven by other events outside our control, to include movement away from manually read meters, government programs, and new construction. Should we fail to compete successfully with current or future competitors, or to adequately manage pricing pressure, we could experience material adverse effects on our business, financial condition, results of operations, and cash flows.

If we cannot continue to invest in developing competitive products and services, we will not be able to compete effectively.

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

Our operations may be adversely impacted if key vendors, strategic partners, and other third parties fail to perform.

Certain of our products, subassemblies, and system components, including most of our circuit boards, are procured from limited or sole sources. We cannot be certain that we will not experience operational difficulties with these sources, including reductions in the availability of production capacity, errors in complying with product specifications, insufficient quality control, failures to meet production deadlines, increases in manufacturing costs, vendors' access to capital, and increased lead times. Additionally, our manufacturers may experience disruptions in their manufacturing operations due to equipment breakdowns, labor strikes or shortages, natural disasters and pandemics, component or material shortages, cost increases, or other similar problems. Further, in order to minimize their inventory risk, our manufacturers might not order components from third-party suppliers with adequate lead time, thereby impacting our ability to meet our demand forecast. If we fail to manage our relationship with our manufacturers effectively, or if they experience operational difficulties, our ability to ship products to our customers and distributors could be impaired, and our competitive position and reputation could be harmed. In the event that we receive shipments of products that fail to comply with our technical specifications or that fail to conform to our quality control standards, and we are not able to obtain replacement products in a timely manner, we risk revenue losses from the inability to sell those products, increased administrative and shipping costs, and lower profitability. Additionally, if defects are not discovered until after consumers take delivery of our products, they could lose confidence in the technical attributes of our products, and our business could be harmed. Although arrangements with these partners may contain provisions for warranty expense reimbursement, we may remain responsible to the consumer for warranty service in the event of product defects and could experience an unanticipated product defect or warranty liability. While we rely on partners to adhere to our supplier code of conduct, material violations of the supplier code of conduct could occur.

Delays in the availability of or shortages in raw materials and component parts used in the manufacture of our products could unfavorably impact our revenues and results of operations.

We are impacted by the availability and prices of raw materials and component parts used in the manufacturing process of our products. Raw materials include purchased castings made of metal or alloys (such as brass, which uses copper as its main component, aluminum, stainless steel and cast iron), plastic resins, glass, microprocessors and other electronic subassemblies, and components. There are multiple sources for these raw materials and components, but we sometimes rely on single suppliers for certain of these materials. Our inability to obtain adequate supplies of raw materials and component parts at favorable prices could have a material adverse effect on our business, financial condition, or results of operations, including reduced revenue, lower profit margins, and delays in deliveries to customers, which could result in damages or penalties to be paid under the terms of certain of our customer contracts. Since we do not control the production of these raw materials and component parts, there may be delays caused by an interruption in the production or transportation of these materials for reasons that are beyond our control. World commodity markets, inflation, tariffs or embargoes may also affect the availability or prices of raw materials or component parts.

If we are unable to maintain a high level of customer satisfaction, demand for our products and services could suffer.

We believe that our success depends on our ability to understand and address our customers' requirements and concerns. This includes our ability to effectively articulate and demonstrate to customers how our products and services meet their needs and to deliver our products timely as committed, with a sufficient level of quality. In addition, we continue to work toward easing general concerns about the safety and perceived health risks of using radio frequency communications, as well as privacy concerns of monitoring home appliance energy usage, which have had some adverse publicity in the past. If we are unable to overcome these real and perceived risks, we could face customer dissatisfaction, dilution of our brand, decreased overall demand for our services, and loss of revenue. In addition, our inability to meet customer performance, safety, and service expectations may damage our reputation and could consequently limit our ability to retain existing customers and attract new customers, which would adversely affect our ability to generate revenue and unfavorably impact our operating results.

Product defects could disrupt our operations and result in harm to our reputation and financial position.

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

Business interruptions could adversely affect our business.

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

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

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

We have significant inventory, intangible assets, long-lived assets, and goodwill that are susceptible to valuation adjustments as a result of changes in various factors or conditions, which could impact our results of operations and financial condition. Factors that could trigger an impairment of such assets include the following:

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

Failure to attract and retain key personnel who are critical to the success of our business could negatively impact our ability to operate or grow our business.

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

replacements could have a material adverse effect on our business. In addition, as our products and services become more technologically complex, it could become especially difficult to recruit or retain personnel with unique in-demand skills and knowledge, whom we would expect to become recruiting targets for our competitors and for other companies relying on similar talent. There is no assurance that we will be able to recruit or retain qualified personnel, and this failure could diminish our ability to develop and deliver new products and services, which could cause our operations and financial results to be unfavorably impacted.

Changes in accounting principles and guidance could result in unfavorable accounting charges or effects.

We prepare our consolidated financial statements in accordance with U.S. generally accepted accounting principles (GAAP). These principles are subject to interpretation by the Securities and Exchange Commission (SEC) and various bodies formed to create and interpret appropriate accounting principles and guidance. A change in these principles or guidance, or in their interpretations, may have a material effect on our reported results, as well as our processes and related controls, and may retroactively affect previously reported results.

Risks Related to Our Corporate Structure and Organization

Our indebtedness could restrict our operational flexibility and prevent us from raising additional capital or meeting our obligations under our debt instruments.

As of December 31, 2020, our total outstanding indebtedness was \$936.1 million as described under Liquidity and Capital Resources. This substantial indebtedness could have important consequences to us, including:

- increasing our vulnerability to general economic and industry conditions;
- requiring a substantial portion of our cash flow used in operations to be dedicated to the payment of principal and
 interest on our indebtedness, therefore reducing our liquidity and our ability to use our cash flow to fund our
 operations, capital expenditures and future business opportunities;
- requiring us to meet specified financial ratios, a failure of which may result in restrictions on us and our subsidiaries to take certain actions or result in the declaration of an event of default, which if not cured or waived, may permit acceleration of required payments against such indebtedness and result in cross defaults under our other indebtedness;
- exposing us to the risk of increased market interest rates, and corresponding increased interest expense, as unhedged borrowings under the 2018 credit facility would be at variable rates of interest;
- limiting our ability to obtain additional financing for working capital, capital expenditures, debt service requirements, acquisitions, and general corporate or other purposes; and
- limiting our ability to adjust to changing marketplace conditions and placing us at a competitive disadvantage compared with our competitors who may have less debt.

Our 2018 credit facility, as amended, and Senior Notes place restrictions on our ability, and the ability of many of our subsidiaries, dependent on meeting specified financial ratios, to, among other things:

- incur more debt;
- make certain investments;
- enter into transactions with affiliates;
- merge or consolidate;

- pay dividends, make distributions, and repurchase capital stock;
- create liens;
- enter into sale lease-back transactions; and
- transfer or sell assets.

Our ability to make scheduled payments on and/or to refinance our indebtedness depends on, and is subject to, our financial and operating performance, which is influenced in part by general economic, financial, competitive, legislative, regulatory, counterparty business, and other risks that are beyond our control, including the availability of financing in the U.S. banking system and capital markets. We cannot assure you that our business will generate sufficient cash flow from operations or that future borrowings will be available to us in an amount sufficient to enable us to service our debt, to refinance our debt, or to fund our other liquidity needs on commercially reasonable terms or at all.

If we are unable to meet our debt service obligations or to fund our other liquidity needs, we will need to restructure or refinance all or a portion of our debt, which could cause us to default on our debt obligations and impair our liquidity. Our ability to restructure or refinance our debt will depend on the condition of the capital markets and our financial condition at

such time. Even if refinancing indebtedness is available, any refinancing of our indebtedness could be at higher interest rates and may require us to comply with more onerous covenants that could further restrict our business operations.

Moreover, in the event of a default under any of our indebtedness, the holders of the defaulted debt could elect to declare all the funds borrowed to be due and payable, together with accrued and unpaid interest, which in turn could result in cross defaults under our other indebtedness. The lenders under the 2018 credit facility could also elect to terminate their commitments thereunder and cease making further loans, and such lenders could institute foreclosure proceedings against their collateral, and we could be forced into bankruptcy or liquidation. If we breach our covenants under the 2018 credit facility, we would be in default thereunder. Such lenders could exercise their rights, as described above, and we could be forced into bankruptcy or liquidation.

Although our debt instruments contain certain restrictions, these restrictions are subject to a number of qualifications and exceptions, including that certain trade payables do not constitute indebtedness. Additional indebtedness incurred in compliance with these restrictions could be substantial. To the extent we incur additional indebtedness or other obligations, the risks described above and others described herein may increase.

Our strategy includes acquisitions, divestitures, and investments, which we may not be able to execute or integrate successfully.

In pursuing our business strategy, we may conduct discussions, evaluate companies, and enter into agreements regarding possible acquisitions, divestitures, and equity investments. We have completed acquisitions and may make investments in the future, both within and outside of the United States. We may also, if appropriate opportunities present themselves, make divestitures. Acquisitions, investments, and divestitures involve numerous risks such as the diversion of senior management's attention; unsuccessful integration of the acquired or disintegration of the divested entity's personnel, operations, technologies, and products; unidentified or identified but un-indemnified pre-closing liabilities that we may be responsible for; incurrence of significant expenses to meet an acquiree's customer contractual commitments; lack of market acceptance of new services and technologies; difficulties in operating businesses in international legal jurisdictions; or transaction-related or other litigation, and other liabilities. Failure to adequately address these issues could result in the diversion of resources and adversely impact our ability to manage our business. In addition, acquisitions and investments in third parties may involve the assumption of obligations, significant write-offs, or other charges associated with the acquisition or investment. Impairment of an investment, goodwill, or an intangible asset may result if these risks were to materialize. For investments in entities that are not wholly owned by Itron, such as joint ventures, a loss of control as defined by GAAP could result in a significant change in accounting treatment and a change in the carrying value of the entity. There can be no assurances that an acquired business will perform as expected, accomplish our strategic objectives, or generate significant revenues, profits, or cash flows. Any divestiture could result in disruption to other parts of our business, potential loss of employees or customers, exposure to unanticipated liabilities, or result in ongoing obligations and liabilities following any such divestiture. For example, in connection with a divestiture, we may enter into transition services agreements or other strategic relationships, including long-term commercial arrangements, sales arrangements, or agree to provide certain indemnities to the purchaser in any such transaction, which may result in additional expense and may adversely affect our financial condition and results of operations.

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

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

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

A substantial portion of our revenues is derived from operations conducted outside the United States. International sales and operations may be subjected to risks such as the imposition of government controls, government expropriation of facilities, lack of a well-established system of laws and enforcement of those laws, access to a legal system free of undue influence or corruption, political instability, terrorist activities, restrictions on the import or export of critical technology, currency exchange rate fluctuations, or adverse tax burdens.

Our business is also subject to foreign currency exchange rates fluctuations, particularly with respect to the euro, Canadian dollar, Indonesian rupiah, Pound sterling, and various other currencies. Change in the value of currencies of the countries in which we do business relative to the value of the U.S. dollar, or euro, could affect our ability to sell products competitively and control our cost structure, which could have an adverse effect on our business, financial condition, and results of operations. Additionally, we are subject to foreign exchange translation risk due to changes in the value of foreign currencies in relation to our reporting currency, the U.S. dollar. The translation risk is primarily concentrated in the exchange rate between the U.S. dollar and the euro. As the U.S. dollar fluctuates against other currencies in which we transact business, revenue and income can be impacted, include revenue decreases due to unfavorable foreign currency impacts. Strengthening of the U.S. dollar relative to the euro and the currencies of the other countries in which we do business, could materially and adversely affect our ability to compete in international markets and our sales growth in future periods.

Other risks related to our international operations include lack of availability of qualified third-party financing, generally longer receivable collection periods than those commonly practiced in the United States, trade restrictions, changes in tariffs, labor disruptions, difficulties in staffing and managing international operations, difficulties in imposing and enforcing operational and financial controls at international locations, potential insolvency of international distributors, preference for local vendors, burdens of complying with different permitting standards and a wide variety of foreign laws, and obstacles to the repatriation of earnings and cash all present additional risk to our international operations.

International expansion and market acceptance depend on our ability to modify our technology to take into account such factors as the applicable regulatory and business environment, labor costs, and other economic conditions. In addition, the laws of certain countries do not protect our products or technologies in the same manner as the laws of the United States. Further, foreign regulations or restrictions, e.g., opposition from unions or works councils, could delay, limit, or disallow significant operating decisions made by our management, including decisions to exit certain businesses, close certain manufacturing locations, or other restructuring actions. There can be no assurance that these factors will not have a material adverse effect on our future international sales and, consequently, on our business, financial condition, and results of operations.

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

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

The successful implementation and execution of our restructuring projects are critical to achieving our expected cost savings as well as effectively competing in the marketplace and positioning us for future growth. If our restructuring projects are not executed successfully, it could have a material adverse effect on our competitive position, business, financial condition, cash flow, and results of operations.

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

Effective internal controls are necessary for us to provide reliable and accurate financial reports and effectively prevent fraud. We have devoted significant resources and time to comply with the internal control over financial reporting requirements of the Sarbanes-Oxley Act. In addition, Section 404 under the Sarbanes-Oxley Act requires that our auditors attest to the operating effectiveness of our controls over financial reporting. Our compliance with the annual internal control report requirement for

each fiscal year will depend on the effectiveness of our financial reporting, data systems, and controls across our operating subsidiaries. Furthermore, an important part of our growth strategy has been, and will likely continue to be, the acquisition of complementary businesses, and we expect these systems and controls to become increasingly complex to the extent that we integrate acquisitions and our business grows. Likewise, the complexity of our transactions, systems, and controls may become more difficult to manage. In addition, new accounting standards may have a significant impact on our financial statements in future periods, requiring new or enhanced controls. We cannot be certain that we won't experience deficiencies in the design, implementation, and maintenance of adequate controls over our financial processes and reporting in the future, especially for acquisition targets that may not have been required to be in compliance with Section 404 of the Sarbanes-Oxley Act at the date of acquisition.

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

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

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

We may not realize the expected benefits from strategic alliances, which could adversely affect our operations.

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

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

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

The lenders of our 2018 credit facility consist of several participating financial institutions. Our revolving line of credit allows us to provide letters of credit in support of our obligations for customer contracts and provides additional liquidity. If our lenders were unable to honor their line of credit commitments due to the loss of a participating financial institution or other circumstance, we would need to seek alternative financing, which may not be under acceptable terms, and therefore could adversely impact our ability to successfully bid on future sales contracts and adversely impact our liquidity and ability to fund some of our internal initiatives or future acquisitions.

Risks Related to Our Technology and Intellectual Property

If we are unable to adequately protect our intellectual property, we may need to expend significant resources to enforce our rights or suffer competitive injury.

While we believe our patents and other intellectual property have significant value, it is uncertain that this intellectual property or any intellectual property acquired or developed by us in the future will provide meaningful competitive advantages. There can be no assurance our patents or pending applications will not be challenged, invalidated, or circumvented by competitors or that rights granted thereunder will provide meaningful proprietary protection. Moreover, competitors may infringe our patents or successfully avoid them through design innovation. To combat infringement or unauthorized use of our intellectual property, we may need to commence litigation, which can be expensive and time-consuming. In addition, in an infringement proceeding

a court may decide that a patent or other intellectual property right of ours is not valid or is unenforceable or may refuse to stop the other party from using the technology or other intellectual property right at issue on the grounds that it is non-infringing or the legal requirements for an injunction have not been met. Policing unauthorized use of our intellectual property is difficult and expensive, and we cannot provide assurance that we will be able to prevent misappropriation of our proprietary rights, particularly in countries that do not protect such rights in the same manner as in the United States.

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

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

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

If we are unable to protect our information technology infrastructure and network against data corruption, cyber-based attacks or network security incidents caused by unauthorized access, we could be exposed to an increase risk of customer liability and reputational damage.

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

In addition, an increasing number of our products and services connect to and are part of the IIoT, the Internet, and public cloud services. As such, the products and services we offer may involve the transmission of large amounts of sensitive and proprietary information over public and private communications networks, as well as the processing and storage of confidential and personal customer data. While we attempt to provide adequate security measures to safeguard our products and services, techniques used to gain unauthorized access to or to sabotage systems are constantly evolving and therefore may not be recognized until launched against a target. Unauthorized access, remnant data exposure, computer viruses, denial of service attacks, accidents, employee error or malfeasance, intentional misconduct by computer "hackers", and other disruptions can occur. This can lead to gaps in infrastructure, hardware and software vulnerabilities, and security controls. The exposed or unprotected data can (i) interfere with the delivery of services to our customers, (ii) impede our customers' ability to do business, or (iii) compromise the security of systems and data, which exposes information to unauthorized third-parties. Like many companies, we are the target of cyber-attacks of varying degrees on a regular basis. Although such cyber-attacks have not had a material adverse effect on our operating results, there can be no assurance of a similar result in future security incidents.

Security incidents that occur could expose us to an increased risk of lawsuits, loss of existing or potential customers, harm to our reputation and increases in our security costs. Depending on the jurisdiction, security incidents could trigger notice requirements to impacted individuals and regulatory investigations leading to penalties and increased reputational harm.

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

We rely on information technology systems that may fail to operate effectively, require upgrades and replacements or experience breaches.

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

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

We have a primary enterprise resource planning (ERP) system that maintains sales and transactional information to facilitate processes. This system may require updates and upgrades periodically that could be expensive and time consuming undertakings. Successful upgrades and updates provide many benefits, while unsuccessful upgrades and updates may cost us significant time and resources.

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

Financial and Market Risks

Our variable rate indebtedness subjects us to interest rate risk, which could cause our debt service obligations to increase significantly.

The 2018 credit facility bears, and other indebtedness we may incur in the future may bear, interest at a variable rate. As a result, at any given time interest rates on the 2018 credit facility and any other variable rate debt could be higher or lower than current levels. If interest rates increase, our debt service obligations on our variable rate indebtedness may increase even though the amount borrowed remains the same, and therefore net income and associated cash flows, including cash available for servicing our indebtedness, may correspondingly decrease. While we continually monitor and assess our interest rate risk and have entered into derivative instruments to manage such risk, these instruments could be ineffective at mitigating all or a part of our risk, including changes to the applicable margin under our 2018 credit facility.

The alteration or discontinuation of LIBOR may adversely affect our borrowing costs.

Certain of our interest rate derivatives and a portion of our indebtedness bear interest at variable interest rates, primarily based on LIBOR, which is subject to regulatory guidance and/or reform that could cause interest rates under our current or future debt agreements to perform differently than in the past or cause other unanticipated consequences. In July 2017, the Chief Executive of the U.K. Financial Conduct Authority (FCA), which regulates LIBOR, announced that the FCA will no longer persuade or compel banks to submit rates for the calculation of LIBOR after 2021. However, on November 30, 2020, the ICE Benchmark Administration Limited announced its plan to extend the date that most U.S. LIBOR values would cease being computed and announced from December 31, 2021 to June 30, 2023. Such announcement indicates that the continuation of LIBOR on the current basis cannot and will not be guaranteed, and the timing of such discontinuation, modifications or other reforms to LIBOR is uncertain. At this time, it is not possible to predict the effect any discontinuance, modification or other reforms to LIBOR or any other reference rate, or the establishment of alternative reference rates will have on the Company. However, as LIBOR is expected to cease to exist in a future period, the Company's borrowing costs may be adversely affected.

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

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

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

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

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

Legal and Regulatory Risks

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

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

The Organization for Economic Cooperation and Development guidance under the Base Erosion and Profit Shifting (BEPS) initiatives aim to minimize perceived tax abuses and modernize global tax policy. The Anti-Tax Avoidance Directives (ATAD), issued by the Council of the European Union, provides further recommendations for legislative changes under these tax policies. Additional recommendations will be forthcoming. More countries are beginning to implement legislative changes based on these BEPS recommendations and ATAD measures. The OECD has also proceeded with the advancement under Action 1 ("Addressing the Tax Challenges of the Digital Economy") of the 'BEPS 2.0 initiative', which proposes further fundamental changes to the international tax system. This project includes a framework for providing taxing rights to jurisdictions based on the location of the consumer regardless of current physical presence of a company. There is also a second component that would implement a global minimum tax. While there is significant uncertainty around this proposal, including how it would be applied, if implemented, it could create an adverse effect on our tax position.

A significant number of our products are affected by the availability and regulation of radio spectrum and could be affected by interference with the radio spectrum that we use.

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

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

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

We have committed, and will continue to commit, significant resources to the development of products that use particular radio frequencies. Action by the FCC could require modifications to our products. The inability to modify our products to meet such requirements, the possible delays in completing such modifications, and the cost of such modifications all could have a material adverse effect on our future business, financial condition, and results of operations.

Outside of the United States, certain of our products require the use of RF and are subject to regulations in those jurisdictions where we have deployed such equipment. In some jurisdictions, radio station licensees are generally required to operate a radio transmitter, and such licenses may be granted for a fixed term and must be periodically renewed. In other jurisdictions, the rules permit certain low power devices to operate on an unlicensed basis. Our smart metering solutions typically transmit to (and receive information from, if applicable) handheld, mobile, or fixed network reading devices in license-exempt bands pursuant to rules regulating such use. In Europe, we generally use the 169 megahertz (MHz), 433/4 MHz, and 868 MHz bands. In the rest of the world, we primarily use the 433/4 MHz, 920 MHz and 2.4000-2.4835 gigahertz (GHz) bands, as well as other local license-exempt bands. To the extent we introduce new products designed for use in the United States or another country into a new market, such products may require significant modification or redesign to meet frequency requirements and other regulatory specifications. In some countries, limitations on frequency availability or the cost of making necessary modifications may preclude us from selling our products in those jurisdictions. In addition, new consumer products may create interference with the performance of our products, which could lead to claims against us.

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

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

with respect to these activities or that the cost of complying with governmental regulations in the future, either for an individual claim or in aggregate of multiple claims, would not have a material adverse effect on us.

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

The U.S. Foreign Corrupt Practices Act requires U.S. companies to comply with an extensive legal framework to prevent bribery of foreign officials. The laws are complex and require that we closely monitor local practices of our overseas offices. The U.S. Department of Justice continues to heighten enforcement of these laws. In addition, other countries continue to implement similar laws that may have extra-territorial effect. In the United Kingdom, where we have operations, the U.K. Bribery Act imposes significant oversight obligations on us and could impact our operations outside the United Kingdom. The costs for complying with these and similar laws may be significant and could require significant management time and focus. Any violation of these or similar laws, intentional or unintentional, could result in fines and/or criminal penalties and have a material adverse effect on our business, financial condition, or results of operations. Further, we operate in some parts of the world that have experienced governmental corruption, and, in certain circumstances, local customs and practice might not be consistent with the requirements of anti-corruption laws. We remain subject to the risk that our employees, third party partners, or agents will engage in business practices that are prohibited by our policies and violate such laws and regulations.

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

The SEC has adopted rules regarding disclosure for companies that use certain minerals and derivative metals (referred to as "conflict minerals", regardless of their actual country of origin) in their products. Some of these metals are commonly used in electronic equipment and devices, including our products. These requirements require companies to investigate, disclose and report whether such metals originated from the Democratic Republic of Congo or adjoining countries and required due diligence efforts. We may not be able to sufficiently verify the origins for all minerals used in our products, and our reputation may suffer if we determine that our products contain conflict minerals that are not determined to be conflict free or if we are unable to sufficiently verify the origins for all conflict minerals used in our products. At times, our customers also request or require that we confirm whether our products contain conflict-free minerals, and this may result in challenges in timely satisfying such customers' requests, if at all. There are costs associated with complying with these disclosure requirements, including for diligence to determine the sources of conflict minerals used in our products and related components and other potential changes to products, processes or sources of supply as a consequence of such verification activities. Further interpretation and implementation of these rules could adversely affect the sourcing, supply, and pricing of materials used in our products.

Item 1B: Unresolved Staff Comments

None.

Item 2: Properties

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

The following table lists our major manufacturing facilities by region and location:

Region	Location
North America	Oconee, SC (O) Waseca, MN (L)
Europe, Middle East, and Africa	Chasseneuil, France (O) Macon, France (O) Massy, France (L) Karlsruhe, Germany (O) Oldenburg, Germany (O) Godollo, Hungary (O) Asti, Italy (O)
Asia/Pacific	Bekasi, Indonesia (O)

- (O) Manufacturing facility is owned
- (L) Manufacturing facility is leased

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

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

Item 3: Legal Proceedings

SEC regulations require us to disclose certain information about proceedings arising under federal, state or local environmental provisions if we reasonably believe that such proceedings may result in monetary sanctions above a stated threshold. Pursuant to the SEC regulations, Itron uses a threshold of \$1 million or more for purposes of determining whether disclosure of any such proceedings is required. Under this threshold, Itron does not have any legal proceedings to report.

Item 4: Mine Safety Disclosures

Not applicable.

Item 5: Market for Registrant's Common Equity, Related Stockholder Matters and Issuer Purchases of Equity Securities

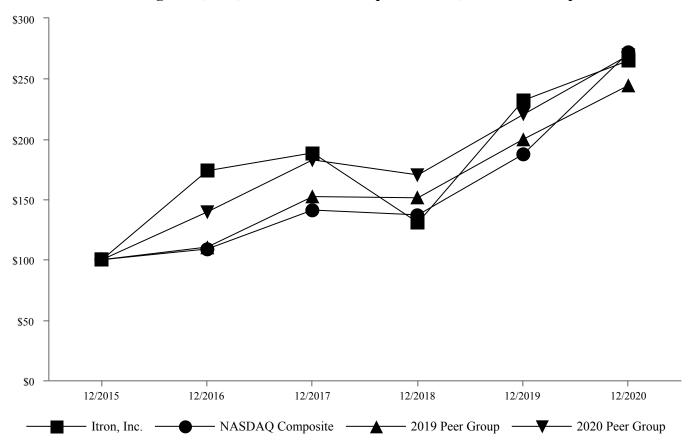
Market Information for Common Stock

Our common stock is traded on the NASDAQ Global Select Market under the symbol ITRI.

Performance Graph

The following graph compares the five-year cumulative total return to shareholders on our common stock with the five-year cumulative total return of our peer group of companies used for the year ended December 31, 2020 and the NASDAQ Composite Index.

COMPARISON OF 5 YEAR CUMULATIVE TOTAL RETURN* Among Itron, Inc., the NASDAQ Composite Index, and Peer Group



^{* \$100} invested on December 31, 2015, in stock or index, including reinvestment of dividends. Fiscal years ending December 31.

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

The above presentation assumes \$100 invested on December 31, 2015 in the common stock of Itron, Inc., the peer group, and the NASDAQ Composite Index, with all dividends reinvested. With respect to companies in the peer group, the returns of each such corporation have been weighted to reflect relative stock market capitalization at the beginning of each annual period plotted. The historical stock prices shown above for our common stock are not necessarily indicative of future price performance.

Each year, we reassess our peer group to identify global companies that are either direct competitors or have similar industry and business operating characteristics. Our 2020 peer group includes the following publicly traded companies: Badger Meter, Inc., Landis+Gyr, Mueller Water Products, Inc., and Xylem, Inc. (Sensus). Our 2020 peer group was updated due to the direction of one of our peer's business. Our 2020 peer group was updated to exclude Roper Technologies, Inc. due to the direction of its business

Issuer Repurchase 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
				In thousands
October 1, 2020 through October 31, 2020	_	\$ —	_	\$ —
November 1, 2020 through November 30, 2020	4,409	73.72	_	_
December 1, 2020 through December 31, 2020	3,222	84.20		_
Total	7,631			

Shares purchased 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.

Holders

At January 31, 2021, there were 179 holders of record of our common stock. This does not include persons whose stock is in nominee or accounts through brokers.

Dividends

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

Item 6: Selected Financial Data

Part II, Item 6 is no longer required as the company has applied certain provisions within the amendment to Regulation S-K Item 301, which became effective on February 10, 2021.

Item 7: Management's Discussion and Analysis of Financial Condition and Results of Operations

The following discussion and analysis compares the change in the consolidated financial statements for fiscal years 2020 and 2019 and should be read in conjunction with Item 8: Financial Statements and Supplementary Data. For comparisons of fiscal years 2019 and 2018, see our Management's Discussion and Analysis of Financial Condition and Results of Operations in Part II, Item 7 of our 2019 Annual Report on Form 10-K, filed with the Securities and Exchange Commission (SEC) on February 27, 2020, and incorporated herein by reference.

The objective of Management's Discussion and Analysis is to provide our assessment of the financial condition and results of operations including an evaluation of our liquidity and capital resources along with material events occurring during the year. The discussion and analysis focuses on material events and uncertainties known to management that are reasonably likely to cause reported financial information not to be necessarily indicative of future operating results or of future financial condition. In addition, we address matters that are reasonably likely based on management's assessment to have a material impact on future operations. We expect that the analysis will enhance a reader's understanding of our financial condition, cash flows, and other changes in financial condition and results of operations.

Overview

We are a technology and service company, and we are a leader in the Industrial Internet of Things (IIoT). We offer solutions that enable utilities and municipalities to safely, securely and reliably operate their critical infrastructure. Our solutions include the deployment of smart networks, software, services, devices, sensors, and data analytics that allow our customers to manage assets, secure revenue, lower operational costs, improve customer service, improve safety, and enable efficient management of valuable resources. Our comprehensive solutions and data analytics address the unique challenges facing the energy, water, and municipality sectors, including increasing demand on resources, non-technical loss, leak detection, environmental and regulatory compliance, and improved operational reliability.

We operate under the Itron brand worldwide and manage and report under three operating segments: Device Solutions, Networked Solutions, and Outcomes. The product and operating definitions of the three segments are as follows:

Device Solutions – This segment 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., hardware-based products not part of a complete "end-to-end" solution. Examples from the Device Solutions portfolio include: standard endpoints that are shipped without Itron communications, such as our standard gas, electricity, and water meters for a variety of global markets and adhering to regulations and standards within those markets, as well as our heat and allocation products; communicating meters that are not a part of an Itron end-to-end solution such as Smart Spec meters; and the implementation and installation of non-communicating devices, such as gas regulators.

Networked Solutions – This segment primarily includes a combination of communicating devices (e.g., 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 includes products and software for the implementation, installation, and management of communicating devices and data networks. Examples from the Networked Solutions portfolio 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 IIoT solutions supported by this segment include automated meter reading (AMR), advanced metering infrastructure (AMI), smart grid and distribution automation, smart street lighting and an ever-growing set of smart city applications such as traffic management, smart parking, air quality monitoring, electric vehicle charging, customer engagement, digital signage, acoustic (e.g., gunshot) detection, and leak detection and mitigation for both gas and water systems. Our IIoT platform allows all of these industry and smart city applications to be run and managed on a single, multi-purpose network.

Outcomes – This segment primarily includes our value-added, enhanced software and services 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 to 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 from the Outcomes portfolio include: our meter data management and analytics offerings; our managed service solutions including network-as-a-service (NaaS) and platform-as-a-service, forecasting software and services; our Distributed Intelligence suite of applications 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 have three measures of segment performance: revenues, gross profit (margin), and operating income (margin). Intersegment revenues are minimal. Certain operating expenses are allocated to the operating segments based upon internally established allocation methodologies. Interest income, interest expense, other income (expense), the income tax provision (benefit), and certain corporate operating expenses are neither allocated to the segments nor included in the measures of segment performance.

Non-GAAP Measures

To supplement our consolidated financial statements, which are prepared in accordance with accounting principles generally accepted in the United States (GAAP), we use certain adjusted or non-GAAP financial measures, including non-GAAP operating expense, non-GAAP operating income, non-GAAP net income, non-GAAP diluted earnings per share (EPS), adjusted EBITDA, adjusted EBITDA margin, constant currency, and free cash flow. We provide these non-GAAP financial measures because we believe they provide greater transparency and represent supplemental information used by management in its financial and operational decision making. We exclude certain costs in our non-GAAP financial measures as we believe the net result is a measure of our core business. We believe these measures facilitate operating performance comparisons from period to period by eliminating potential differences caused by the existence and timing of certain expense items that would not otherwise be apparent on a GAAP basis. Non-GAAP performance measures should be considered in addition to, and not as a substitute for, results prepared in accordance with GAAP. 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. Our non-GAAP financial measures may be different from those reported 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 42-44 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

Highlights and significant developments for the year ended December 31, 2020 compared with the year ended December 31, 2019

- Revenues were \$2.2 billion compared with \$2.5 billion last year, a decrease of \$329.1 million, or 13%
- Gross margin was 27.7% compared with 30.1% last year
- Operating expenses decreased \$7.1 million, or 1%, compared with 2019, and included a \$59.8 million loss on sale of business and \$43.2 million of restructuring expense related to the 2020 Projects
- Net loss attributable to Itron, Inc. was \$58.0 million compared with net income attributable to Itron, Inc. of \$49.0 million in 2019
- GAAP loss per share was \$1.44 compared with diluted EPS of \$1.23 in 2019
- Non-GAAP net income attributable to Itron, Inc. was \$75.3 million compared with \$132.8 million in 2019
- Non-GAAP diluted EPS was \$1.85 compared with \$3.32 in 2019
- Adjusted EBITDA decreased \$91.6 million, or 34%, to \$178.4 million compared with adjusted EBITDA of \$270.0 million in 2019
- Total backlog was \$3.3 billion, and twelve-month backlog was \$1.2 billion at December 31, 2020, compared with \$3.2 billion and \$1.5 billion at December 31, 2019.

Outlook for 2021 due to COVID-19

The COVID-19 pandemic has had global economic impacts including disrupting global supply chains and creating market volatility. The extent of the recent pandemic and its ongoing impact on our operations is volatile but is being monitored closely by our management. While certain of our European factories were closed during portions of the first half of 2020 due to government actions and local conditions, all were open by May and throughout the remainder of the year. Any further closures that may be imposed on us could impact our results for 2021. Incremental costs we have incurred related to COVID-19, such as personal protective equipment, increased cleaning and sanitizing of our facilities, and other such items, have not been material to date. At this time, we have not identified any significant decrease in long-term customer demand for our products and services. Certain of our customers' projects and deployments have shifted into 2021 and beyond. For more information on risks associated with the COVID-19 pandemic, please see our risk in Part I, Item 1A, Risk Factors.

The COVID-19 pandemic remains a rapidly evolving situation. Changes in the mix of earnings or losses from our different geographical operations, as well as any future enactment of tax legislation and other factors, may result in more volatile quarterly and annual effective tax rates. The detrimental impacts to financial results may be partially offset by financial assistance from the U.S. or the municipalities in which we operate, including employer payroll tax credits for wages paid to employees who are unable to work during the COVID-19 outbreak. Other benefits, including options to defer payroll tax payments and additional deductions, have resulted in reduced future cash outlays in the near term.

2020 Restructuring Plan

On September 17, 2020, our Board of Directors approved a restructuring plan (the 2020 Projects), which includes activities that continue our efforts to optimize our global supply chain and manufacturing operations, sales and marketing organizations, and other overhead. These projects are scheduled to be substantially complete by the end of 2022. We estimate pre-tax restructuring charges of \$55 million to \$65 million, of which approximately \$35 million to \$45 million will result in cash expenditures, and the remainder relates to non-cash charges. Of the total expected charges, \$43.2 million was recognized in 2020. The largest component of expected remaining costs to be recognized is related to a non-cash cumulative translation adjustment charge. 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. Refer to Item 8: Financial Statements and Supplementary Data, Note 13: Restructuring for more information.

Sale of Business

On June 25, 2020, we closed on the sale of five subsidiaries comprising our manufacturing and sales operations in Latin America to buyers led by Instalación Profesional y Tecnologías del Centro S.A. de C.V., a Mexican company doing business as Accell in Brazil (Accell), through the execution of various definitive stock purchase agreements. The sale of these Latin America-based operations is part of our continued strategy to improve profitability and focus on growing our Networked Solutions and Outcomes businesses in Latin America and throughout the world. We retained the intellectual property rights to our products sold in Latin America. As part of the transaction, we entered into an intellectual property license agreement whereby Accell pays a royalty on certain products manufactured by Accell using licensed Company intellectual property. In addition, Accell serves as the exclusive distributor for our Device Solutions, Networked Solutions, and Outcomes product and service offerings in Latin America. We recognized a loss on sale of business of \$59.8 million during the year ended December 31, 2020, primarily due to foreign currency translation losses and allocated goodwill. Refer to Item 8: Financial Statements and Supplementary Data, Note 18: Sale of Business for more information.

Credit Facility Revolving Line of Credit

In March 2020, we drew \$400 million in U.S. dollars under the multicurrency revolving line of credit (the revolver) within the credit facility that was initially entered on January 5, 2018 and amended on October 18, 2019 (2018 credit facility) to increase our cash position and preserve future financial flexibility. During the fourth quarter, we repaid the \$400 million under the revolver. At December 31, 2020, there were no amounts outstanding under the revolver and \$64.9 million was utilized by outstanding standby letters of credit, resulting in \$435.1 million available for additional borrowings or standby letters of credit under the revolver. At December 31, 2020, \$235.1 million was available for additional standby letters of credit under the letter of credit sub-facility and no amounts were outstanding under the swingline sub-facility.

Credit Facility Amendment

On October 19, 2020, we completed a second amendment to our 2018 credit facility. This amendment adjusts the maximum total net leverage ratio thresholds for the period beginning with the fourth quarter of 2020 through the fourth quarter of 2021 to allow for increased operational flexibility. The maximum leverage ratio is increased to 4.75:1 for the fourth quarter of 2020 and the first quarter of 2021 and 4.5:1 for the second quarter through the fourth quarter of 2021. An additional level of pricing was added to the existing pricing grid and is effective throughout the remaining term of the 2018 credit facility. Beginning with the

fourth quarter of 2020, the commitment fee ranges from 0.15% to 0.30% and drawn amounts are Subject to a margin ranging from 1.00% to 2.00%. Debt fees of approximately \$1.4 million were incurred for the amendment, as well as other legal and advisory fees. Both the U.S. term loan (the term loan) and the revolver may 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.

Stock Repurchase Authorization

On March 14, 2019, Itron's Board of Directors authorized the Company to repurchase up to \$50 million of our common stock over a 12-month period (the 2019 Stock Repurchase Program). Following the announcement of the program and through December 31, 2019, we repurchased 529,396 shares at an average share price of \$47.22 (including commissions) for a total of \$25 million. The program expired on March 13, 2020, and no additional shares were repurchased during 2020.

Total Company GAAP and Non-GAAP Highlights and Endpoints Under Management

	Yea	r Ended Decembe	er 31,	l,	
In thousands, except margin and per share data	 2020	% Change		2019	
GAAP					
Revenues					
Product revenues	\$ 1,889,173	(15)%	\$	2,220,395	
Service revenues	 284,177	1%		282,075	
Total revenues	2,173,350	(13)%		2,502,470	
Gross profit	602,167	(20)%		752,319	
Operating expenses	612,562	(1)%		619,636	
Operating income (loss)	(10,395)	NM		132,683	
Other income (expense)	(46,244)	(22)%		(59,651)	
Income tax benefit (provision)	(238)	NM		(20,617)	
Net income (loss) attributable to Itron, Inc.	(57,955)	NM		49,006	
Non-GAAP ⁽¹⁾					
Non-GAAP operating expenses	\$ 470,028	(10)%	\$	519,954	
Non-GAAP operating income	132,139	(43)%		232,365	
Non-GAAP net income attributable to Itron, Inc.	75,253	(43)%		132,795	
Adjusted EBITDA	178,399	(34)%		270,023	
GAAP Margins and EPS					
Gross margin					
Product gross margin	25.4 %			28.5 %	
Service gross margin	42.8 %			42.4 %	
Total gross margin	 27.7 %			30.1 %	
Operating margin	(0.5)%			5.3 %	
Net income (loss) per common share - Basic	\$ (1.44)		\$	1.24	
Net income (loss) per common share - Diluted	\$ (1.44)		\$	1.23	
Non-GAAP EPS (1)					
Non-GAAP diluted EPS	\$ 1.85		\$	3.32	

These measures exclude certain expenses that we do not believe are indicative of our core operating results. See pages 42-44 for information about these non-GAAP measures and reconciliations to the most comparable GAAP measures.

Introduction to Itron's Managed Endpoint Metric

More than 15 years ago we accelerated our ability to offer utilities higher value solutions with the purchase of Schlumberger's electricity metering business. With this acquisition, Itron solidified itself as one of the leaders in AMR modules, meters, and other critical infrastructure to the electric, gas, and water utility industries. In 2008, we continued our technology advancement with our first generation of AMI focused on growing our offerings of networked products and services around the globe. We expanded our network footprint and expanded our capabilities as a unified operating platform with the acquisition of Silver Spring Networks (SSNI) in 2018, strengthening our position as a global technology leader in smart utility and smart city critical infrastructure and outcomes.

Following the acquisition of SSNI, we realigned out product portfolio into reporting segments of Device Solutions, Networked Solutions, and Outcomes to emphasize our transformation from increasingly commoditized, undifferentiated endpoints to higher value data-centric networked solutions and outcomes. Our customers - utilities, municipalities, and cities - who deploy our Networked Solutions tend to utilize these assets for 10 to 15 years after their initial deployment. Building upon our established installed base of networked endpoints, our strategy focuses on converting our customers to long-term clients with ongoing professional services, managed services, software, security, and tools that improve data insight, risk mitigation, service resiliency, sustainability, and efficiency in their daily operations. In some instances, the "endpoints under management" are not on an Itron provided network but rather a network of another third party that has asked Itron to manage, monitor, or run the network or application for them.

Our management team places an emphasis on investments, both organic and inorganic, focused on growth in our Outcomes segment. Our strategy is to build higher value solutions, applications, and customer focused outcomes upon a set of global networked endpoint assets under Itron's active management on behalf of our clients. To inform progression of our strategy, management relies on the metric of "endpoints under management" as a leading indicator of the potential for long-term value creation and growth for our Outcomes business.

Management believes using the "endpoints under management" metric enhances insight to the strategic and operational direction of our Networked Solutions and Outcomes segments to serve clients for years after their one-time installation of an endpoint.

Definition of an Endpoint Under Management

An "endpoint under management" is a unique endpoint, or data from that endpoint, which Itron manages via our networked platform or a third party's platform that is connected to one or multiple types of endpoints. Itron's management of an endpoint occurs when on behalf of our client, we manage one or more of the physical endpoint, operating system, data, application, data analytics, and/or outcome deriving from this unique endpoint. Itron has the ability to monitor and/or manage endpoints or the data from the endpoints via NaaS, Software-as-a-Service (SaaS), and/or a licensed offering at a remote location designated by our client. Our offerings typically, but not exclusively, provide an Itron product or Itron certified partner product to our clients that has the capability of one-way communication or two-way communication of data that may include remote product configuration and upgradability. Examples of these offerings include our Temetra, OpenWay®, OpenWay® Riva and Gen X.

This metric primarily includes Itron or third party endpoints deployed within the electricity, water, and gas utility industries, as well as within cities and municipalities around the globe. Endpoints under management also include smart communication modules and network interface cards (NICs) within Itron's platforms. At times, these NICs are communicating modules that were sold separately from an Itron product directly to our customers or to third party manufacturers for use in endpoints such as electric, water, and gas meters; streetlights and other types of IIoT sensors and actuators; sensors and other capabilities that the end customer would like Itron to connect and manage on their behalf.

The "endpoint under management" metric only accounts for the specific, unique endpoint itself, though that endpoint may have multiple applications, services, outcomes, and higher margin recurring offerings associated with it. This metric does not reflect the multi-application value that can be derived from the individual endpoint itself. Additionally, this metric excludes those endpoints that are non-communicating, non-Itron system hardware component sales or licensed applications that Itron does not manage the unit or the data from that unit directly.

While the one-time sale of the platform and endpoints are primarily delivered via our Networked Solutions segment, our enhanced solutions, on-going monitoring, maintenance, software, analytics, and distributed intelligent applications are predominantly recognized in our Outcomes segment. We would anticipate the opportunity to increase our penetration of Outcomes applications, software, and managed applications will increase as our Endpoints Under Management increases.

A summary of our endpoints under management is as follows:

	Year Ended December 31,						
Units in thousands	2020	2019	2018				
Endpoints Under Management	74,184	64,719	47,755				

Results of Operations

Revenues and Gross Margin

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

	 Year Ended	Dece	mber 31,	in	t of Changes Foreign Currency	Constant	
In thousands	2020		2019		nange Rates	rency Change	 Total Change
Total Company							
Revenues	\$ 2,173,350	\$	2,502,470	\$	(3,384)	\$ (325,736)	\$ (329,120)
Gross profit	602,167		752,319		(219)	(149,933)	(150,152)

Revenues

Revenues decreased \$329.1 million in 2020 compared with 2019. We have been unfavorably impacted by COVID-19, which played a significant role in customer demand and lower year-over-year results. Product revenues decreased \$331.2 million in 2020 and service revenues increased \$2.1 million in 2020 as compared with 2019. Device Solutions decreased by \$164.9 million; Networked Solutions decreased by \$167.9 million; and Outcomes increased by \$3.6 million when compared with the same period last year. Changes in currency exchange rates unfavorably impacted revenues by \$3.4 million in 2020, primarily in Device Solutions.

No single customer represented more than 10% of total revenues for the years ended December 31, 2020 and 2019. Our 10 largest customers accounted for 33% of total revenues in 2020 and 31% of total revenues in 2019.

Gross Margin

Gross margin was 27.7% for 2020, compared with 30.1% in 2019. We were unfavorably impacted by COVID-19 induced operating inefficiencies, product mix and increased inventory reserves. Product sales gross margin decreased to 25.4% in 2020 from 28.5% in 2019. Gross margin on service revenues increased to 42.8% from 42.4% in 2019.

Refer to Operating Segment Results section below for further detail on total company revenues and gross margin.

Operating Expenses

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

Constant Currency		
Change	Total Change	
\$ (71,418)	\$ (69,952)	
(8,668)	(8,099)	
(19,621)	(19,575)	
30,889	30,735	
59,817	59,817	
\$ (9,001)	\$ (7,074)	
\$	59,817	

Operating expenses decreased \$7.1 million for the year ended December 31, 2020 as compared with the same period in 2019. This was primarily due to a decrease of \$70.0 million in sales, general and administrative expenses due to lower variable compensation and reduced travel expenses, which includes lower acquisition and integration costs of \$25.6 million classified within sales, general and administrative expenses. We had a decrease in amortization of intangible assets, as expected based on the amortization schedule determined at acquisition, of \$19.6 million and an \$8.1 million decrease in research and development expenses. These decreases were partially offset by an increase of \$59.8 million in a loss on the sale of our Latin America business and a \$30.7 million increase in restructuring expenses. See Item 8: Financial Statements and Supplementary Data, Note 18: Sale of Business and Note 13: Restructuring for more details.

Other Income (Expense)

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

	Year Ended December 31,						
In thousands		2020	% Change		2019		
Interest income	\$	2,998	62%	\$	1,849		
Interest expense		(39,871)	(15)%		(46,822)		
Amortization of prepaid debt fees		(4,130)	(27)%		(5,631)		
Other income (expense), net		(5,241)	(42)%		(9,047)		
Total other income (expense)	\$	(46,244)	(22)%	\$	(59,651)		

Total other income (expense) for the year ended December 31, 2020 was a net expense of \$46.2 million compared with \$59.7 million in 2019.

The change in other income (expense), net, for the year ended December 31, 2020 as compared with the same period in 2019 was primarily the result of \$8.9 million decrease in interest expense for the credit facility, \$2.7 million decrease due to lower foreign currency exchange losses resulting from transactions denominated in currency other than the reporting entity's functional currency, and \$1.5 million decrease in amortization of prepaid debt fees, offset by an increase in interest rate swap expense of \$2.2 million and an increase of \$1.1 million in interest income.

Income Tax Provision

Our income tax provision was \$0.2 million and \$20.6 million for the years ended December 31, 2020 and 2019, respectively. Our tax rate for the year ended December 31, 2020 differed from the U.S. federal statutory tax rate of 21% due primarily to a significant loss recognized in the second quarter for the divestiture of the majority of our Latin American business activities. Refer to Item 8: Financial Statements and Supplementary Data, Note 18: Sale of Business for additional information on the transaction. This loss was recognized for tax as a discrete item and resulted in no tax benefit. A discrete tax benefit was recognized in the third quarter for \$10.1 million related to the release of a valuation allowance on U.S. foreign tax credit deferred tax assets. This release was triggered by the carryforward of tax attributes due to the filing of amended tax returns in the third quarter. Other rate drivers include losses in jurisdictions for which no benefit is recognized because of valuation allowances on deferred tax assets, the level of profit or losses in domestic and international jurisdictions, a benefit related to excess stock-based compensation, and uncertain tax positions.

For additional discussion related to income taxes, see Item 8: Financial Statements and Supplementary Data, Note 11: Income Taxes.

Operating Segment Results

The following tables and discussion highlight significant changes in trends or components of each operating segment:

		Year	Ended Decemb	oer 3	1,	
In thousands	'	2020	% Change		2019	
Segment revenues						
Device Solutions	\$	693,995	(19)%	\$	858,881	
Networked Solutions		1,249,402	(12)%		1,417,254	
Outcomes		229,953	2%		226,335	
Total revenues	\$	2,173,350	(13)%	\$	2,502,470	
			Year Ended	Dec	ember 31,	
		202			201	9
In thousands		Gross Profit	Gross Margin		Gross Profit	Gross Margin
Segment gross profit and margin						
Device Solutions	\$	86,859	12.5%	\$	152,562	17.8%
Networked Solutions		432,906	34.6%		518,749	36.6%
Outcomes		82,402	35.8%		81,008	35.8%
Total gross profit and margin	\$	602,167	27.7%	\$	752,319	30.1%
		Year	Ended Decemb	oer 3	1,	
In thousands		2020	% Change		2019	
Segment operating expenses						
Device Solutions	\$	46,090	(16)%	\$	54,809	
Networked Solutions		124,807	3%		121,424	
Outcomes		34,783	(7)%		37,205	
Corporate unallocated		406,882	%		406,198	
Total operating expenses	\$	612,562	(1)%	\$	619,636	
			Year Ended	Dec	ember 31,	
		202	20		201	9
In thousands		perating Income	Operating Manaja		Operating Income	Operating Manain
In thousands Segment operating income (loss) and operating margin		(Loss)	Margin	- —	(Loss)	Margin
Device Solutions	\$	40,769	5.9%	\$	97,753	11.4%
Networked Solutions	ψ	308,099	24.7%	Ψ	397,325	28.0%
Outcomes		47,619	20.7%		43,803	19.4%
Outcomes		77,017	20.770		₹5,605	17.7/0
Corporate unallocated		(406,882)	NM		(406,198)	NM

Device Solutions:

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

	Year Ended	Dece	mber 31,	in	t of Changes Foreign Currency		Constant	
In thousands	2020		2019		nange Rates	Cu	rrency Change	Total Change
Device Solutions Segment								
Revenues	\$ 693,995	\$	858,881	\$	(3,880)	\$	(161,006)	\$ (164,886)
Gross profit	86,859		152,562		(2,040)		(63,663)	(65,703)
Operating expenses	46,090		54,809		169		(8,888)	(8,719)

Revenues

Revenues decreased by \$164.9 million in 2020, or 19%, compared with 2019 of which \$3.9 million was due to foreign exchange rate changes. The decrease was mainly due to reduced shipments driven by COVID-19 and revenue decreased \$33.0 million in the Latin America region driven by the sale of the business in June 2020.

Gross Margin

Gross margin was 12.5% in 2020 compared with 17.8% in 2019. The 530 basis point decrease was primarily due to COVID-19 induced operating inefficiencies, unfavorable product mix and increased inventory reserves.

Operating Expenses

Operating expenses decreased \$8.7 million, or 16%. The decrease was primarily a result of a \$6.6 million decrease in research and development costs, and a \$2.1 million decrease due to lower sales commissions and travel costs.

Networked Solutions:

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

		Year Ended	Dece	mber 31,	i	ct of Changes n Foreign Currency		Constant	
In thousands		2020		2019		change Rates	Cu	rrency Change	Total Change
Networked Solutions Segment	_								
Revenues	\$	1,249,402	\$	1,417,254	\$	455	\$	(168,307)	\$ (167,852)
Gross profit		432,906		518,749		1,709		(87,552)	(85,843)
Operating expenses		124,807		121,424		69		3,314	3,383

Revenues

Revenues decreased by \$167.9 million, or 12%, in 2020 compared with 2019. The change was primarily due to the timing of customer deployments and the impact of COVID-19 project delays, with lower product revenue of \$173.7 million partially offset by higher maintenance service revenue of \$5.8 million.

Gross Margin

Gross margin was 34.6% in 2020 compared with 36.6% in 2019. The decrease of 200 basis points was primarily related to COVID-19 induced operational inefficiencies and unfavorable product mix.

Operating Expenses

Operating expenses increased by \$3.4 million, or 2.8%, in 2020. The increase was primarily due to increased investment in product development of \$7.9 million, partially offset by a decrease of \$4.5 million in product marketing and travel expenses.

Outcomes:

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

	 Year Ended	Dece	mber 31,	Effect of Changes in Foreign Currency		(Constant	
In thousands	2020		2019		hange Rates		ency Change	Total Change
Outcomes Segment								
Revenues	\$ 229,953	\$	226,335	\$	40	\$	3,578	\$ 3,618
Gross profit	82,402		81,008		109		1,285	1,394
Operating expenses	34,783		37,205		18		(2,440)	(2,422)

Revenues

Revenues increased \$3.6 million, or 2%, in 2020. This increase was primarily due to a one-time customer adjustment recognized in 2019 in North America and an increase in software license sales and services.

Gross Margin

Gross margin was consistent at 35.8% in 2020 and 2019. Margin remained unchanged due to an unfavorable customer adjustment in 2019 in addition to higher margin software license sales in 2020, which were offset by higher costs in 2020.

Operating Expenses

Operating expenses decreased \$2.4 million, or 6.5%, in 2020. The decrease was due to lower research and development of \$1.8 million and lower marketing expense of \$0.6 million.

Corporate unallocated:

Operating expenses not directly associated with an operating segment are classified as Corporate unallocated. These expenses increased \$0.7 million in 2020 as compared with 2019. This was primarily the result of a \$59.8 million loss on sale of business due to the Latin America divestiture and an increase of \$30.7 million in restructuring expense primarily due to the 2020 Projects. Sales, general and administrative expenses and research and development expenses decreased \$44.7 million mainly driven by lower variable compensation and reduced travel expenses. In addition, costs related to the SSNI integration decreased \$25.6 million, and amortization of intangible assets decreased \$19.6 million.

Financial Condition

Cash Flow Information:

	Year Ended December 31,									
In thousands		2020		2019		2018				
Cash provided by operating activities	\$	109,514	\$	172,840	\$	109,755				
Cash used in investing activities		(41,036)		(48,180)		(862,658)				
Cash provided by (used in) financing activities		(11,576)		(97,519)		395,821				
Effect of exchange rates on cash, cash equivalents, and restricted cash		127		435		(7,925)				
Increase (decrease) in cash, cash equivalents, and restricted cash	\$	57,029	\$	27,576	\$	(365,007)				

Cash, cash equivalents, and restricted cash at December 31, 2020 was \$206.9 million compared with \$149.9 million at December 31, 2019. The \$57.0 million increase in cash, cash equivalents, and restricted cash in the 2020 period was primarily the result of cash flows from operating activities, partially offset by acquisitions of property, plant, and equipment, and net repayment of debt.

Operating activities

Cash provided by operating activities in 2020 was \$63.3 million lower than in 2019. This decrease was primarily due to lower earnings, partially offset by increased net cash inflows for working capital.

Investing activities

Cash used in investing activities during 2020 was \$7.1 million lower than in 2019. This decrease in use of cash was primarily lower spending of \$14.5 million for property, plant, and equipment, as well as lower proceeds from sale of property, plant, and equipment.

Financing activities

Net cash used in financing activities during 2020 was \$11.6 million, compared with net cash used in 2019 of \$97.5 million. In 2020, we had net repayments of debt of \$14.1 million. In 2019, we paid down our debt of \$87.7 million and repurchased \$25 million of our stock.

Effect of exchange rates on cash and cash equivalents

The effect of exchange rates on the cash balances of currencies held in foreign denominations resulted in an increase of \$0.1 million in 2020 and an increase of \$0.4 million in 2019. Our foreign currency exposure relates to non-U.S. dollar denominated balances in our international subsidiary operations.

Free cash flow (Non-GAAP)

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

	Year Ended	Decen	iber 31,
In thousands	2020		2019
Cash provided by operating activities	\$ 109,514	\$	172,840
Acquisitions of property, plant, and equipment	(46,208)		(60,749)
Free cash flow	\$ 63,306	\$	112,091

Free cash flow decreased primarily as a result lower earnings, partially offset by lower spending for property, plant, and equipment. See the cash flow discussion of operating activities above.

Liquidity and Capital Resources:

Our principal sources of liquidity are cash flows from operations, borrowings, and the sale of our 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 in a net favorable position.

Borrowings

On October 18, 2019, we amended our credit facility that was initially entered on January 5, 2018 (together with the amendment, the 2018 credit facility). The 2018 credit facility provides for committed credit facilities in the amount of \$1.2 billion U.S. dollars. The 2018 credit facility consists of a \$650 million the term loan and 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. The October 18, 2019, amendment extended the maturity date to October 18, 2024 and re-amortized the term loan based on the new balance as of the amendment date.

We drew \$400 million in U.S. dollars under the revolving line of credit within the 2018 credit facility in March 2020. In light of the uncertain environment, we deemed it prudent to increase our cash position and preserve financial flexibility. We repaid the revolving line of credit during the fourth quarter of 2020. The Total Net Leverage Ratio, as defined in the amended 2018 credit facility agreement, was unchanged by this drawing.

On October 19, 2020, we completed a second amendment to our 2018 credit facility. This amendment adjusts the maximum total net leverage ratio thresholds for the period beginning with the fourth quarter of 2020 through the fourth quarter of 2021 to allow for increased operational flexibility. The maximum leverage ratio is increased to 4.75:1 for the fourth quarter of 2020 and the first quarter of 2021 and 4.50:1 for the second quarter through the fourth quarter of 2021. An additional level of pricing was added to the existing pricing grid and is effective throughout the remaining term of the 2018 credit facility. Beginning with the fourth quarter of 2020, the commitment fee ranges from 0.15% to 0.30% and drawn amounts are subject to a margin ranging

from 1.00% to 2.00%. Going forward, we do not expect any significant increase in interest expense as the result of this amendment.

At December 31, 2020, no amount was outstanding under the 2018 credit facility revolver, and \$65 million was utilized by outstanding standby letters of credit, resulting in \$435.1 million available for additional borrowings or standby letters of credit under the revolver. At December 31, 2020, \$235 million was available for additional standby letters of credit under the letter of credit sub-facility and no amounts were outstanding under the swingline sub-facility. Both the term loan and the revolver mature on October 18, 2024 and may 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. Principal and interest payments due in the next 12 months for the term loan are \$27.7 million and \$543.7 million is due beyond 12 months.

In December 2017 and January 2018, we issued a combined \$400 million in aggregate principal amount of 5.00% senior notes maturing January 15, 2026 (Senior 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 Senior Notes is payable semi-annually in arrears on January 15 and July 15, commencing on July 15, 2018. The \$10 million interest payment due on January 15, 2021 was paid as of December 31, 2020. The Senior Notes are fully and unconditionally guaranteed, jointly and severally, on a senior unsecured basis by each of our subsidiaries that guarantee the 2018 credit facility.

Prior to maturity, we may redeem some or all of the Senior 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 Senior 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 January 15, 2023 and thereafter to the applicable redemption date. In the next 12 months, principal and interest of \$10 million is due on the Senior Note. Principal and interest of \$490 million is due beyond the next 12 months.

For further description of our borrowings, refer to Item 8: Financial Statements and Supplementary Data, 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 8: Financial Statements and Supplementary Data, Note 12: 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. For the year ended December 31, 2020, we paid out \$13.1 million and we have approximately \$5 million to \$10 million of estimated cash payments remaining on the integration plan, the majority of which is expected to be paid within the next 12 months.

Restructuring

On September 17, 2020, our Board of Directors approved a restructuring plan (the 2020 Projects). The 2020 Projects include activities that continue our efforts to optimize its global supply chain and manufacturing operations, sales and marketing organizations, and other overhead. These projects are scheduled to be substantially complete by the end of 2022. We estimate pre-tax restructuring charges of \$55 million to \$65 million. Of the total estimated charge, approximately \$35 million to \$45 million will result in cash expenditures, and the remainder relates to non-cash charges.

For the year ended December 31, 2020, we paid out a net \$17.1 million related to all our restructuring projects. As of December 31, 2020, \$72.6 million was accrued for these restructuring projects, of which \$31.7 million is expected to be paid within the next 12 months.

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

Other contractual obligations and commitments

Operating lease obligations are disclosed in Item 8: Financial Statements and Supplementary Data, Note 19: Leases and do not include common area maintenance charges, real estate taxes, and insurance charges for which we are obligated. Amounts due under operating lease liabilities for the next twelve months are \$18.3 million and beyond the next twelve months are \$75.6 million.

We enter into standard purchase orders in the ordinary course of business that typically obligate us to purchase materials and other items. Purchase orders and other purchase obligations can include open-ended agreements that provide for estimated quantities over an extended shipment period, typically up to one year at an established unit cost. Our long-term executory purchase agreements, which contain termination clauses, have been classified as less than one year, as the commitments are the estimated amounts, we would be required to pay at December 31, 2021 if the commitments were canceled. Purchase order and other purchase obligations are \$236.7 million for the next twelve months and \$2.5 million for periods longer than twelve months, which includes capital expenditures of \$0.8 million for the next twelve months and no obligations related to capital expenditures for periods beyond twelve months.

Other long-term liabilities consist of warranty obligations, estimated pension benefit payments, and other obligations. Estimated pension benefit payments include amounts to be paid from our assets for unfunded plans and reflect expected future service. The following table summarizes our known obligations to make future payments pursuant to certain contracts as of December 31, 2020.

In thousands	Next 12 months	ond the next 12 months
Warranty obligations	\$ 28,329	\$ 13,061
Estimated pension benefit payments	3,995	119,457

The period of cash settlement for long-term unrecognized tax benefits, which include accrued interest and penalties, cannot be reasonably estimated with the respective taxing authorities. For further information on defined benefit pension plans, income taxes, warranty obligations, and unearned revenue for extended warranties, see Item 8: Financial Statements and Supplementary Data, Note 8: Defined Benefit Pension Plans, Note 11: Income Taxes, Note 12: Commitments and Contingencies, and Note 17: Revenues, respectively.

Income Tax

Our tax provision as a percentage of income before tax typically differs from the U.S. federal statutory rate of 21%. Changes in our actual tax rate are subject to several factors, including fluctuations in operating results, new or revised tax legislation and accounting pronouncements, changes in the level of business in domestic and foreign jurisdictions, research and development tax credits, state income taxes, adjustments to valuation allowances, settlement of tax audits, and uncertain tax positions, among other items. Changes in tax laws, valuation allowances, and unanticipated tax liabilities could significantly impact our tax rate.

Our cash income tax payments were as follows:

	Year Ended December 31,							
In thousands	2020			2019				
U.S. federal taxes paid (refunded)	\$	(6,816)	\$	184				
State income taxes paid		914		1,664				
Foreign and local income taxes paid		8,590		10,193				
Total income taxes paid	\$	2,688	\$	12,041				

Based on current projections, we expect to pay, net of refunds, approximately \$5 million in U.S. federal and state taxes and \$9 million in foreign and local income taxes in 2021.

As of December 31, 2020, there was \$43.3 million of cash and short-term investments held by certain foreign subsidiaries in which we are permanently reinvested for tax purposes. As a result of recent changes in U.S. tax legislation, any repatriation in the future would not result in U.S. federal income tax. Accordingly, there is no provision for U.S. deferred taxes on this cash. If this cash were repatriated to fund U.S. operations, additional withholding tax costs may be incurred. Tax is only one of many factors that we consider in the management of global cash. Accordingly, the amount of taxes that we would need to accrue and pay to repatriate foreign cash could vary significantly.

Other Liquidity Considerations

In several of our consolidated international subsidiaries, we have joint venture partners who are minority shareholders. Although these entities are not wholly-owned by Itron, Inc., we consolidate them because we have a greater than 50% ownership interest and/or because we exercise control over the operations. The noncontrolling interest balance in our Consolidated Balance Sheets represents the proportional share of the equity of the joint venture entities, which is attributable to the minority shareholders. At December 31, 2020, \$21.8 million of our consolidated cash balance was 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

Notwithstanding the expected short to mid-term impacts of the COVID-19 pandemic, 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 our 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 utility industries, competitive pressures, our dependence on certain key vendors and components, changes in estimated liabilities for product warranties and/or litigation, duration of the COVID-19 pandemic, future business combinations, capital market fluctuations, international risks, and other factors described under Item 1A: Risk Factors, as well as Item 7A: Quantitative and Qualitative Disclosures About Market Risk.

Contingencies

Refer to Item 8: Financial Statements and Supplementary Data, Note 12: Commitments and Contingencies.

Critical Accounting Estimates and Policies

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

Revenue Recognition

Many of our revenue arrangements involve multiple performance obligations, consisting of hardware, software, and professional services such as implementation, project management, installation, and consulting services. These arrangements require us to determine the standalone selling price of the promised goods or services underlying each performance obligation and then allocate the total arrangement consideration among the separate performance obligations based on their relative standalone selling price. Revenues for each performance obligation are then recognized upon transfer of control to the customer at a point in time as products are shipped or received by a customer, or over time as services are delivered. The majority of our revenue is recognized at a point in time when products are shipped to or received by a customer. Certain contracts that contain multiple performance obligations may contain customer-specific terms and conditions that govern service level commitments, transfer of control, and variable consideration that may involve complex accounting considerations.

Professional services revenues 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. 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. Other variables impacting our estimate of costs to complete include length of time to complete, changes in wages, subcontractor performance, supplier information, and business volume assumptions. Changes in underlying assumptions and estimates may adversely or favorably affect financial performance.

If we estimate that the completion of a performance obligation will result in a loss, then the loss is recognized in the period in which the loss becomes evident. We reevaluate the estimated loss through the completion of the performance obligation and adjust the estimated loss for changes in facts and circumstances.

Many of our contracts with customers include variable consideration, which can include liquidated damage provisions, rebates and volume and early payment discounts, or software licenses sold where the amount of consideration is dependent on the

number of endpoints deployed. We estimate variable consideration using the expected value method, taking into consideration contract terms, historical customer behavior, and historical sales. 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 of having to pay liquidated damages and the magnitude of such damages. 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.

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

We allocate consideration to each performance obligation in an arrangement based on its relative standalone selling price. 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 maximize the use of observable inputs and consider 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.

Our contracts may be modified to add, remove, or change existing performance obligations or change contract price. The accounting for modifications to our contracts involves assessing whether the products or services added to an existing contract are distinct and whether the pricing is at the standalone selling price. Products or services added that are not distinct are accounted for as if it were part of the existing contract. The effect of the modification on the transaction price and on the measure of progress is recognized as an adjustment to revenue as of the date of the modification (i.e., on a cumulative catch-up basis). Those products or services that are distinct are accounted for prospectively, either as a separate contract if the additional services are priced at the standalone selling price, or as a termination of the existing contract and creation of a new contract if not priced at the standalone selling price.

Warranty

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

Restructuring

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

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

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

Income Taxes

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

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

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

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

Goodwill and Intangible Assets

Goodwill and intangible assets may result from our business acquisitions. Intangible assets may also result from the purchase of assets and intellectual property where we do not acquire a business. We use estimates, including estimates of useful lives of intangible assets, the amount and timing of related future cash flows, and fair values of the related operations, in determining the value assigned to goodwill and intangible assets. Our finite-lived intangible assets are amortized over their estimated useful lives based on estimated discounted cash flows. In-process research and development is considered an indefinite-lived intangible asset and is not subject to amortization until the associated projects are completed or terminated. Finite-lived

intangible assets are tested for impairment at the asset group level when events or changes in circumstances indicate the carrying value may not be recoverable. Indefinite-lived intangible assets are tested for impairment annually, when events or changes in circumstances indicate the asset may be impaired, or when their useful lives are determined to be no longer indefinite.

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

We test goodwill for impairment each year as of October 1, or more frequently should a significant impairment indicator occur. As part of the impairment test, we may elect to perform an assessment of qualitative factors. If this qualitative assessment indicates that it is more likely than not that the fair value of a reporting unit, including goodwill, is less than its carrying amount, or if we elect to bypass the qualitative assessment, we would then proceed with the impairment test. The impairment test involves comparing the fair values of the reporting units to their carrying amounts. If the carrying amount of a reporting unit exceeds its fair value, we first evaluate the long-lived assets within the reporting unit for impairment and then recognize a goodwill impairment loss in an amount equal to any excess.

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

Changes in market demand, fluctuations in the markets in which we operate, the volatility and decline in the worldwide equity markets, and a decline in our market capitalization could unfavorably impact the remaining carrying value of our goodwill, which could have a significant effect on our current and future results of operations and financial position. Due to a decline in our updated long-term forecast for the Device Solutions reporting unit, we completed an interim quantitative goodwill impairment test during the third quarter of 2020. After determining the estimated fair value of this reporting unit, we concluded there was no impairment to be recognized.

Defined Benefit Pension Plans

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

Several economic assumptions and actuarial data are used in calculating the expense and obligations related to these plans. The assumptions are updated annually at December 31 and include the discount rate, the expected remaining service life, the expected rate of return on plan assets, and the rate of future compensation increases. The discount rate is a significant assumption used to value our pension benefit obligation. We determine a discount rate for our plans based on the estimated duration of each plan's liabilities. For euro denominated defined benefit pension plans, which represent 92% of our projected benefit obligation, we use discount rates with consideration of the duration of each of the plans, using a hypothetical yield curve developed from euro-denominated AA-rated corporate bond issues. These bonds are assigned different weights to adjust their relative influence on the yield curve, and the highest and lowest yielding 10% of bonds are excluded within each maturity group. The discount rates used, depending on the duration of the plans, were between 0.20% and 0.75%. The weighted average discount rate used to measure the projected benefit obligation for all of the plans at December 31, 2020 was 1.10%. A change of 25 basis points in the discount rate would change our projected benefit obligation by approximately \$6.5 million. The financial and actuarial assumptions used at December 31, 2020 may differ materially from actual results due to changing market and economic conditions and other factors. These differences could result in a significant change in the amount of pension expense recognized in future periods.

Contingencies

A loss contingency is recognized if it is probable that an asset has been impaired or a liability has been incurred and the amount of the loss can be reasonably estimated. We evaluate, among other factors, the degree of probability of an unfavorable outcome and our ability to make a reasonable estimate of the amount of the ultimate loss. Loss contingencies that we determine to be

reasonably possible, but not probable, are disclosed but not recognized. Changes in these factors and related estimates could materially affect our financial position and results of operations. Legal costs to defend against contingent liabilities are recognized as incurred.

Stock-Based Compensation

We grant various stock-based compensation awards to our officers, employees, and Board of Directors with service, performance, and market vesting conditions, including stock options, restricted stock units, phantom stock units, and unrestricted stock units (awards). We measure and recognize compensation expense for all awards based on estimated fair values. For awards with only a service condition, we expense stock-based compensation using the straight-line method over the requisite service period for the entire award. For awards with service and performance conditions, if vesting is probable, we expense the stock-based compensation on a straight-line basis over the requisite service period for each separately vesting portion of the award. For awards with a market condition, we expense the fair value over the requisite service period.

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

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

Non-GAAP Measures

The accompanying schedule contains non-GAAP financial measures. To supplement our consolidated financial statements, which are prepared in accordance with GAAP, we use certain non-GAAP financial measures, including non-GAAP operating expense, non-GAAP operating income, non-GAAP net income, non-GAAP diluted EPS, adjusted EBITDA, free cash flow, and constant currency. The presentation of this financial information is not intended to be considered in isolation or as a substitute for, or superior to, the financial information prepared and presented in accordance with GAAP, and other companies may define such measures differently. For more information on these non-GAAP financial measures, please see the table captioned "Reconciliations of Non-GAAP Financial Measures to the Most Directly Comparable GAAP Financial Measures".

We use these non-GAAP financial measures for financial and operational decision making and/or as a means for determining executive compensation. Management believes that these non-GAAP financial measures provide meaningful supplemental information regarding our performance and ability to service debt by excluding certain expenses that may not be indicative of our recurring core operating results. 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, loss on sale of business, or restructuring 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, loss on sale of business, corporate transition cost, and acquisition and integration. We define non-GAAP operating income as operating income

excluding the expenses related to the amortization of intangible assets, restructuring, loss on sale of business, corporate transition cost, and acquisition and integration. 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 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, amortization of debt placement fees, restructuring, loss on sale of business, corporate transition cost, acquisition and integration, 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 of intangible assets, restructuring, loss on sale of business, corporate transition cost, acquisition and integration related expense, 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 (loss).

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 the entity's functional currency 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.

Reconciliations of Non-GAAP Financial Measures to the most Directly Comparable GAAP Financial Measures

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

TOTAL COMPANY RECONCILIATIONS	Year Ended December 31,							
In thousands, except per share data		2020		2019				
NON-GAAP OPERATING EXPENSES								
GAAP operating expenses	\$	612,562	\$	619,636				
Amortization of intangible assets		(44,711)		(64,286)				
Restructuring		(37,013)		(6,278)				
Loss on sale of business		(59,817)		_				
Corporate transition cost		33		(2,520)				
Acquisition and integration related expense		(1,026)		(26,598)				
Non-GAAP operating expenses	\$		\$	519,954				
NON-GAAP OPERATING INCOME								
GAAP operating income (loss)	\$	(10,395)	\$	132,683				
Amortization of intangible assets		44,711		64,286				
Restructuring		37,013		6,278				
Loss on sale of business		59,817						
Corporate transition cost		(33)		2,520				
Acquisition and integration related expense		1,026		26,598				
Non-GAAP operating income	\$	132,139	\$	232,365				
NON-GAAP NET INCOME & DILUTED EPS								
GAAP net income (loss) attributable to Itron, Inc.	\$	(57,955)	\$	49,006				
Amortization of intangible assets	Ψ	44,711	Ψ	64,286				
Amortization of intaligible assets Amortization of debt placement fees		3,954		5,455				
Restructuring		37,013		6,278				
Loss on sale of business		59,817		0,278				
Corporate transition cost		(33)		2,520				
Acquisition and integration related expense		1,026		26,598				
Income tax effect of non-GAAP adjustments (1)		(13,280)						
Non-GAAP net income attributable to Itron, Inc.	\$		•	(21,348)				
Non-GAAP net income attributable to fiton, inc.	2	13,233	\$	132,795				
Non-GAAP diluted EPS	\$	1.85	\$	3.32				
Weighted average common shares outstanding - Diluted		40,571		39,980				
ADJUSTED EBITDA								
GAAP net income (loss) attributable to Itron, Inc.	\$	(57,955)	\$	49,006				
Interest income		(2,998)		(1,849)				
Interest expense		44,001		52,453				
Income tax (benefit) provision		238		20,617				
Depreciation and amortization		97,290		114,400				
Restructuring		37,013		6,278				
Loss on sale of business		59,817		_				
Corporate transition cost		(33)		2,520				
Acquisition and integration related expense		1,026		26,598				
Adjusted EBITDA	\$	178,399	\$	270,023				
FREE CASH FLOW								
Net cash provided by operating activities	\$	109,514	\$	172,840				
Acquisitions of property, plant, and equipment	Ψ	(46,208)	4	(60,749)				
Free Cash Flow	\$		\$	112,091				
1 IOC Cusii I IUW	<u>\$</u>	03,300	Ψ	112,091				

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.

Item 7A: Quantitative and Qualitative Disclosures About Market Risk

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

Interest Rate Risk

We are exposed to interest rate risk through our variable rate debt instruments. In March 2020, we entered into an interest rate swap, which is effective from June 30, 2020 to June 30, 2023, and converts \$240 million of our LIBOR-based debt from a floating LIBOR interest rate to a fixed interest rate of 0.617% (excluding the applicable margin). The notional balance amortizes to maturity at the same rate of the originally required amortization on our term loan. At December 31, 2020, our LIBOR-based debt balance was \$536.1 million.

In April 2018, we entered into a cross-currency swap, which converts \$56.0 million of floating rate 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 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 December 31, 2020. Weighted average variable rates in the table are based on implied forward rates in the Reuters U.S. dollar yield curve as of December 31, 2020 and our estimated leverage ratio, which determines our additional interest rate margin at December 31, 2020.

In thousands	2021	2022	2023		2024	2025	Total	Fa	ir Value
Variable Rate Debt									
Principal: U.S. dollar term loan	\$ 18,359	\$ 44,063	\$ 44,063	\$42	29,609	\$ _	\$ 536,094	\$	520,347
Weighted average interest rate	1.62 %	1.67 %	1.84 %		2.09 %	— %			
Principal: Multicurrency revolving line of credit	\$ _	\$ _	\$ _	\$	_	\$ _	\$ _	\$	_
Weighted average interest rate	1.62 %	1.67 %	1.84 %		2.09 %	— %			
Interest rate swap								\$	(1,982)
Weighted average interest rate (pay) Fixed	0.62 %	0.62 %	0.62 %						
Weighted average interest rate (receive) Floating LIBOR	0.12 %	0.17 %	0.30 %						
Cross currency swap								\$	(526)
Weighted average interest rate (pay) Fixed - EURIBOR	1.38 %								
Weighted average interest rate (receive) Floating - LIBOR	0.13 %								

Based on a sensitivity analysis as of December 31, 2020, we estimate that, if market interest rates average one percentage point higher in 2021 than in the table above, our financial results in 2021 would not be materially impacted.

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

Foreign Currency Exchange Rate Risk

We conduct business in a number of countries. Revenues denominated in functional currencies other than the U.S. dollar were 37% of total revenues for the year ended December 31, 2020, compared with 37% and 41% for the years ended December 31,

2019 and 2018. These transactions 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.

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 within Other income (expense) in our Consolidated Statements of Operations. We enter into monthly foreign exchange forward contracts, which are not designated for hedge accounting, with the intent to reduce earnings volatility associated with currency exposures. As of December 31, 2020, a total of 39 contracts were offsetting our exposures from the euro, Pound sterling, Canadian dollar, Brazilian real, Mexican peso and various other currencies, with notional amounts ranging from \$121,000 to \$26.4 million. Based on a sensitivity analysis as of December 31, 2020, we estimate that, if foreign currency exchange rates average ten percentage points higher in 2021 for these financial instruments, our financial results in 2021 would not be materially impacted.

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

Item 8: Financial Statements and Supplementary Data

REPORT OF INDEPENDENT REGISTERED PUBLIC ACCOUNTING FIRM

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

Opinion on the Financial Statements

We have audited the accompanying consolidated balance sheets of Itron, Inc. and subsidiaries (the "Company") as of December 31, 2020 and 2019, the related consolidated statements of operations, comprehensive income (loss), equity, and cash flows, for each of the three years in the period ended December 31, 2020, and the related notes (collectively referred to as the "financial statements"). In our opinion, the financial statements present fairly, in all material respects, the financial position of the Company as of December 31, 2020 and 2019, and the results of its operations and its cash flows for each of the three years in the period ended December 31, 2020, in conformity with accounting principles generally accepted in the United States of America

We have also audited, in accordance with the standards of the Public Company Accounting Oversight Board (United States) (PCAOB), the Company's internal control over financial reporting as of December 31, 2020, based on criteria established in *Internal Control* — *Integrated Framework (2013)* issued by the Committee of Sponsoring Organizations of the Treadway Commission and our report dated February 24, 2021, expressed an unqualified opinion on the Company's internal control over financial reporting.

Basis for Opinion

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

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

Critical Audit Matters

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

Revenue Recognition ASC 606 — Revenue arrangements involving multiple performance obligations consisting of hardware, software, and professional services such as implementation, project management, installation, and consulting services — Refer to Notes 1 and 17 to the financial statements

Critical Audit Matter Description

Many of the Company's revenue arrangements involve multiple performance obligations consisting of hardware, software, and professional services such as implementation, project management, installation, and consulting services. These contracts may contain customer-specific business terms and conditions, including service level commitments, variable consideration, and terms that govern when the customer has taken control. Additionally, these contracts may be modified from time to time as the Company delivers under the contract. These customer-specific business terms and conditions and modifications may involve complex accounting considerations, including determining whether the Company has enforceable rights and obligations, whether contract modifications represent new contracts or modification of existing contracts, whether certain performance obligations are distinct, and other considerations that may impact the timing of revenue recognition.

The evaluation of these factors is executed in accordance with the ASC 606 revenue recognition framework and requires significant management judgment that could affect the amount and timing of revenue recognition over the contractual period. The computations to recognize revenue under the ASC 606 revenue recognition framework can be complex and require a significant volume of data input. Additionally, there can be complexity in the computations and entries made to record the related contract assets and liabilities at the balance sheet date. Given the challenge in auditing the judgments and computations made in determining revenue recognition for these multiple performance obligation arrangements with customer-specific business terms and conditions and modifications, we identified revenue recognition as a critical audit matter.

How the Critical Audit Matter Was Addressed in the Audit

Our audit procedures related to (1) determining whether the Company has enforceable rights and obligations, whether contract modifications represent new contracts or modifications, whether certain performance obligations are distinct and other considerations that may impact the timing of revenue recognition and (2) the completeness and accuracy of the revenue recognition computations and entries used to recognize revenue included the following, among others:

- We tested the effectiveness of controls over contract reviews, including management's use of checklists and other
 review procedures to determine whether customer-specific business terms are evident in the contract and whether
 accounting conclusions regarding enforceable rights and obligations, contract modifications, distinct products and
 services, and other considerations that may impact the timing of revenue recognition are appropriately applied.
- We tested the effectiveness of controls over revenue recognition computations and entries to determine whether the computations and entries appropriately reflect the accounting conclusions for these contracts. Such controls included (1) the review of the completeness and accuracy of data input into the computations and entries and (2) the review of the mathematical accuracy of the computations and entries.
- For a sample of contracts with customers that included existing contracts, new contracts and contract modifications, we:
 - Tested management's identification of customer-specific terms, whether the Company had enforceable rights and obligations, whether contract modifications represented new contracts or modifications to existing contracts, whether customer-specific terms introduced new or implied performance obligations, or other factors influencing the timing, nature and amount of revenue recognized, and assessed management's conclusions regarding accounting treatment. Our procedures included reading the selected contracts and inquiring of the Company's operational personnel to understand the nature of the contract and its business purpose, as well as evaluating management's conclusions.
 - Evaluated whether the identified accounting conclusions were appropriately reflected in the revenue recognition computations and entries.
 - Tested the accuracy and completeness of the data used in the computations and entries to record revenue.
 - Tested mathematical accuracy of revenue recognition computations and entries.

Goodwill — Device Solutions Reporting Unit — Refer to Notes 1 and 5 to the financial statements

Critical Audit Matter Description

The Company's evaluation of goodwill for impairment involves the comparison of the fair value of its reporting units to their carrying amounts. Due to a decline in the Company's updated long-term forecast for the Device Solutions ("Devices") reporting unit, the Company identified an impairment indicator and, as a result, evaluated goodwill for impairment during the third quarter of 2020. The Company develops its estimate of fair value of the reporting unit using forecast discounted cash flows at the reporting unit level, which requires the Company to make significant estimates and assumptions related to forecasts of future revenues and operating costs. Changes in these assumptions could have a significant impact on either the fair value, the amount of any goodwill impairment charge, or both. The goodwill balance relating to the Devices reporting unit is \$53.2 million as of December 31, 2020. The estimated fair value of Devices exceeded its carrying value as of the measurement date and, therefore, no impairment was recognized.

We identified goodwill for Devices as a critical audit matter because of the significant estimates and assumptions the Company makes to estimate the fair value of Devices and the sensitivity of Devices' operations to changes in the Company's financial performance. This required a high degree of auditor judgment and an increased extent of effort, including the involvement of our fair value specialists, when performing audit procedures to evaluate the reasonableness of management's estimates and assumptions related to forecasts of future revenues and operating costs.

How the Critical Audit Matter Was Addressed in the Audit

Our audit procedures related to the forecasts of revenue and operating costs ("forecasts") for the Devices reporting unit included the following, among others:

- We tested the effectiveness of controls over management's goodwill impairment evaluation, including those over the determination of the fair value of Devices, such as controls related to the Company's forecasts.
- We inquired of members of the Company's management responsible for the Devices reporting unit to understand and corroborate management's plan to achieve planned forecast revenue growth
- We evaluated the reasonableness of management's forecasts by comparing the forecasts to (1) historical results, (2) internal communications to management and the Board of Directors, and (3) forecasted information included in analyst and industry reports as well as press releases of the Company and companies in its peer group.
- With the assistance of our fair value specialists, we evaluated the valuation methodology and long-term forecast growth rates, including testing the underlying source information and the mathematical accuracy of the calculations, and developed a range of independent estimates and compared those to selections made by management.

/s/ DELOITTE & TOUCHE LLP

Seattle, Washington February 24, 2021

We have served as the Company's auditor since 2016.

ITRON, INC. CONSOLIDATED STATEMENTS OF OPERATIONS

Year Ended December 31. In thousands, except per share data 2020 2019 2018 Revenues Product revenues \$ 1,889,173 \$ 2,095,458 2,220,395 \$ Service revenues 284,177 282,075 280,659 Total revenues 2,173,350 2,502,470 2,376,117 Cost of revenues 1,476,498 Product cost of revenues 1.408.615 1,587,710 Service cost of revenues 162,568 162,441 169,300 Total cost of revenues 1,571,183 1,750,151 1,645,798 Gross profit 602,167 752,319 730,319 Operating expenses Sales, general and administrative 276,920 346,872 423,210 Research and development 194,101 202,200 207,905 Amortization of intangible assets 44,711 64,286 71,713 Restructuring 37,013 6,278 77,183 Loss on sale of business 59,817 619,636 780,011 612,562 Total operating expenses Operating income (loss) (10,395)132,683 (49,692)Other income (expense) 2,998 Interest income 1,849 2,153 (44,001)Interest expense (52,453)(58,203)Other income (expense), net (5,241)(9,047)(3,409)Total other income (expense) (46,244)(59,651)(59,459)Income (loss) before income taxes (56,639)73.032 (109,151)Income tax benefit (provision) 12,570 (238)(20,617)Net income (loss) (56,877)52,415 (96,581)Net income attributable to noncontrolling interests 1,078 3,409 2,669 Net income (loss) attributable to Itron, Inc. (57,955) \$ 49,006 (99,250)Net income (loss) per common share - Basic (1.44)1.24 (2.53)(1.44) \$ 1.23 Net income (loss) per common share - Diluted (2.53)Weighted average common shares outstanding - Basic 40,253 39,556 39,244 40,253 39,980 Weighted average common shares outstanding - Diluted 39,244

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

	Year Ended December 31,								
In thousands		2020	2019		2018				
Net income (loss)	\$	(56,877) \$	52,415	\$	(96,581)				
Other comprehensive income (loss), net of tax:									
Foreign currency translation adjustments		21,082	(2,953)		(28,841)				
Foreign currency translation adjustment reclassified to net income on sale of business		52,074	2,443		<u> </u>				
Net unrealized gain (loss) on derivative instruments, designated as cash flow hedges		(898)	(1,924)		235				
Pension benefit obligation adjustment		(6,112)	(5,933)		2,779				
Total other comprehensive income (loss), net of tax		66,146	(8,367)		(25,827)				
Total comprehensive income (loss), net of tax		9,269	44,048		(122,408)				
Comprehensive income attributable to noncontrolling interests, net of tax		1,078	3,409		2,669				
Comprehensive income (loss) attributable to Itron, Inc.	\$	8,191 \$	40,639	\$	(125,077)				

ITRON, INC. CONSOLIDATED BALANCE SHEETS

In thousands	Decei	mber 31, 2020	December 31, 2019
ASSETS			
Current assets			
Cash and cash equivalents	\$	206,933	\$ 149,904
Accounts receivable, net		369,828	472,925
Inventories		182,377	227,896
Other current assets		171,124	146,526
Total current assets		930,262	997,251
Property, plant, and equipment, net		207,816	233,228
Deferred tax assets, net		76,142	63,899
Other long-term assets		51,656	44,686
Operating lease right-of-use assets, net		76,276	79,773
Intangible assets, net		132,955	185,097
Goodwill		1,131,916	1,103,907
Total assets	\$	2,607,023	\$ 2,707,841
LIABILITIES AND EQUITY			
Current liabilities			
Accounts payable	\$	215,639	\$ 328,128
Other current liabilities		72,591	63,785
Wages and benefits payable		86,249	119,220
Taxes payable		15,804	22,193
Current portion of debt		18,359	
Current portion of warranty		28,329	38,509
Unearned revenue		112,928	99,556
Total current liabilities		549,899	671,391
Long-term debt, net		902,577	932,482
Long-term warranty		13,061	14,732
Pension benefit obligation		119,457	98,712
Deferred tax liabilities, net		1,921	1,809
Operating lease liabilities		66,823	68,919
Other long-term obligations		113,012	118,981
Total liabilities		1,766,750	1,907,026
Equity			
Preferred stock, no par value, 10,000 shares authorized, no shares issued or outstanding			_
Common stock, no par value, 75,000 shares authorized, 40,444 and		1,389,419	1 257 600
39,941 shares issued and outstanding		· · · · · · · · · · · · · · · · · · ·	1,357,600
Accumulated other comprehensive loss, net Accumulated deficit		(138,526)	* * * *
		(434,345)	
Total Itron, Inc. shareholders' equity		816,548	776,538
Noncontrolling interests		23,725	24,277
Total lightifies and against	•	840,273	\$00,815
Total liabilities and equity	2	2,607,023	\$ 2,707,841

ITRON, INC. CONSOLIDATED STATEMENTS OF EQUITY

	Comm	on Stock	Accumulated Other Comprehensive	Accumulated	Total Itron, Inc. Shareholders'	Noncontrolling	Total
In thousands	Shares	Amount	Loss	Deficit	Equity	Interests	Equity
Balances at January 1, 2018	38,771	\$ 1,294,767	\$ (170,478)	\$ (337,873)	\$ 786,416	\$ 19,216	\$ 805,632
Net income (loss)				(99,250)	(99,250)	2,669	(96,581)
Cumulative effect of accounting change (ASU 2014-09 and ASU 2016-09)		_		11,727	11,727		11,727
Other comprehensive income (loss), net of tax			(25,827)		(25,827)	_	(25,827)
Distributions to noncontrolling interests						(500)	(500)
Stock issues and repurchases:							
Options exercised	152	5,935			5,935		5,935
Restricted stock awards released	517	_			_		_
Issuance of stock-based compensation awards	10	729			729		729
Employee stock purchase plan	48	2,974			2,974		2,974
Stock-based compensation expense		30,534			30,534		30,534
Registration fee		(22)			(22)		(22)
SSNI acquisition adjustments, net		(553)			(553)		(553)
Balances at December 31, 2018	39,498	1,334,364	(196,305)	(425,396)	712,663	21,385	734,048
Net income				49,006	49,006	3,409	52,415
Other comprehensive income (loss), net of tax			(8,367)		(8,367)	_	(8,367)
Distributions to noncontrolling interests						(517)	(517)
Stock issues and repurchases:							
Options exercised	489	21,289			21,289		21,289
Restricted stock awards released net of repurchased shares for taxes	415	(3,113)			(3,113)		(3,113)
Issuance of stock-based compensation awards	9	630			630		630
Employee stock purchase plan	59	3,100			3,100		3,100
Stock-based compensation expense		26,330			26,330		26,330
Stock repurchased	(529)	(25,000)			(25,000)		(25,000)
Balances at December 31, 2019	39,941	1,357,600	(204,672)	(376,390)	776,538	24,277	800,815
Net income (loss)				(57,955)	(57,955)	1,078	(56,877)
Other comprehensive income (loss), net of tax			66,146		66,146	_	66,146
Distributions to noncontrolling interests						(1,630)	(1,630)
Stock issues and repurchases:							
Options exercised	103	5,551			5,551		5,551
Restricted stock awards released net of repurchased shares for taxes	334	(2,120)			(2,120)		(2,120)
Issuance of stock-based compensation awards	12	824			824		824
Employee stock purchase plan	54	3,335			3,335		3,335
Stock-based compensation expense		24,229			24,229		24,229
Balances at December 31, 2020	40,444	\$ 1,389,419	\$ (138,526)	\$ (434,345)	\$ 816,548	\$ 23,725	\$ 840,273

ITRON, INC. CONSOLIDATED STATEMENTS OF CASH FLOWS

Year Ended December 31,

			2010	731,	2010
<u>In thousands</u>		2020	2019		2018
Operating activities	Ф	(5(,077)	Ф 50 41 <i>5</i>	Ф	(07, 501)
Net income (loss)	\$	(56,877)	\$ 52,415	\$	(96,581)
Adjustments to reconcile net income (loss) to net cash provided by operating activities:	l				
Depreciation and amortization of intangible assets		97,290	114,400		122,497
Non-cash operating lease expense		18,178	18,958		_
Stock-based compensation		25,053	26,960		31,263
Amortization of prepaid debt fees		4,130	5,631		7,046
Deferred taxes, net		(12,939)	(192)		(19,130)
Loss on sale of business		59,817	_		
Restructuring, non-cash		5,888	(1,785)		859
Other adjustments, net		10,392	(4,295)		1,452
Changes in operating assets and liabilities, net of acquisitions:					
Accounts receivable		108,256	(39,467)		15,524
Inventories		35,403	(9,389)		(25,613)
Other current assets		(11,832)	(31,128)		(23,589)
Other long-term assets		(11,391)	7,053		3,020
Accounts payables, other current liabilities, and taxes payable		(111,724)	9,177		20,101
Wages and benefits payable		(34,664)	30,835		(9,565)
Unearned revenue		8,212	8,905		27,584
Warranty		(13,538)	(6,637)		20,815
Other operating, net		(10,140)	(8,601)		34,072
Net cash provided by operating activities		109,514	172,840		109,755
		103,611	1,2,0.0		105,700
Investing activities		1 122			
Net proceeds related to the sale of business		1,133	((0.740)		(50.052)
Acquisitions of property, plant, and equipment		(46,208)	(60,749)		(59,952)
Business acquisitions, net of cash equivalents acquired			_		(803,075)
Other investing, net		4,039	12,569		369
Net cash used in investing activities		(41,036)	(48,180)		(862,658)
Financing activities		400.000	5 0.000		55 0.020
Proceeds from borrowings		400,000	50,000		778,938
Payments on debt		(414,063)	(137,657)		(363,359)
Issuance of common stock		8,886	24,390		9,171
Repurchase of common stock			(25,000)		
Prepaid debt fees		(1,571)	(1,560)		(24,042)
Other financing, net		(4,828)	(7,692)		(4,887)
Net cash provided by (used in) financing activities		(11,576)	(97,519)		395,821
Effect of foreign exchange rate changes on cash, cash equivalents,		127	435		(7.025)
and restricted cash					(7,925)
Increase (decrease) in cash, cash equivalents, and restricted cash		57,029	27,576		(365,007)
Cash, cash equivalents, and restricted cash at beginning of period	Φ.	149,904	122,328	Φ.	487,335
Cash, cash equivalents, and restricted cash at end of period	\$	206,933	\$ 149,904	\$	122,328
Supplemental disclosure of cash flow information:					
Cash paid during the period for:	<i>*</i>				.
Income taxes, net	\$	2,688	\$ 12,041	\$	13,771
Interest		47,241	44,788		42,347

ITRON, INC. NOTES TO CONSOLIDATED FINANCIAL STATEMENTS DECEMBER 31, 2020

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

Note 1: Summary of Significant Accounting Policies

We were incorporated in the state of Washington in 1977 and are a technology company, offering end-to-end solutions to enhance productivity and efficiency, primarily focused on utilities and municipalities around the globe. We operate under the Itron brand worldwide and manage and report under three operating segments: Device Solutions, Networked Solutions, and Outcomes.

Financial Statement Preparation

The consolidated financial statements presented in this Annual Report include the Consolidated Statements of Operations, Consolidated Statements of Comprehensive Income (Loss), Consolidated Statements of Equity, and Consolidated Statements of Cash Flows for the years ended December 31, 2020, 2019, and 2018 and the Consolidated Balance Sheets as of December 31, 2020 and 2019 of Itron, Inc. and its subsidiaries, prepared in accordance with U.S. generally accepted accounting principles (GAAP).

Use of Estimates

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

Risks and Uncertainties

The COVID-19 pandemic has had global economic impacts including disrupting global supply chains and creating market volatility. The extent of the recent pandemic and its ongoing impact on our operations is volatile but is being monitored closely by our management. While certain of our European factories were closed during portions of the first half of 2020 due to government actions and local conditions, all were open by May and throughout the remainder of the year. Any further closures that may be imposed on us could impact our results for 2021. Incremental costs we have incurred related to COVID-19, such as personal protective equipment, increased cleaning and sanitizing of our facilities, and other such items, have not been material to date. At this time, we have not identified any significant decrease in long-term customer demand for our products and services. Certain of our customers' projects and deployments have shifted into 2021 and beyond.

Basis of Consolidation

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

Noncontrolling Interests

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

Cash and Cash Equivalents

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

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:

	Year Ended December 31,							
In thousands			2018					
Cash and cash equivalents	\$	206,933	\$	149,904	\$	120,221		
Restricted cash included in other current assets		_		_		51		
Long-term restricted cash		_				2,056		
Total cash, cash equivalents, and restricted cash	\$	206,933	\$	149,904	\$	122,328		

Accounts Receivable, net

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

Inventories

Inventories are stated at the lower of cost or net realizable value using the first-in, first-out method. Cost includes raw materials and labor, plus applied direct and indirect overhead costs. Net realizable value is the estimated selling price in the normal course of business, minus the cost of completion, disposal and transportation.

Derivative Instruments

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

For any derivative designated as a fair value hedge, the changes in the fair value of the derivative and of the hedged item attributable to the hedged risk are recognized in earnings. For any derivative designated as a cash flow hedge, changes in the fair value of the derivative are recognized as a component of other comprehensive income (loss) (OCI) and are recognized in earnings when the hedged item affects earnings. For a hedge of a net investment, any unrealized gain or loss from the foreign currency revaluation of the hedging instrument is reported in OCI as a net unrealized gain or loss on derivative instruments. Upon termination of a net investment hedge, the net derivative gain/loss will remain in accumulated other comprehensive income (loss) (AOCI) until such time when earnings are impacted by a sale or liquidation of the associated operations. We classify cash flows from our derivative programs as cash flows from operating activities in the Consolidated Statements of Cash Flows.

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

Property, Plant, and Equipment

Property, plant, and equipment are stated at cost less accumulated depreciation. Depreciation is computed using the straight-line method over the estimated useful lives of the assets, generally 30 years for buildings and improvements and three years to 10 years for machinery and equipment, computers and software, and furniture. Leasehold improvements are capitalized and depreciated over the term of the applicable lease, including renewable periods if reasonably certain, or over the useful lives, whichever is shorter. Construction in process represents capital expenditures incurred for assets not yet placed in service. Costs related to internally developed software and software purchased for internal uses are capitalized and are amortized over the estimated useful lives of the assets. Repair and maintenance costs are recognized as incurred. We have no major planned maintenance activities.

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

Prepaid Debt Fees

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

Business Combinations

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

We estimate the preliminary fair value of acquired assets and liabilities as of the date of acquisition based on information available at that time utilizing either a cost or income approach. The determination of the fair value is judgmental in nature and involves the use of significant estimates and assumptions. Contingent consideration is recognized at fair value as of the date of the acquisition with adjustments occurring after the purchase price allocation period, which could be up to one year, recognized in earnings. Changes to valuation allowances on acquired deferred tax assets that occur after the acquisition date are recognized in the provision for, or benefit from, income taxes. The valuation of these tangible and identifiable intangible assets and liabilities is subject to further management review and may change materially between the preliminary allocation and end of the purchase price allocation period. Any changes in these estimates may have a material effect on our consolidated operating results or financial position.

Leases

We determine if an arrangement is a lease at inception. A lease exists when a contract conveys to the customer the right to control the use of identified property, plant, or equipment for a period of time in exchange for consideration. The definition of a lease embodies two conditions: (1) there is an identified asset in the contract that is land or a depreciable asset (i.e., property, plant, and equipment), and (2) the customer has the right to control the use of the identified asset.

Operating leases are included in operating lease right-of-use (ROU) assets, other current liabilities, and operating lease liabilities on our Consolidated Balance Sheets. Finance leases are included in property, plant, and equipment, other long-term assets, other current liabilities, and other long-term obligations on our Consolidated Balance Sheets.

ROU assets represent our right to use an underlying asset for the lease term and lease liabilities represent our obligation to make lease payments arising from the lease. Operating lease ROU assets and liabilities are recognized at commencement date based on the present value of lease payments over the lease term. We use the rate implicit in the lease agreement when readily determinable. As most of our leases do not provide an implicit rate, we use our incremental borrowing rate, which is the estimated rate of interest we expect to pay on a collateralized basis over a similar term, based on the information available at the lease commencement date. The Operating lease ROU asset also includes any lease payments made and is reduced by lease incentives received and initial direct costs incurred. Our lease terms may include options to extend or terminate the lease when it is reasonably certain that we will exercise that option. Lease expense for operating lease payments is recognized on a straight-line basis over the lease term.

We have lease agreements that include lease and nonlease components. When nonlease components are fixed, we have elected the practical expedient to account for lease and nonlease components as a single lease component, except for leases embedded in service contracts.

All leases with a lease term that is greater than one month are subject to recognition and measurement on the balance sheet, except where we have leases in service contracts with contract manufacturers. For leases with contract manufacturers, we have elected to utilize the short-term lease exemption.

Lease expense for variable lease payments, where the timing or amount of the payment is not fixed, are recognized when the obligation is incurred. Variable lease payments generally arise in our net lease arrangements where executory and other lease-related costs are billed to Itron when incurred by the lessor.

Goodwill and Intangible Assets

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

Goodwill is assigned to our reporting units based on the expected benefit from the synergies arising from each business combination, determined by using certain financial metrics, including the forecasted discounted cash flows associated with each reporting unit. Each reporting unit corresponds with its respective operating segment. We test goodwill for impairment each year as of October 1, or more frequently should a significant impairment indicator occur. As part of the impairment test, we may elect to perform an assessment of qualitative factors. If this qualitative assessment indicates that it is more likely than not that the fair value of a reporting unit, including goodwill, is less than its carrying amount, or if we elect to bypass the qualitative assessment, we would then proceed with the quantitative impairment test. The impairment test involves comparing the fair values of the reporting units to their carrying amounts. If the carrying amount of a reporting unit exceeds its fair value, we first evaluate the long-lived assets within the reporting unit for impairment and then recognize goodwill impairment loss in an amount equal to any excess.

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

Contingencies

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

Bonus and Profit Sharing

We have various employee bonus and profit sharing plans, which provide award amounts for the achievement of financial and nonfinancial targets. If management determines it is probable that the targets will be achieved, and the amounts can be reasonably estimated, a compensation accrual is recognized based on the proportional achievement of the financial and nonfinancial targets.

Warranty

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

Restructuring

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

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

Defined Benefit Pension Plans

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

Share Repurchase Plans

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

Product Revenues and Service Revenues

Product revenues include sales from standard and smart meters, systems or software, and any associated implementation and installation revenue. Service revenues include sales from post-sale maintenance support, consulting, outsourcing, and managed services

Revenue Recognition

On January 1, 2018, we adopted Revenue from Contracts with Customers (ASC 606) using the modified retrospective method. 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 customer-specific 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 consider whether the arrangement creates enforceable rights and obligations, which involves evaluation of contractual terms that would allow for the customer to terminate the agreement. If the customer has the unilateral right 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 as our hardware and services are often sold together. 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 when 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. Some of our contracts contain 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, 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. 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 revenue is 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 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 our historical experience 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 customer-specific warranty provision that covers all or a portion of a customer's replacement or repair costs beyond the standard 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. Support fees are typically billed on an annual basis, resulting in a contract liability. 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.

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 typically offer 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.

Product and Software Development Costs

Product and software development costs primarily include employee compensation and third-party contracting fees. We do not capitalize product development costs, and we do not generally capitalize development expenses for computer software to be

sold, leased, or otherwise marketed as the costs incurred are immaterial for the relatively short period of time between technological feasibility and the completion of software development.

Stock-Based Compensation

We grant various stock-based compensation awards to our officers, employees, and Board of Directors with service, performance, and market vesting conditions, including stock options, restricted stock units, phantom stock units, and unrestricted stock units (awards). We measure and recognize compensation expense for all awards based on estimated fair values. For awards with only a service condition, we expense stock-based compensation using the straight-line method over the requisite service period for the entire award. For awards with service and performance conditions where vesting is probable, we expense the stock-based compensation on a straight-line basis over the requisite service period for each separately vesting portion of the award. For awards with a market condition, we expense the fair value over the requisite service period. We have elected to account for forfeitures of any awards in stock-based compensation expense prospectively as they occur.

The fair value of stock options is estimated at the date of grant using the Black-Scholes option-pricing model. Options to purchase our common stock are granted with an exercise price equal to the market close price of the stock on the date the Board of Directors approves the grant. Options generally become exercisable in three equal annual installments beginning one year from the date of grant and expire 10 years from the date of grant. Expected volatility is based on a combination of the historical volatility of our common stock and the implied volatility of our traded options for the related expected term. We believe this combined approach is reflective of current and historical market conditions and is an appropriate indicator of expected volatility. The risk-free interest rate is the rate available as of the award date on zero-coupon U.S. government issues with a term equal to the expected term of the award. The expected term is the weighted average expected term of an award based on the period of time between the date the award is granted and the estimated date the award will be fully exercised. Factors considered in estimating the expected term include historical experience of similar awards, contractual terms, vesting schedules, and expectations of future employee behavior. We have not paid dividends in the past and do not plan to pay dividends in the foreseeable future.

The fair value of a restricted stock unit is the market close price of our common stock on the date of grant. Restricted stock units vest over a maximum period of three years. After vesting, the restricted stock units are converted into shares of our common stock on a one-for-one basis and issued to employees. Certain restricted stock units are issued under the Long-Term Performance Restricted Stock Unit Award Agreement and include performance and market conditions. The final number of shares issued will be based on the achievement of financial targets and our total shareholder return relative to the Russell 3000 Index during the performance periods. Due to the presence of a market condition, we utilize a Monte Carlo valuation model to determine the fair value of the awards at the grant date. Expected volatility is based on the historical volatility of our common stock for the related expected term. We believe this approach is reflective of current and historical market conditions and is an appropriate indicator of expected volatility. The risk-free interest rate is the rate available as of the grant date on zero-coupon U.S. government issues with a term equal to the expected term of the award. The expected term is the remaining term of an award based on the period of time between the grant date and the date the award is expected to vest. We have not paid dividends in the past and do not plan to pay dividends in the foreseeable future.

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

The fair value of unrestricted stock awards is the market close price of our common stock on the date of grant, and the awards are deemed fully vested. We expense stock-based compensation at the date of grant for unrestricted stock awards.

Excess tax benefits and deficiencies resulting from employee share-based payment are recognized as income tax provision or benefit in the Consolidated Statements of Operations, and as an operating activity on the Consolidated Statements of Cash Flows.

We also maintain an Employee Stock Purchase Plan (ESPP) for our employees. Under the terms of the ESPP, employees can deduct up to 10% of eligible compensation to purchase our common stock at a 5% discount from the fair market value of the stock at the end of each fiscal quarter, subject to other limitations under the plan. The sale of the stock to the employees occurs at the beginning of the subsequent quarter. The ESPP is not considered compensatory, and no compensation expense is recognized for sales of our common stock to employees.

Income Taxes

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

Foreign Exchange

Our consolidated financial statements are reported in U.S. dollars. Assets and liabilities of international subsidiaries with non-U.S. dollar functional currencies are translated to U.S. dollars at the exchange rates in effect on the balance sheet date, or the last business day of the period, if applicable. Revenues and expenses for each subsidiary are translated to U.S. dollars using an average rate for the relevant reporting period. Translation adjustments resulting from this process are included, net of tax, in OCI. Gains and losses that arise from exchange rate fluctuations for monetary asset and liability balances that are not denominated in an entity's functional currency are included within other income (expense), net in the Consolidated Statements of Operations. Currency gains and losses of intercompany balances deemed to be long-term in nature or designated as a hedge of the net investment in international subsidiaries are included, net of tax, in OCI. Foreign currency losses, net of hedging, of \$2.8 million, \$5.5 million, and \$3.0 million were included in other expenses, net, for the years ended December 31, 2020, 2019, and 2018, respectively.

Fair Value Measurements

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

Recently Adopted Accounting Standards

In June 2016, the Financial Accounting Standards Board (FASB) issued Accounting Standards Update (ASU) 2016-13, *Financial Instruments—Credit Losses (Topic 326): Measurement of Credit Losses on Financial Instruments.* Subsequent to 2016-13 the FASB also issued codification improvements and transition relief in ASU 2019-04, ASU 2019-05, ASU 2019-11, ASU 2020-02, and ASU 2020-03, hereafter collectively referred to as Accounting Standards Codification (ASC) 326. ASC 326 replaces the incurred loss impairment methodology in previous GAAP with a methodology based on expected credit losses, which results in losses being recognized earlier. The estimate of expected credit losses uses a broader range of reasonable and supportable information. We adopted ASC 326 on January 1, 2020, and the impacts on our consolidated financial position, results of operations, and cash flows were immaterial.

In August 2018, the FASB issued ASU 2018-13, Fair Value Measurement (Topic 820): Disclosure Framework—Changes to the Disclosure Requirements for Fair Value Measurement, which amended the disclosure requirements under ASC 820. This update clarifies and unifies the disclosure of Level 3 fair value instruments. We adopted this standard on January 1, 2020, and it did not materially impact our consolidated financial statements.

In August 2018, the FASB issued ASU 2018-14, Compensation—Retirement Benefits—Defined Benefit Plans—General (Subtopic 715-20): Disclosure Framework—Changes to the Disclosure Requirements for Defined Benefit Plans, which amends the disclosure requirements under ASC 715-20. This update clarifies annual disclosures for Defined Benefit Plans. We adopted this standard on January 1, 2020, and it did not materially impact our consolidated financial statements.

Recent Accounting Standards Not Yet Adopted

In December 2019, the FASB issued ASU 2019-12, *Income Taxes (Topic 740): Simplifying the Accounting for Income Taxes*, which modifies certain provisions of ASC 740 to reduce the complexity of accounting for income taxes. ASU 2019-12 is effective for us beginning with our interim financial reports for the first quarter of 2021. During our evaluation process we have determined that early adopting would not have had a material impact on our 2020 financial statements. We have also determined that the retrospective portions of this amendment are not applicable to our business. We are still evaluating what impact this amendment will have in future periods, but we do not believe this standard will have a material impact on our consolidated financial position, results of operations, or cash flows.

In March 2020, the FASB issued ASU 2020-04, *Reference Rate Reform (Topic 848): Facilitation of the Effects of Reference Rate Reform on Financial Reporting,* which provides optional expedients and exceptions for applying GAAP to contracts, hedging relationships, and other transactions affected by reference rate reform. ASU 2020-04 applies to contracts that reference LIBOR or another reference rate expected to be terminated because of reference rate reform. An entity may elect certain optional expedients for hedging relationships that exist as of December 31, 2022 and maintain those optional expedients through the end of the hedging relationship. ASU 2020-04 can be adopted as of March 12, 2020 or thereafter. We do not currently have any contracts that have been changed to a new reference rate, but we will continue to evaluate our contracts and the effects of this standard on our consolidated financial position, results of operations, and cash flows prior to adoption.

Note 2: Earnings Per Share

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

	Year Ended December 31,							
In thousands, except per share data	,	2020		2019	2018			
Net income (loss) available to common shareholders	\$	(57,955)	\$	49,006	\$	(99,250)		
Weighted average common shares outstanding - Basic		40,253		39,556		39,244		
Dilutive effect of stock-based awards				424				
Weighted average common shares outstanding - Diluted		40,253		39,980		39,244		
Net income (loss) per common share - Basic	\$	(1.44)	\$	1.24	\$	(2.53)		
Net income (loss) per common share - Diluted	\$	(1.44)	\$	1.23	\$	(2.53)		

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 our 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 0.7 million, 0.4 million, and 1.1 million stock-based awards were excluded from the calculation of diluted EPS for the years ended December 31, 2020, 2019, and 2018, respectively, 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

In thousands	Decem	December 31, 2020 December 31, 2						
Trade receivables (net of allowance of \$1,312 and \$3,064)	\$	318,269	\$	415,887				
Unbilled receivables		51,559		57,038				
Total accounts receivable, net	\$	369,828	\$	472,925				

Allowance for credit losses account activity	Year E	Year Ended December 31,					
In thousands		2020	2019	2018			
Beginning balance	\$	3,064 \$	6,331	\$	3,957		
Provision for (release of) doubtful accounts, net		(299)	(1,511)		3,874		
Accounts written-off		(1,463)	(1,749)		(1,281)		
Effect of change in exchange rates		10	(7)		(219)		
Ending balance	\$	1,312 \$	3,064	\$	6,331		
Inventories							
In thousands		December 31,	2020 De	ecembe	r 31, 2019		

In thousands	Decem	ber 31, 2020	December 31, 2019			
Raw materials	\$	114,058	\$	120,861		
Work in process		8,094		11,105		
Finished goods		60,225		95,930		
Total inventories	\$	182,377	\$	227,896		

Property, plant, and equipment, net					
In thousands	Decen	nber 31, 2020	December 31, 2019		
Machinery and equipment	\$	334,050	\$	323,003	
Computers and software		115,776		109,924	
Buildings, furniture, and improvements		155,676		149,471	
Land		14,303		14,988	
Construction in progress, including purchased equipment		31,425		54,490	
Total cost		651,230	'	651,876	
Accumulated depreciation		(443,414)		(418,648)	
Property, plant, and equipment, net	\$	207.816	\$	233,228	

Depreciation expense	 Year Ended December 31,							
In thousands	2020	2020 2019 2			2018			
Depreciation expense	\$ 52,579	\$	50,114	\$	50,784			

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:

]	Decei	mber 31, 2020)		December 31, 2019					
In thousands	Gı	Accumulated (Amortization) Gross Assets Accretion Net		Gr	oss Assets	Accumulated (Amortization) Accretion			Net			
Intangible Assets												
Core-developed technology	\$	525,051	\$	(498,113)	\$	26,938	\$	507,669	\$	(458,109)	\$	49,560
Customer contracts and relationships		383,245		(280,497)		102,748		381,288		(251,509)		129,779
Trademarks and trade names		79,716		(76,912)		2,804		78,837		(73,732)		5,105
Other		12,025		(11,560)		465		12,020		(11,367)		653
Total intangible assets	\$	1,000,037	\$	(867,082)	\$	132,955	\$	979,814	\$	(794,717)	\$	185,097
Intongible Liebilities												
Intangible Liabilities Customer contracts and relationships	\$	(23,900)	\$	21,479	\$	(2,421)	\$	(23,900)	\$	13,450	\$	(10,450)
Customer contracts and relationships	Ψ	(23,700)	Ψ	21,77	Ψ	(2,721)	Ψ	(23,700)	Ψ	13,730	Ψ	(10,730)

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

	Year Ended December 31,					
In thousands		2020	2019			
Intangible assets, gross beginning balance	\$	979,814	\$	981,160		
Intangibles disposed in sale of business		(18,140)		_		
Effect of change in exchange rates		38,363		(1,346)		
Intangible assets, gross ending balance	\$	1,000,037	\$	979,814		
Intangible liabilities, gross beginning balance	\$	(23,900)	\$	(23,900)		
Effect of change in exchange rates						
Intangible liabilities, gross ending balance	\$	(23,900)	\$	(23,900)		

Assumed intangible liabilities reflect the present value of the projected cash outflows for an existing contract where remaining costs are expected to exceed projected revenues.

The disposal of intangible assets was related to the sale of our Latin America business. The net book value of these assets was \$0.8 million at the disposal date. Refer to Note 18: Sale of Business for additional information on the transaction.

Estimated future annual amortization (accretion) is as follows:

Year Ending December 31,	An	ortization	A	accretion	Estimated Annual Amortization, net		
In thousands						_	
2021	\$	38,033	\$	(1,962)	\$	36,071	
2022		27,599		(459)		27,140	
2023		19,955		_	19,955		
2024		15,746		_		15,746	
2025		14,742		_		14,742	
Thereafter		16,880				16,880	
Total intangible assets subject to amortization (accretion)	\$	132,955	\$	(2,421)	\$	130,534	
Amortization Expense		Υe	ar End	led December	31,		
In thousands		2020		2019		2018	
Amortization expense	\$	44,711	\$	64,286	\$	71,713	

We have recognized amortization expense within operating expenses in the Consolidated Statements of Operations. These expenses relate to intangible assets acquired and liabilities assumed as part of business combinations.

Note 5: Goodwill

The following table reflects changes in the carrying amount of goodwill for the years ended December 31, 2020 and 2019:

In thousands	Device Solutions		Networked Solutions		Outcomes		Total Company	
Goodwill balance at January 1, 2019	\$	55,259	\$ 918,495	\$	142,779	\$	1,116,533	
Goodwill acquired		_	(4,938)		(1,040)		(5,978)	
Effect of change in exchange rates		(329)	(5,469)		(850)		(6,648)	
Goodwill balance at December 31, 2019		54,930	908,088		140,889		1,103,907	
Goodwill allocated to business sold		(3,000)	_		_		(3,000)	
Effect of change in exchange rates		1,284	25,726		3,999		31,009	
Goodwill balance at December 31, 2020	\$	53,214	\$ 933,814	\$	144,888	\$	1,131,916	

The accumulated goodwill impairment losses at December 31, 2020 and 2019 were \$676.5 million. The goodwill impairment losses were originally recognized in 2011 and 2013.

We recognized a \$3.0 million reduction in Device Solutions goodwill as part of our loss on sale of business. Refer to Note 18: Sale of Business for additional information on the transaction.

We test goodwill for impairment each year as of October 1, or more frequently should a significant impairment indicator occur. As part of the impairment test, we may elect to perform an assessment of qualitative factors. If this qualitative assessment indicates that it is more likely than not that the fair value of a reporting unit, including goodwill, is less than its carrying amount, or if we elect to bypass the qualitative assessment, we would then proceed with the impairment test. The impairment test involves comparing the fair values of the reporting units to their carrying amounts. If the carrying amount of a reporting unit exceeds its fair value, we first evaluate the long-lived assets within the reporting unit for impairment and then recognize a goodwill impairment loss in an amount equal to any excess.

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

Changes in market demand, fluctuations in the markets in which we operate, the volatility and decline in the worldwide equity markets, and a decline in our market capitalization could unfavorably impact the remaining carrying value of our goodwill, which could have a significant effect on our current and future results of operations and financial position. Due to a decline in our updated long-term forecast for the Device Solutions reporting unit, we completed an interim quantitative goodwill impairment test during the third quarter of 2020. After determining the estimated fair value of this reporting unit, we concluded there was no impairment to be recognized.

Note 6: Debt

The components of our borrowings were as follows:

In thousands	December 31, 2020			
Credit facility				
USD denominated term loan	\$	536,094	\$	550,156
Multicurrency revolving line of credit		_		_
Senior notes		400,000		400,000
Total debt		936,094		950,156
Less: current portion of debt (1)		18,359		_
Less: unamortized prepaid debt fees - term loan		3,469		3,661
Less: unamortized prepaid debt fees - senior notes		11,689		14,013
Long-term debt, net	\$	902,577	\$	932,482

⁽¹⁾ During 2019 we made debt prepayments on the term loan in excess of required principal payments, reducing the current portion of debt to zero at December 31, 2019.

Credit Facility

On October 18, 2019, we amended our credit facility that was initially entered on January 5, 2018 (together with the amendments, the 2018 credit facility). The 2018 credit facility provides for committed credit facilities in the amount of \$1.2 billion U.S. dollars. 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. The October 18, 2019, amendment extended the maturity date to October 18, 2024 and re-amortized the term loan based on the new balance as of the amendment date. The amendment also modified the required interest payments and made it based on total net leverage instead of total leverage. Through the third quarter of 2020, amounts not borrowed under the revolver were subject to a commitment fee, which was paid in arrears on the last day of each fiscal quarter, ranging from 0.15% to 0.25% and drawn amounts were subject to a margin ranging from 1.00% to 1.75%.

On October 19, 2020, we completed a second amendment to our 2018 credit facility. This amendment adjusts the maximum total net leverage ratio thresholds for the period beginning with the fourth quarter of 2020 through the fourth quarter of 2021 to allow for increased operational flexibility. The maximum leverage ratio is increased to 4.75:1 for the fourth quarter of 2020 and the first quarter of 2021 and 4.5:1 for the second quarter through the fourth quarter of 2021. An additional level of pricing was added to the existing pricing grid and is effective throughout the remaining term of the 2018 credit facility. Beginning with the fourth quarter of 2020, the commitment fee ranges from 0.15% to 0.30% and drawn amounts are Subject to a margin ranging from 1.00% to 2.00%. Debt fees of approximately \$1.4 million were incurred for the amendment, as well as other legal and advisory fees. Both the term loan and the revolver may 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.

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. 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 December 31, 2020.

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 net 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 December 31, 2020, the interest rate for both the term loan and the revolver was 1.65%, which includes the LIBOR rate plus a margin of 1.50%.

In March 2020, we drew \$400 million in U.S. dollars under the revolver within the 2018 credit facility to increase our cash position and preserve future financial flexibility. During the fourth quarter, we repaid the \$400 million under the revolver. At December 31, 2020, there were no amounts outstanding under the revolver, and \$64.9 million was utilized by outstanding standby letters of credit, resulting in \$435.1 million available for additional borrowings or standby letters of credit under the revolver. At December 31, 2020, \$235.1 million was available for additional standby letters of credit under the letter of credit sub-facility and no amounts were outstanding under the swingline sub-facility.

Senior Notes

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

Prior to maturity we may redeem some or all of the Senior 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 Senior 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 January 15, 2023 and thereafter to the applicable redemption date.

Debt Maturities

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

Year Ending December 31,	Minimum	n Payments
In thousands		
2021	\$	18,359
2022		44,063
2023		44,063
2024		429,609
2025		_
Thereafter		400,000
Total minimum payments on debt	\$	936,094

Note 7: Derivative Financial Instruments

As part of our risk management strategy, we use derivative instruments to hedge certain foreign currency and interest rate exposures. Refer to Note 1: Summary of Significant Accounting Policies, Note 14: Shareholders' Equity, and Note 15: Fair Value of Financial Instruments 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 (and are classified as Level 2 in the fair value hierarchy). We have used observable market inputs based on the type of derivative and the nature of the underlying instrument. The key inputs include interest rate yield curves (swap rates and futures) and foreign exchange spot and forward rates, all of which are available in an active market. We have utilized the mid-market pricing convention for these inputs. We include, as a discount to the derivative asset, the effect of our counterparty credit risk based on current published credit default swap rates when the net fair value of our derivative instruments is in a net asset position. We consider our own nonperformance risk when the net fair value of our derivative instruments is in a net liability position by discounting our derivative liabilities to reflect the potential credit risk to our counterparty through applying a current market indicative credit spread to all cash flows.

The fair values of our derivative instruments are as follows:

Derivatives Assets	Balance Sheet Location	December 31, 2020		December 31, 2019	
Derivatives designated as hedging instrume	ents under Subtopic ASC 815-20		In tho	usands	
Interest rate swap contracts	Other current assets	\$	_	\$	174
Interest rate cap contracts	Other current assets		_		1
Cross currency swap contracts	Other current assets		_		1,156
Cross currency swap contracts	Other long-term assets		_		2,870
Derivatives not designated as hedging instru	uments under Subtopic ASC 815-20				
Foreign exchange forward contracts	Other current assets		52		96
Total asset derivatives		\$	52	\$	4,297
Derivatives Liabilities					
Derivatives designated as hedging instrume	ents under ASC 815-20				
Interest rate swap contracts	Other current liabilities	\$	1,025	\$	_
Interest rate swap contracts	Other long-term obligations		957		_
Cross currency swap contracts	Other current liabilities		526		_
Derivatives not designated as hedging instru	uments under Subtopic ASC 815-20				
Foreign exchange forward contracts	Other current liabilities		128		162
Total liability derivatives		\$	2,636	\$	162

The changes in AOCI, net of tax, for our derivative and nonderivative hedging instruments designated as hedging instruments, net of tax, were as follows:

In thousands	2020	2019	2018
Net unrealized loss on hedging instruments at January 1,	\$ (15,103)	\$ (13,179)	\$ (13,414)
Unrealized gain (loss) on derivative instruments	(7,002)	4,061	2,586
Realized (gains) losses reclassified into net income (loss)	 6,104	(5,985)	(2,351)
Net unrealized loss on hedging instruments at December 31,	\$ (16,001)	\$ (15,103)	\$ (13,179)

Reclassification of amounts related to hedging instruments are included in interest expense in the Consolidated Statements of Operations. Included in the net unrealized gain (loss) on hedging instruments at December 31, 2020 and 2019 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 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:

0-000			_		
Presented in the Consolidated Balance Sheets		Derivative Financial Instruments	Cash Collateral Received		Net Amount
\$ 5	52 \$	\$ (52)	\$	\$	_
4,29	7	(56)	_		4,241
0-000		0-000	_		
Liabilities Presented in the Consolidated Balance Sheets		Derivative Financial Instruments	Cash Collateral Pledged		Net Amount
\$ 2,63	\$6 \$	\$ (52)	\$	\$	2,584
16	52	(56)	_		106
	Recognized Assets Presented in the Consolidated Balance Sheets \$ 5,4,29 Gross Amounts of Recognized Liabilities Presente in the Consolidated Balance Sheets \$ 2,63	Consolidated Balance Sheets \$ 52 4,297 Gross Amounts of Recognized Liabilities Presented in the Consolidated Balance Sheets	Gross Amounts of Recognized Assets Presented in the Consolidated Balance Sheets \$ 52 \$ (52) 4,297 (56) Gross Amounts of Recognized Liabilities Presented in the Consolidated Balance Sheets \$ 2,636 \$ (52)	Recognized Assets Presented in the Consolidated Balance Sheets Derivative Financial Instruments Cash Collateral Received	Gross Amounts of Recognized Assets Presented in the Consolidated Balance Sheets Consolidated Instruments Cash Collateral Received \$ 52 \$ (52) \$ — \$ 4,297 \$ (56) — Gross Amounts of Recognized Liabilities Presented in the Consolidated Balance Sheets Gross Amounts Not Offset in the Consolidated Balance Sheets Derivative Financial Instruments Cash Collateral Pledged \$ 2,636 \$ (52) \$ — \$

Our derivative assets and liabilities subject to netting arrangements consist of foreign exchange forward and interest rate contracts with four counterparties at December 31, 2020 and five counterparties at December 31, 2019. No derivative asset or liability balance with any of our counterparties was individually significant at December 31, 2020 or 2019. 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, and we have not 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 December 31, 2020, our LIBOR-based debt balance was \$536.1 million.

In October 2015, we entered into one interest rate swap, which was effective from August 31, 2016, and expired on June 23, 2020, to convert \$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 amortized to maturity at the same rate as required minimum payments on the term loan. This cash flow hedge was expected to be highly effective in achieving offsetting cash flows attributable to the hedged risk through the term of the hedge. Consequently, effective changes in the fair value of the interest rate swap were recognized as a component of other comprehensive income (loss) (OCI) and recognized in earnings when the hedged item affected earnings. The amounts paid or received on the hedge were recognized as adjustment to interest expense.

In March 2020, we entered into one interest rate swap, which is effective from June 30, 2020 to June 30, 2023, and converts \$240 million of our LIBOR-based debt from a floating LIBOR interest rate to a fixed interest rate of 0.617% (excluding the applicable margin). The notional balance will amortize to maturity at the same rate of originally required amortizations on the term loan. Changes in the fair value of the interest rate swap are recognized as a component of OCI and recognized in earnings when the hedged item affects earnings. The amounts paid or received on the hedge are recognized as adjustment to interest expense along with the earnings effect of the hedged item. The amount of net losses expected to be reclassified into earnings in the next 12 months is \$1.0 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 expired 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%. The interest rate cap contracts did not include the effect of the applicable margin. Changes in the fair value of these instruments were recognized as a component of OCI and recognized in earnings when the hedged item affected earnings. The amounts received on the hedge were recognized as an adjustment to interest expense along with the earnings effect of the hedged item.

In April 2018, we entered into one 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 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 \$0.5 million.

As a result of our forecasted inventory purchases in a non-functional currency, we are exposed to foreign exchange risk. We hedge portions of these purchases. During February 2020, we entered into foreign exchange option contracts for a total notional amount of \$96 million at a cost of \$1.2 million. The contracts matured ratably through the year with final maturity in October 2020. Changes in the fair value of the option contracts were recognized as a component of OCI and were recognized in product cost of revenues when the hedged item affected earnings. As of December 31, 2020, there are no more outstanding foreign exchange option contracts.

The before-tax effects of our accounting for derivative instruments designated as hedges on AOCI for the year ended December 31, were as follows:

Derivatives in ASC 815-20 Cash Flow Hedging	Amount of	Cai	in (Loss) F	Peco	anized	Gain (Loss) Reclassified from AOCI into Inco					ome	
Relationships			on Deriva			Location			1	Amount		
In thousands	2020		2019		2018	In thousands		2020		2019		2018
Interest rate swap contracts	\$ (2,900)	\$	(987)	\$	1,306	Interest expense	\$	(745)	\$	1,451	\$	1,065
Interest rate cap contracts	782		995		18	Interest expense		392		1,046		(439)
Foreign exchange options	(1,228)		1,141		_	Product cost of revenues		(1,228)		1,141		_
Cross currency swap contract	(4,164)		3,022		1,584	Interest expense		619		1,632		949
Cross currency swap contract	_		_		_	Other income (expense), net		(5,228)		1,335		932

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 within Other income (expense) in our Consolidated Statements of Operations. We enter into monthly foreign exchange forward contracts, which are not designated for hedge accounting, with the intent to reduce earnings volatility associated with currency exposures. As of December 31, 2020, a total of 39 contracts were offsetting our exposures from the euro, Pound sterling, Canadian dollar, Brazilian real, Mexican peso and various other currencies, with notional amounts ranging from \$121,000 to \$26.4 million.

The effect of our derivative instruments not designated as hedges on the Consolidated Statements of Operations for the year ended December 31, were as follows:

Derivatives Not Designated as Hedging Instrument under ASC 815-20		cognized on Der ncome (Expense	ves in	
In thousands		2020	2019	2018
Foreign exchange forward contracts	Other income (expense), net	\$ (4,538)	\$ (2,425)	\$ 3,448

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

Note 8: Defined Benefit Pension Plans

We sponsor both funded and unfunded defined benefit pension plans offering death and disability, retirement, and special termination benefits for certain of our international employees, primarily in Germany, France, Indonesia, India, and Italy. The defined benefit obligation is calculated annually by using the projected unit credit method. The measurement date for the pension plans was December 31, 2020.

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

	•	1							
		Year Ended Decemb							
In thousands		2020	2019						
Change in benefit obligation:									
Benefit obligation at January 1,	\$	114,218 \$	105,570						
Service cost		4,027	3,711						
Interest cost		1,817	2,278						
Actuarial (gain) loss		9,323	8,798						
Benefits paid		(2,820)	(2,970)						
Foreign currency exchange rate changes		9,594	(1,984)						
Curtailment		(589)	(36)						
Settlement		(78)	(234)						
Other		(2,760)	(915)						
Benefit obligation at December 31,	\$	132,732 \$	114,218						
Change in plan assets:									
Fair value of plan assets at January 1,	\$	12,665 \$	11,890						
Actual return on plan assets		389	1,134						
Company contributions		349	289						
Benefits paid		(298)	(411)						
Foreign currency exchange rate changes		(177)	(237)						
Release for Divestiture		(2,722)	_						
Fair value of plan assets at December 31,		10,206	12,665						
Net pension benefit obligation at fair value	\$	122,526 \$	101,553						

Amounts recognized on the Consolidated Balance Sheets consist of:

		31,	
In thousands		2020	2019
Assets			
Plan assets in other long-term assets	\$	- \$	44
Liabilities			
Current portion of pension benefit obligation in wages and benefits payable		3,069	2,885
Long-term portion of pension benefit obligation		119,457	98,712
Pension benefit obligation, net	\$	122,526 \$	101,553

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

	Year Ended December 31,								
In thousands		2020	2	2019		2018			
Net actuarial (gain) loss	\$	8,734	\$	8,762	\$	(3,191)			
Settlement (gain) loss		(286)		(250)		(1)			
Curtailment (gain) loss		_		_		(1)			
Plan asset (gain) loss		64		(526)		724			
Amortization of net actuarial loss		(2,255)		(1,648)		(1,533)			
Amortization of prior service cost		(68)		(68)		(61)			
Other		_		(160)		124			
Other comprehensive (income) loss	\$	6,189	\$	6,110	\$	(3,939)			

If actuarial gains and losses exceed ten percent of the greater of plan assets or plan liabilities, we amortize them over the employees' average future service period. The estimated net actuarial loss and prior service cost that will be amortized from AOCI into net periodic benefit cost during 2021 is \$2.9 million.

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

Year Ended December 31,								
2020			2019		2018			
\$	4,027	\$	3,711	\$	4,034			
	1,817		2,278		2,324			
	(453)		(608)		(670)			
	68		68		61			
	2,255		1,648		1,533			
	286		250		1			
					1			
\$	8,000	\$	7,347	\$	7,284			
		2020 \$ 4,027 1,817 (453) 68 2,255 286	\$ 4,027 \$ 1,817 (453) 68 2,255 286 —	2020 2019 \$ 4,027 \$ 3,711 1,817 2,278 (453) (608) 68 68 2,255 1,648 286 250 — —	2020 2019 \$ 4,027 \$ 3,711 \$ 1,817 \$ (453) (608) \$ 68 68 \$ 2,255 1,648 \$ 286 250 \$			

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.

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

_	Year Ended December 31,					
	2020	2019	2018			
Actuarial assumptions used to determine benefit obligations at end of period:						
Discount rate	1.10 %	1.76 %	2.24 %			
Expected annual rate of compensation increase	3.68 %	3.76 %	3.60 %			
Actuarial assumptions used to determine net periodic benefit cost for the period:						
Discount rate	1.76 %	2.24 %	2.21 %			
Expected rate of return on plan assets	4.89 %	5.19 %	5.58 %			
Expected annual rate of compensation increase	3.76 %	3.60 %	3.64 %			

We determine a discount rate for our plans based on the estimated duration of each plan's liabilities. For euro denominated defined benefit pension plans, which represent 92% of our projected benefit obligation, we use discount rates with consideration of the duration of each of the plans, using a hypothetical yield curve developed from euro-denominated AA-rated corporate bond issues. These bonds are assigned different weights to adjust their relative influence on the yield curve, and the highest and lowest yielding 10% of bonds are excluded within each maturity group. The discount rates used, depending on the duration of the plans, were between 0.20% and 0.75%.

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

The total accumulated benefit obligation for our defined benefit pension plans was \$121.7 million and \$105.1 million at December 31, 2020 and 2019.

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

	December 31,							
In thousands	2020			2019				
Projected benefit obligation	\$	132,732	\$	110,656				
Accumulated benefit obligation		121,747		101,611				
Fair value of plan assets		10,206		9,059				

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

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

	Total			ed Prices in re Markets Identical Assets Level 1)	Significant Unobservable Inputs (Level 3)		
In thousands			Decem	ber 31, 2020			
Cash	\$	1,050	\$	1,050	\$	_	
Insurance funds		9,156		_		9,156	
Other securities							
Total fair value of plan assets	\$	10,206	\$	1,050	\$	9,156	
In thousands			Decem	ber 31, 2019			
Cash	\$	926	\$	926	\$	_	
Insurance funds		8,133		_		8,133	
Other securities		3,606				3,606	
Total fair value of plan assets	\$	12,665	\$	926	\$	11,739	

The following tables present a reconciliation of Level 3 assets held during the years ended December 31, 2020 and 2019.

In thousands	alance at ary 1, 2020	et Realized d Unrealized Gains	et Purchases, Issuances, ttlements, and Other	Release for Divestiture	Effect of Foreign Currency	D	Balance at December 31, 2020
Insurance funds	\$ 8,133	\$ 237	\$ 15	\$ _	\$ 771	\$	9,156
Other securities	 3,606	117	(61)	(2,722)	(940)		
Total	\$ 11,739	\$ 354	\$ (46)	\$ (2,722)	\$ (169)	\$	9,156

In thousands	alance at 1ary 1, 2019	Net Realized d Unrealized Gains	et Purchases, Issuances, tlements, and Other	Release for Divestiture	Effect of Foreign Currency	Γ	Balance at December 31, 2019
Insurance funds	\$ 8,020	\$ 282	\$ (27)	\$ _	\$ (142)	\$	8,133
Other securities	3,083	814	(160)		(131)		3,606
Total	\$ 11,103	\$ 1,096	\$ (187)	\$ _	\$ (273)	\$	11,739

As the plan assets and contributions are not significant to our total company assets, no further disclosures are considered material.

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

Year Ending December 31,	Estimated Annual Benefit Payments					
In thousands						
2021	\$	3,995				
2022		3,934				
2023		4,082				
2024		5,309				
2025		5,360				
2026-2030		28,493				

Note 9: Stock-Based Compensation

We grant stock-based compensation awards, including stock options, restricted stock units, phantom stock, and unrestricted stock units, under the Second Amended and Restated 2010 Stock Incentive Plan (Stock Incentive Plan). In 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, and at December 31, 2020, 5,597,418 shares were available for grant. 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 available for grant 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.

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 ESPP, for which 178,159 shares of common stock were available for future issuance at December 31, 2020.

ESPP activity and stock-based grants other than stock options and restricted stock units were not significant for the years ended December 31, 2020, 2019, and 2018.

Stock-Based Compensation Expense

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

	Year Ended December 31,								
In thousands	2020			2019		2018			
Stock options	\$	1,944	\$	1,770	\$	3,675			
Restricted stock units		22,285		24,560		26,859			
Unrestricted stock awards		824		630		729			
Phantom stock units		3,720		3,301		2,165			
Total stock-based compensation	\$	28,773	\$	30,261	\$	33,428			
Related tax benefit	\$	5,086	\$	5,390	\$	6,019			

A summary of our stock option activity is as follows:

	Shares	Weighted verage Exercise rice per Share	Weighted Average Remaining Contractual Life	Aggregate Intrinsic Value	Weighted Average Gran Date Fair Valu	
	In thousands		Years	In thousands		
Outstanding, January 1, 2018	956	\$ 47.10	6.3	\$ 21,965		
Converted upon acquisition	42	51.86			\$	14.86
Granted	122	68.21				24.29
Exercised	(152)	38.99		4,520		
Forfeited	(7)	60.03				
Expired	(66)	95.31				
Outstanding, December 31, 2018	895	\$ 47.93	6.2	\$ 4,806		
Granted	76	76.55			\$	26.20
Exercised	(489)	43.55		15,759		
Forfeited	(13)	67.34				
Expired	(11)	66.24				
Outstanding, December 31, 2019	458	\$ 56.38	7.0	\$ 12,641		
Granted	83	84.39			\$	26.37
Exercised	(103)	53.99		2,061		
Forfeited	(5)	83.94				
Outstanding, December 31, 2020	433	\$ 61.95	6.9	\$ 14,697		
Exercisable, December 31, 2020	268	\$ 51.85	5.8	\$ 11,810		

At December 31, 2020, total unrecognized stock-based compensation expense related to nonvested stock options was \$2.6 million, which is expected to be recognized over a weighted average period of approximately 1.9 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:

	Year Ended December 31,							
	2020	2019	2018					
Expected volatility	32.3 %	31.7 %	30.5 %					
Risk-free interest rate	1.3 %	1.7 %	2.8 %					
Expected term (years)	5.3	6.1	6.1					

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, 2018	556	\$ 47.68		
Converted upon acquisition	579	69.40		
Granted	387	57.48		
Released (1)	(593)		\$ 32,567	
Forfeited	(112)			
Outstanding, December 31, 2018	817	\$ 59.70		
Granted	404	62.97		
Released (1)	(471)		\$ 29,304	
Forfeited	(66)			
Outstanding, December 31, 2019	684	\$ 64.38		
Granted	262	83.42		
Released (1)	(363)	65.25	\$ 23,702	
Forfeited	(39)	71.96		
Outstanding, December 31, 2020	544	\$ 71.79		
Vested but not released, December 31, 2020	50		\$ 4,836	

⁽¹⁾ Shares released is presented as gross shares and does not reflect shares withheld by us for employee payroll tax obligations.

At December 31, 2020, total unrecognized compensation expense on restricted stock units was \$25.9 million, which is expected to be recognized over a weighted average period of approximately 1.7 years.

The weighted average assumptions used to estimate the fair value of performance-based restricted stock units granted with a service and market condition and the resulting weighted average fair value are as follows:

	<u> Yea</u>	Year Ended December 31,								
	2020	2019	2018							
Expected volatility	44.9 %	31.4 %	28.0 %							
Risk-free interest rate	1.0 %	2.5 %	2.2 %							
Expected term (years)	1.8	1.6	2.1							
Weighted average fair value	\$ 93.97	\$ 61.25 \$	78.56							

The following table summarizes phantom stock unit activity:

	Number of Phantom Stock Units	Weighted Average Gran Date Fair Valu		Aggregate Intrinsic Value	
	In thousands			In thous	ands
Outstanding, January 1, 2018	63	\$	62.53		
Converted upon acquisition	21				
Granted	41		66.67		
Released	(35)			\$	2,409
Forfeited	(7)				
Outstanding, December 31, 2018	83	\$	61.80		
Converted upon acquisition	_				
Granted	55		60.49		
Released	(42)			\$	2,625
Forfeited	(7)				
Outstanding, December 31, 2019	89	\$	62.85		
Granted	38		87.27		
Released	(40)		63.87	\$	2,971
Forfeited	(5)		70.99		
Outstanding, December 31, 2020	82	\$	73.13		

At December 31, 2020, total unrecognized compensation expense on phantom stock units was \$5.2 million, which is expected to be recognized over a weighted average period of approximately 1.8 years. As of December 31, 2020 and 2019, we have recognized a phantom stock liability of \$2.7 million and \$2.3 million within wages and benefits payable in the Consolidated Balance Sheets.

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

Defined Contribution Plans

In the United States, United Kingdom, and certain other countries, we make contributions to defined contribution plans. For our U.S. employee savings plan, which represents a majority of our contribution expense, we provide a 75% match on the first 6% of the employee salary deferral, subject to statutory limitations. For our international defined contribution plans, we provide various levels of contributions, based on salary, subject to stipulated or statutory limitations. The expense for our defined contribution plans was as follows:

	Year Ended December 31,									
In thousands	2020			2019	2018					
Defined contribution plans expense	\$	18,424	\$	17,882	\$	11,593				

Bonus and Profit Sharing Plans and Awards

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

	 Year Ended December 31,						
In thousands	2020		2019		2018		
Bonus and profit sharing plans expense	\$ 11.455	\$	48,435	\$	15,466		

Note 11: Income Taxes

On March 27, 2020, the U.S. Federal government passed the Coronavirus Aid, Relief, and Economic Security (CARES) Act to provide economic relief from COVID-19. The CARES Act contains significant business tax provisions, which the Company has evaluated and determined will not have a material impact on the Company's financial statements or related disclosures.

The CARES Act also provides employer payroll tax credits for wages paid to employees who are unable to work during the COVID-19 outbreak and options to defer payroll tax payments. The Company has elected to defer remittances of payroll and other taxes into the future as provided for under the Act, and may assess in subsequent quarters the impact and availability of payroll tax credits from the U.S. and similar programs provided for by foreign governments, as applicable.

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

	Year Ended December 31,						
In thousands	2020		2019		2018		
Current:							
Federal	\$	(963)	\$ 4,859	\$	(7,695)		
State and local		1,731	2,179		(362)		
Foreign		12,409	13,771		14,618		
Total current		13,177	20,809		6,561		
Deferred:							
Federal		(2,852)	2,334		(17,463)		
State and local		(3,340)	(1,846)		(4,492)		
Foreign		(60,444)	(1,518)		(139,915)		
Total deferred		(66,636)	(1,030)		(161,870)		
Change in valuation allowance		53,697	838		142,739		
Total provision (benefit) for income taxes	\$	238	\$ 20,617	\$	(12,570)		

Subsequent to the issuance of our 2019 financial statements, we determined that a deferred tax liability related to the difference between the book and tax bases of a European subsidiary, initially recorded in 2018, should not have been recognized. Instead, we should have established a valuation allowance against the net operating loss deferred tax asset recognized for that subsidiary. As a result, the valuation allowance, the deferred tax liability, and the related disclosures of movements in those amounts, including foreign currency impacts, have been restated from the amounts previously reported in the 2018 and 2019 tax disclosures to reverse the \$117 million deferred tax liability originally recorded in 2018 and to record a \$117 million valuation allowance. There is no impact on income tax benefit (provision), net income or the balance sheet presentation of this immaterial misstatement.

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

Our tax provision (benefit) as a percentage of income before tax was less than 1%, 28%, and 12% for 2020, 2019, and 2018, respectively. Our actual tax rate differed from the 21% U.S. federal statutory tax rate due to various items. A reconciliation of income taxes at the U.S. federal statutory rate of 21% to the consolidated actual tax rate is as follows:

	Year Ended December 31,						
In thousands		2020		2019		2018	
Income (loss) before income taxes							
Domestic	\$	24,010	\$	57,261	\$	(50,463)	
Foreign		(80,649)		15,771		(58,688)	
Total income before income taxes	\$	(56,639)	\$	73,032	\$	(109,151)	
Expected federal income tax provision	\$	(11,894)	\$	15,337	\$	(22,922)	
Latin America Divestiture		10,936		_		_	
Change in valuation allowance		53,697		838		142,739	
Stock-based compensation		(163)		(2,130)		(104)	
Foreign earnings		(58,649)		(15,610)		(132,808)	
Tax credits		(9,101)		(8,794)		(10,502)	
Uncertain tax positions, including interest and penalties		11,144		13,060		7,727	
Change in tax rates		557		9,514		335	
State income tax provision (benefit), net of federal effect		(1,997)		2,805		(4,524)	
U.S. tax provision on foreign earnings		142		129		25	
Local foreign taxes		1,298		1,471		2,540	
Transaction costs		_		_		974	
Other, net		4,268		3,997		3,950	
Total provision (benefit) from income taxes	\$	238	\$	20,617	\$	(12.570)	

Deferred tax assets and liabilities consist of the following:

	December 31,					
In thousands	2020	2019				
Deferred tax assets						
Loss carryforwards ⁽¹⁾	\$ 423,013	\$ 343,614				
Tax credits ⁽²⁾	88,433	98,098				
Accrued expenses	47,569	46,846				
Pension plan benefits expense	21,735	17,310				
Warranty reserves	11,083	12,961				
Depreciation and amortization	6,363	6,112				
Equity compensation	4,701	4,685				
Inventory valuation	1,799	1,069				
Deferred revenue	9,705	8,951				
Leases	10,872	13,876				
Other deferred tax assets, net	10,817	9,777				
Total deferred tax assets	636,090	563,299				
Valuation allowance	(503,859	(427,030)				
Total deferred tax assets, net of valuation allowance	132,231	136,269				
Deferred tax liabilities						
Depreciation and amortization	(39,995	(54,663)				
Leases	(10,046	(12,976)				
Other deferred tax liabilities, net	(7,969	(6,540)				
Total deferred tax liabilities	(58,010	(74,179)				
Net deferred tax assets	\$ 74,221	\$ 62,090				

- (1) For tax return purposes at December 31, 2020, we had U.S. federal loss carryforwards of \$125.3 million, which begin to expire in the year 2021. At December 31, 2020, we have net operating loss carryforwards in Luxembourg of \$1.4 billion, the majority of which can be carried forward indefinitely, offset by a full valuation allowance. The remaining portion of the loss carryforwards are composed primarily of losses in various other state and foreign jurisdictions. The majority of these losses can be carried forward indefinitely. At December 31, 2020, there was a valuation allowance of \$503.9 million primarily associated with foreign loss carryforwards and foreign tax credit carryforwards (discussed below).
- For tax return purposes at December 31, 2020, we had: (1) U.S. general business credits of \$46.9 million, which begin to expire in 2022; (2) U.S. foreign tax credits of \$50.8 million, which begin to expire in 2024; and (3) state tax credits of \$38.2 million, which begin to expire in 2021.

Changes in the valuation allowance for deferred tax assets are summarized as follows:

In thousands	 Year Ended December 31,							
	2020		2019		2018			
Balance at beginning of period	\$ 427,030	\$	437,149	\$	285,784			
Other adjustments	23,132		(10,957)		8,626			
Additions charged to costs and expenses	 53,697		838		142,739			
Balance at end of period, noncurrent	\$ 503,859	\$	427,030	\$	437,149			

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

We do not provide U.S. deferred taxes on temporary differences related to our foreign investments that are considered permanent in duration. These temporary differences include undistributed foreign earnings of \$18.1 million and \$13.7 million at December 31, 2020 and 2019, respectively. Foreign taxes have been provided on these undistributed foreign earnings. As a result of recent changes in U.S. tax legislation, any repatriation of these earnings would not result in additional U.S. federal income tax.

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

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

In thousands	Total
Unrecognized tax benefits at January 1, 2018	\$ 56,702
Gross increase to positions in prior years	22,943
Gross decrease to positions in prior years	(24,949)
Gross increases to current period tax positions	63,869
Audit settlements	(2,977)
Decrease related to lapsing of statute of limitations	(1,368)
Effect of change in exchange rates	(1,662)
Unrecognized tax benefits at December 31, 2018	\$ 112,558
Gross increase to positions in prior years	1,067
Gross decrease to positions in prior years	(3,296)
Gross increases to current period tax positions	13,762
Audit settlements	_
Decrease related to lapsing of statute of limitations	(1,574)
Effect of change in exchange rates	(802)
Unrecognized tax benefits at December 31, 2019	\$ 121,715
Gross increase to positions in prior years	633
Gross decrease to positions in prior years	(2,140)
Gross increases to current period tax positions	14,821
Audit settlements	(795)
Decrease related to lapsing of statute of limitations	(2,381)
Effect of change in exchange rates	4,057
Unrecognized tax benefits at December 31, 2020	\$ 135,910

	At December 31,						
In thousands		2020		2019		2018	
The amount of unrecognized tax benefits that, if recognized, would affect our effective tax rate	\$	134,473	\$	120,410	\$	111,224	

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

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

	 Ye	ar En	ded December	31,	
In thousands	2020		2019		2018
Net interest and penalties expense (benefit)	\$ 400	\$	708	\$	(990)

	<u> </u>	At December 31,						
In thousands		2020		2019				
Accrued interest	\$	3,432	\$	2,849				
Accrued penalties		1,645		1,681				

At December 31, 2020, we are under examination by certain tax authorities. We believe we have appropriately accrued for the expected outcome of all tax matters and do not currently anticipate that the ultimate resolution of these examinations will have a material adverse effect on our financial condition, future results of operations, or cash flows.

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

We file income tax returns in various jurisdictions. We are subject to income tax examination by tax authorities in our major tax jurisdictions as follows:

Tax Jurisdiction	Years Subject to Audit
U.S. federal	Subsequent to 2001
France	Subsequent to 2012
Germany	Subsequent to 2013
United Kingdom	Subsequent to 2015
Indonesia	Subsequent to 2014
Italy	Subsequent to 2015

Note 12: 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 our future performance, which usually covers the installation phase of a contract and may, on occasion, cover the operations and maintenance phase of outsourcing contracts.

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

At December 31,				
2020			2019	
\$	500,000	\$	500,000	
	_		_	
	(64,948)		(41,072)	
\$	435,052	\$	458,928	
\$	235,052	\$	258,928	
\$	99,201	\$	107,206	
	(24,966)		(25,100)	
	_		(173)	
\$	74,235	\$	81,933	
\$	162,912	\$	136,004	
	\$	\$ 500,000	\$ 500,000 \$ (64,948) \$ 435,052 \$ \$ 235,052 \$ \$ 99,201 \$ (24,966) \$ 74,235 \$	

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, as of February 24, 2021, we do not believe that any outstanding LOC or bond will be called.

We generally provide an indemnification related to the infringement of any patent, copyright, trademark, or other intellectual property right on software or equipment within our sales contracts, which indemnifies the customer from and pays the resulting costs, damages, and attorney's fees awarded against a customer with respect to such a claim provided that (a) the customer promptly notifies us in writing of the claim and (b) we have the sole control of the defense and all related settlement negotiations. We may also provide an indemnification to our customers for third-party claims resulting from damages caused by the negligence or willful misconduct of our employees/agents in connection with the performance of certain contracts. The terms of our indemnifications generally do not limit the maximum potential payments. It is not possible to predict the maximum potential amount of future payments under these or similar agreements.

Legal Matters

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

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

	Year Ended December 31,						
In thousands		2020		2019		2018	
Beginning balance	\$	53,241	\$	60,443	\$	34,862	
Assumed liabilities from acquisition		_		_		12,946	
New product warranties		3,616		5,202		3,772	
Other adjustments and expirations, net		7,736		15,695		22,741	
Claims activity		(25,582)		(27,916)		(12,753)	
Effect of change in exchange rates		2,379		(183)		(1,125)	
Ending balance		41,390		53,241		60,443	
Less: current portion of warranty		28,329		38,509		47,205	
Long-term warranty	\$	13,061	\$	14,732	\$	13,238	

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

	 Ye	naea December	a December 31,			
In thousands	2020		2019		2018	
Total warranty expense	\$ 11,539	\$	17,975	\$	26,513	

Warranty expense decreased during the year ended December 31, 2020 compared with the same period in 2019. The lower costs in 2020 are primarily the result of incremental specific reserves recognized in 2019 including \$3.9 million for gas interface modules in North America Networked Solutions.

Warranty expense decreased during the year ended December 31, 2019 compared with the same period in 2018. This decrease was primarily driven by a warranty reserve of \$11.4 million for replacement of certain gas meters in our Device Solutions segment recognized in 2018.

Health Benefits

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

Plan costs were as follows:

	 Year Ended December 31,							
In thousands	2020		2019		2018			
Plan costs	\$ 36,672	\$	33,611	\$	41,543			

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

In thousands	 At December 31,					
In thousands	2020		2019			
IBNR accrual	\$ 3,507	\$	3,171			

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

Note 13: Restructuring

2020 Projects

On September 17, 2020, our Board of Directors approved a restructuring plan (the 2020 Projects), which includes activities that continue our efforts to optimize our global supply chain and manufacturing operations, sales and marketing organizations, and other overhead. These projects are scheduled to be substantially complete by the end of 2022. We estimate pre-tax restructuring charges of \$55 million to \$65 million, of which approximately \$35 million to \$45 million will result in cash expenditures, and the remainder relates to non-cash charges. Of the total expected charges, \$43.2 million was recognized in 2020. The largest component of expected remaining costs to be recognized is related to a non-cash cumulative translation adjustment charge. 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 2020 Projects were as follows:

In thousands	xpected Costs mber 31, 2020	Recognized in or Periods	Dur	s Recognized ing the Year December 31, 2020	ı	ected Remaining Costs to be Recognized at cember 31, 2020
Employee severance costs	\$ 36,225	\$ _	\$	36,225	\$	<u> </u>
Asset impairments & net loss on sale or disposal	6,944	_		6,944		_
Other restructuring costs	16,508	 <u> </u>		63		16,445
Total	\$ 59,677	\$ _	\$	43,232	\$	16,445

2018 Projects

In February 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 have substantially completed expense recognition on the plan as of the end of 2020.

In the second quarter of 2020, we reversed expenses for employee severance costs and asset impairments we will no longer incur as a result of selling our operations in Latin America.

The total expected restructuring costs, the restructuring costs recognized, and the remaining expected restructuring costs related to the 2018 Projects were as follows:

In thousands	xpected Costs mber 31, 2020	s Recognized in rior Periods	Durii	Recognized ng the Year Ended ber 31, 2020	Re	ted Remaining Costs to be cognized at mber 31, 2020
Employee severance costs	\$ 63,173	\$ 72,133	\$	(8,960)	\$	_
Asset impairments & net loss (gain) on sale or disposal	2,786	3,842		(1,056)		_
Other restructuring costs	19,862	11,420		3,797		4,645
Total	\$ 85,821	\$ 87,395	\$	(6,219)	\$	4,645

All prior restructuring plans are substantially complete and are not presented below.

The following table summarizes the activity within the restructuring related balance sheet accounts for the 2020 Projects and the 2018 Projects during the year ended December 31, 2020:

In thousands	d Employee verance	Ne	et Impairments & et Loss (Gain) on Gale or Disposal	Other A	ccrued Costs	Total
Beginning balance, January 1, 2020	\$ 53,741	\$	_	\$	2,366	\$ 56,107
Costs charged to expense	27,265		5,888		3,860	37,013
Cash (payments) receipts	(15,725)		2,214		(3,632)	(17,143)
Net assets disposed and impaired	_		(8,102)		_	(8,102)
Effect of change in exchange rates	4,724				27	4,751
Ending balance, December 31, 2020	\$ 70,005	\$		\$	2,621	\$ 72,626

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, costs to exit the facilities once the operations in those facilities have ceased, and other costs associated with the liquidation of any effected legal entities. 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. Restructuring expense is part of the Corporate unallocated segment and does not impact the results of our operating segments.

The current portion of restructuring liabilities were \$31.7 million and \$18.9 million as of December 31, 2020 and 2019, respectively. The current portion of restructuring liabilities is classified within other current liabilities on the Consolidated Balance Sheets. The long-term portion of restructuring liabilities balances were \$40.9 million and \$37.2 million as of December 31, 2020 and 2019, respectively. The long-term portion of restructuring liabilities is classified within other long-term obligations on the Consolidated Balance Sheets and includes severance accruals and facility exit costs.

Note 14: Shareholders' Equity

Preferred Stock

We have authorized the issuance of 10 million shares of preferred stock with no par value. In the event of a liquidation, dissolution, or winding up of the affairs of the corporation, whether voluntary or involuntary, the holders of any outstanding preferred stock will be entitled to be paid a preferential amount per share to be determined by the Board of Directors prior to any payment to holders of common stock. There was no preferred stock issued or outstanding at December 31, 2020 or 2019.

Stock Repurchase Authorization

On March 14, 2019, Itron's Board of Directors authorized the Company to repurchase up to \$50 million of our common stock over a 12-month period (the 2019 Stock Repurchase Program). Following the announcement of the program and through December 31, 2019, we repurchased 529,396 shares at an average share price of \$47.22 (including commissions) for a total of \$25 million. The program expired on March 13, 2020, and no additional shares were repurchased during 2020.

Accumulated Other Comprehensive Income (Loss)
The changes in the components of AOCI, net of tax, were as follows:

In thousands	Foreign Curren Translation Adjustments	сy	Net Unrealize Gain (Loss) o Derivative Instruments	n	Net Unrealized Gain (Loss) on Nonderivative Instruments		Pension Benefit Obligation Adjustments		Accumulated Other Comprehensive Income (Loss)
Balances at January 1, 2018	\$ (128,64	48)	\$ 9	66	\$ (14,380)	\$	(28,416)	\$	(170,478)
OCI before reclassifications	(28,84	41)	2,5	86	_		1,653		(24,602)
Amounts reclassified from AOCI		_	(2,3	51)			1,126		(1,225)
Total other comprehensive income (loss)	(28,84	41)	2	35	_		2,779		(25,827)
Balances at December 31, 2018	\$ (157,48	39)	\$ 1,2	01	\$ (14,380)	\$	(25,637)	\$	(196,305)
OCI before reclassifications	(2,9:	53)	4,0	61	_		1,909		3,017
Amounts reclassified from AOCI	2,4	43	(5,9	85)			(7,842)		(11,384)
Total other comprehensive income (loss)	(5	10)	(1,9	24)			(5,933)		(8,367)
Balances at December 31, 2019	\$ (157,99	99)	\$ (7	23)	\$ (14,380)	\$	(31,570)	\$	(204,672)
OCI before reclassifications	21,08	32	(7,0	02)	_		(8,689)		5,391
Amounts reclassified from AOCI	52,0	74	6,1	04			2,577		60,755
Total other comprehensive income (loss)	73,1:	56	3)	98)			(6,112)		66,146
Balances at December 31, 2020	\$ (84,84	13)	\$ (1,6	21)	\$ (14,380)	\$	(37,682)	\$	(138,526)

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

	Year Ended December 31,							
In thousands		2020	2019		2018			
Before-tax amount								
Foreign currency translation adjustment	\$	20,947	\$ (2,581)	\$	(29,130)			
Foreign currency translation adjustment reclassified to net income on sale of business		52,074	2,443		_			
Net unrealized gain (loss) on derivative instruments, designated as cash flow hedges		(7,519)	4,063		2,908			
Net hedging (gain) loss reclassified to net income		6,190	(6,605)		(2,507)			
Net unrealized gain (loss) on defined benefit plans		(8,798)	1,966		2,343			
Net defined benefit plan (gain) loss reclassified to net income		2,609	(8,076)		1,596			
Total other comprehensive income (loss), before tax		65,503	(8,790)		(24,790)			
Tax (provision) benefit								
Foreign currency translation adjustment		135	(372)		289			
Foreign currency translation adjustment reclassified into net income on sale of business		_	_		_			
Net unrealized gain (loss) on derivative instruments, designated as cash flow hedges		517	(2)		(322)			
Net hedging (gain) loss reclassified to net income		(86)	620		156			
Net unrealized gain (loss) on defined benefit plans		109	(57)		(690)			
Net defined benefit plan (gain) loss reclassified to net income		(32)	234		(470)			
Total other comprehensive income (loss) tax (provision) benefit		643	423		(1,037)			
Net-of-tax amount								
Foreign currency translation adjustment		21,082	(2,953)		(28,841)			
Foreign currency translation adjustment reclassified to net income on sale of business		52,074	2,443		_			
Net unrealized gain (loss) on derivative instruments, designated as cash flow hedges		(7,002)	4,061		2,586			
Net hedging (gain) loss reclassified to net income		6,104	(5,985)		(2,351)			
Net unrealized gain (loss) on defined benefit plans		(8,689)	1,909		1,653			
Net defined benefit plan (gain) loss reclassified to net income		2,577	(7,842)		1,126			
Total other comprehensive income (loss), net of tax	\$	66,146	\$ (8,367)	\$	(25,827)			

Note 15: Fair Value of Financial Instruments

The fair values at December 31, 2020 and 2019 do not reflect subsequent changes in the economy, interest rates, tax rates, and other variables that may affect the determination of fair value.

	 Decembe	1, 2020	December 31, 2019				
In thousands	Carrying Amount		Fair Value		Carrying Amount		Fair Value
Credit facility							
USD denominated term loan	\$ 532,625	\$	520,347	\$	546,495	\$	550,135
Multicurrency revolving line of credit	_		_		_		_
Senior notes	388,311		410,000		385,987		416,500

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).

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

Senior Notes: The Senior 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.

Derivatives: See Note 7: Derivative Financial Instruments for a description of our methods and assumptions in determining the fair value of our derivatives, which were determined using Level 2 inputs. Each derivative asset and liability has a carrying value equal to fair value.

Note 16: Segment Information

We operate under the Itron brand worldwide and manage and report under three operating segments: Device Solutions, Networked Solutions, and Outcomes.

We have three GAAP measures of segment performance: revenues, gross profit (gross margin), and operating income (operating margin). Intersegment revenues are minimal. Certain operating expenses are allocated to the operating segments based upon internally established allocation methodologies. Corporate operating expenses, interest income, interest expense, other income (expense), and the income tax provision (benefit) are neither allocated to the segments, nor are they included in the measure of segment performance. In addition, we allocate only certain production assets and intangible assets to our operating segments. We do not manage the performance of the segments on a balance sheet basis.

Segment Products

Device Solutions – This segment 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., hardware-based products not part of a complete "end-to-end" solution. Examples from the Device Solutions portfolio include: standard endpoints that are shipped without Itron communications, such as our standard gas, electricity, and water meters for a variety of global markets and adhering to regulations and standards within those markets, as well as our heat and allocation products; communicating meters that are not a part of an Itron end-to-end solution such as Smart Spec meters; and the implementation and installation of non-communicating devices, such as gas regulators.

Networked Solutions – This segment primarily includes a combination of communicating devices (e.g., 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 includes products and software for the implementation, installation, and management of communicating devices and data networks. Examples from the Networked Solutions portfolio 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 IIoT solutions supported by this segment include automated meter reading (AMR), advanced metering infrastructure (AMI), smart grid and distribution automation, smart street lighting and an ever-growing set of smart city applications such as traffic management, smart parking, air quality monitoring, electric vehicle charging, customer engagement, digital signage, acoustic (e.g., gunshot) detection, and leak detection and mitigation for both gas and water systems. Our IIoT platform allows all of these industry and smart city applications to be run and managed on a single, multi-purpose network.

Outcomes – This segment primarily includes our value-added, enhanced software and services 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 to 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 from the Outcomes portfolio 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; our Distributed Intelligence suite of applications 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.

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

In thousands 2020 Product revenues \$ 684,517 Device Solutions 1,148,698 Outcomes 55,958 Total Company \$ 1,889,173 Service revenues \$ 9,478 Networked Solutions 100,704 Outcomes 173,995 Total Company \$ 284,177 Total revenues \$ 693,995 Networked Solutions \$ 693,995 Networked Solutions \$ 229,953 Total Company \$ 2,173,350	\$ 2019 847,580	 2018
Device Solutions \$ 684,517 Networked Solutions 1,148,698 Outcomes 55,958 Total Company \$ 1,889,173 Service revenues Device Solutions \$ 9,478 Networked Solutions 100,704 Outcomes 173,995 Total Company \$ 284,177 Total revenues Device Solutions \$ 693,995 Networked Solutions 1,249,402 Outcomes 229,953	\$ •	
Networked Solutions 1,148,698 Outcomes 55,958 Total Company \$ 1,889,173 Service revenues Device Solutions \$ 9,478 Networked Solutions 100,704 Outcomes 173,995 Total Company \$ 284,177 Total revenues Device Solutions \$ 693,995 Networked Solutions 1,249,402 Outcomes 229,953	\$ •	
Outcomes 55,958 Total Company \$ 1,889,173 Service revenues Device Solutions \$ 9,478 Networked Solutions 100,704 Outcomes 173,995 Total Company \$ 284,177 Total revenues Device Solutions \$ 693,995 Networked Solutions 1,249,402 Outcomes 229,953		\$ 916,809
Total Company \$ 1,889,173 Service revenues \$ 9,478 Device Solutions 100,704 Outcomes 173,995 Total Company \$ 284,177 Total revenues Device Solutions \$ 693,995 Networked Solutions 1,249,402 Outcomes 229,953	1,322,382	1,133,919
Service revenues Device Solutions \$ 9,478 Networked Solutions 100,704 Outcomes 173,995 Total Company \$ 284,177 Total revenues Device Solutions \$ 693,995 Networked Solutions 1,249,402 Outcomes 229,953	50,433	44,730
Device Solutions \$ 9,478 Networked Solutions 100,704 Outcomes 173,995 Total Company \$ 284,177 Total revenues Device Solutions \$ 693,995 Networked Solutions 1,249,402 Outcomes 229,953	\$ 2,220,395	\$ 2,095,458
Networked Solutions 100,704 Outcomes 173,995 Total Company \$ 284,177 Total revenues Device Solutions \$ 693,995 Networked Solutions 1,249,402 Outcomes 229,953		
Outcomes 173,995 Total Company \$ 284,177 Total revenues Device Solutions \$ 693,995 Networked Solutions 1,249,402 Outcomes 229,953	\$ 11,301	\$ 16,556
Total Company \$ 284,177 Total revenues \$ Device Solutions \$ 693,995 Networked Solutions 1,249,402 Outcomes 229,953	94,872	90,225
Total revenues Device Solutions Networked Solutions Outcomes \$ 693,995 1,249,402 229,953	175,902	173,878
Device Solutions\$ 693,995Networked Solutions1,249,402Outcomes229,953	\$ 282,075	\$ 280,659
Networked Solutions1,249,402Outcomes229,953		
Outcomes 229,953	\$ 858,881	\$ 933,365
	1,417,254	1,224,144
Total Company \$ 2,173,350	226,335	218,608
	\$ 2,502,470	\$ 2,376,117
Gross profit		
Device Solutions \$ 86,859	\$ 152,562	\$ 187,254
Networked Solutions 432,906	518,749	482,471
Outcomes 82,402	81,008	60,594
Total Company \$ 602,167	\$ 752,319	\$ 730,319
Operating income (loss)		
Device Solutions \$ 40,769	\$ 97,753	\$ 130,988
Networked Solutions 308,099	397,325	360,779
Outcomes 47,619	43,803	16,634
Corporate unallocated (406,882)	(406,198)	(558,093)
Total Company (10,395)	132,683	(49,692)
Total other income (expense) (46,244)	(59,651)	(59,459)
Income (loss) before income taxes \$ (56,639)		(109,151)

Our corporate unallocated operating loss for the year ended December 31, 2020 includes a \$59.8 million loss from the sale of our Latin American business. Refer to Note 18: Sale of Business for additional information on the transaction.

For all periods presented, no single customer represents more than 10% of total Company.

We currently buy a majority of our integrated circuit board assemblies from two 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.

	 Year Ended December 31,							
In thousands	2020		2019		2018			
United States and Canada	\$ 1,434,577	\$	1,629,742	\$	1,442,792			
Europe, Middle East, and Africa	594,264		663,851		733,732			
Asia Pacific and Latin America (1)	 144,509		208,877		199,593			
Total Company	\$ 2,173,350	\$	2,502,470	\$	2,376,117			

On June 25, 2020, we sold our Latin American operations. We continue to sell into the region through an exclusive distributor.

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

At December 31,							
	2020	2019					
\$	100,381	\$	99,615				
	107,435		133,613				
\$	207,816	\$	233,228				
	\$ \$	2020 \$ 100,381 107,435	\$ 100,381 \$ 107,435				

Depreciation expense is allocated to the operating segments based upon each segment's use of the assets. All amortization expense is recognized within Corporate unallocated. Depreciation and amortization of intangible assets expense associated with our operating segments was as follows:

	Year Ended December 31,					
In thousands		2020		2019		2018
Device Solutions	\$	25,058	\$	25,542	\$	25,022
Networked Solutions		16,965		13,004		12,671
Outcomes		5,348		5,363		6,572
Corporate unallocated		49,919		70,491		78,232
Total Company	\$	97,290	\$	114,400	\$	122,497

Note 17: Revenues

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

In thousands	Contrac liabilities, contract a	less
Beginning balance, January 1, 2020	\$	38,215
Revenues recognized from beginning contract liability	3)	3,530)
Cumulative catch-up adjustments	(1	3,372)
Increases due to amounts collected or due	30	9,613
Revenues recognized from current period increases	(19	98,190)
Other		(4,348)
Ending balance, December 31, 2020	\$ 9	98,388

On January 1, 2020, total contract assets were \$50.7 million and total contract liabilities were \$138.9 million. On December 31, 2020, total contract assets were \$49.8 million and total contract liabilities were \$148.2 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. The cumulative catchup adjustments relate to contract modifications, measure-of-progress changes, and changes in the estimate of the transaction price.

Transaction price allocated to the remaining performance obligations

Total transaction price allocated to remaining performance obligations represents 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 \$1.0 billion for the next twelve months and approximately \$1.5 billion for periods longer than 12 months. The total remaining performance obligations consist 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 approach to align with the transfer of control of underlying contracts with customers. While amounts were capitalized, they are not material.

Disaggregation of revenue

Refer to Note 16: Segment Information and the Consolidated Statements 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, are presented.

Note 18: Sale of Business

Latin America Divestiture

On June 25, 2020, we closed on the sale of five subsidiaries comprising our manufacturing and sales operations in Latin America to buyers led by Instalación Profesional y Tecnologías del Centro S.A. de C.V., a Mexican company doing business as Accell in Brazil (Accell), through the execution of various definitive stock purchase agreements. The sale of these Latin America-based operations is part of our continued strategy to improve profitability and focus on growing our Networked Solutions and Outcomes businesses in Latin America and throughout the world. We retained the intellectual property rights to our products sold in Latin America. As part of the transaction, we entered into an intellectual property license agreement whereby Accell pays a royalty on certain products manufactured by Accell using licensed Company intellectual property. In addition, Accell serves as the exclusive distributor for our Device Solutions, Networked Solutions, and Outcomes product and service offerings in Latin America.

Based on the sales price and the net assets of the five subsidiaries sold, we recognized a total loss of \$59.8 million during the year ended in 2020. The loss was primarily due to the recognition of \$52.1 million in foreign currency translation losses accumulated since the acquisition of these subsidiaries in 2006 and 2007 along with allocated goodwill of \$3.0 million. Accell assumed all recognized liabilities, as well as all future liabilities, of the subsidiaries. We have provided no indemnification for any future losses that may be incurred.

At the close date of the transaction, we received \$2.5 million of the sales price in cash. Included in the net assets sold was \$6.1 million in cash. This resulted in net outflow of cash at closing of \$3.6 million. The sale of price consisted of a cash received of \$2.5 million, deferred purchase price note of \$2.0 million and a working capital note of \$21.1 million, both of which were to be paid in 2020, and \$9.4 million for minimum royalties and tax credits to be paid in 2021 through 2024. During 2020, we received \$4.8 million of payments related to the deferred purchase price note and working capital amount. In January 2021, we agreed to extend the payment terms on the outstanding working capital balance of \$18.4 million. Accell agreed to make monthly payments including interest through September 2022. We received the first two of these monthly payments with interest in January and February 2021.

The loss on sale of business was calculated as follows:

In thousands	Loss on sale of business
Sales price	\$ 35,008
Net assets sold (including working capital)	
Currency translation adjustment loss	(52,074)
Goodwill allocated	(3,000)
Legal fees	(1,115)
Total loss on sale of business	\$ (59,817)

Note 19: Leases

We lease certain factories, service and distribution locations, offices, and equipment under operating leases. Our operating leases have initial lease terms ranging from 1 to 9 years, some of which include options to extend or renew the leases for up to 10 years. Certain lease agreements contain provisions for future rent increases. Our leases do not contain material residual value guarantees, and finance leases are not material.

The components of operating lease expense are as follows:

In thousands	Year Ended December 31,		
	 2020		2019
Operating lease cost	\$ 22,081	\$	23,221
Variable lease cost	 2,582		2,103
Total operating lease cost	\$ 24,663	\$	25,324

Supplemental cash flow information related to operating leases is as follows:

In thousands	Year Ended December 31,			
	 2020		2019	
Cash paid for amounts included in the measurement of operating lease liabilities	\$ 20,678	\$	19,899	
Right-of-use assets obtained in exchange for operating lease liabilities	13,051		23,511	

Supplemental balance sheet information related to operating leases is as follows:

In thousands	Decen	December 31, 2020 December 31, 20		nber 31, 2019
Operating lease right-of-use assets, net	\$	76,276	\$	79,773
Other current liabilities		16,243		17,049
Operating lease liabilities		66,823		68,919
Total operating lease liability	\$	83,066	\$	85,968
Weighted average remaining lease term - Operating leases		5.6 years 5.9		5.9 years
Weighted average discount rate - Operating leases		4.5 %		4.9 %

Amounts due under operating lease liabilities as of December 31, 2020 are as follows:

In thousands	December 31, 2020	
2021	\$ 18,271	
2022	16,001	
2023	15,144	
2024	13,745	
2025	13,242	
Thereafter	17,484	
Total lease payments	93,887	
Less: imputed interest	(10,821)	
Total operating lease liability	\$ 83,066	

Operating lease rental expense for factories, service and distribution locations, office, and equipment prior to adoption of ASC 842 was as follows:

In thousands	Year Ended December 31,
	2018
Rental expense	\$ 24.453

Item 9: Changes in and Disagreements with Accountants on Accounting and Financial Disclosure

There were no disagreements with our independent accountants on accounting and financial disclosure matters within the three year period ended December 31, 2020, or in any period subsequent to such date, through the date of this report.

Item 9A: Controls and Procedures

Evaluation of disclosure controls and procedures

An evaluation was performed under the supervision and with the participation of our Company's management, including the Chief Executive Officer and Chief Financial Officer, of the effectiveness of the design and operation of the Company's disclosure controls and procedures (as such term is defined in Rules 13a-15(e) and 15d-15(e)) under the Securities Exchange Act of 1934 as amended. Based on that evaluation, the Company's management, including the Chief Executive Officer and Chief Financial Officer, concluded that as of December 31, 2020, the Company's disclosure controls and procedures were effective to ensure the information required to be disclosed by an issuer in the reports that it files or submits under the Securities Exchange Act of 1934 is accumulated and communicated to our management, including our principal executive and principal financial officers, or persons performing similar functions, as appropriate to allow timely decisions regarding required disclosure. There are inherent limitations to the effectiveness of any system of disclosure controls and procedures, including the possibility of human error and the circumvention or overriding of the controls and procedures. Accordingly, even effective disclosure controls and procedures can only provide reasonable assurance of achieving their control objectives.

Management's Annual Report on Internal Control Over Financial Reporting

Our management is responsible for establishing and maintaining adequate internal control over financial reporting, as such term is defined in Exchange Act Rules 13a-15(f). Under the supervision and with the participation of our management, including our Chief Executive Officer and Chief Financial Officer, we conducted an evaluation of the effectiveness of our internal control over financial reporting based on the framework in *Internal Control—Integrated Framework* issued by the Committee of Sponsoring Organizations of the Treadway Commission (2013 Framework). Based on our evaluation under the 2013 Framework, management concluded that our internal control over financial reporting was effective as of December 31, 2020.

The effectiveness of our internal control over financial reporting as of December 31, 2020 has been audited by Deloitte & Touche LLP, an independent registered public accounting firm, as stated in their report that is included in this Annual Report.

Changes in internal controls over financial reporting

There have been no changes in our internal control over financial reporting during the three months ended December 31, 2020 that materially affected, or are reasonably likely to materially affect, internal control over financial reporting.

REPORT OF INDEPENDENT REGISTERED PUBLIC ACCOUNTING FIRM

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

Opinion on Internal Control over Financial Reporting

We have audited the internal control over financial reporting of Itron, Inc. and subsidiaries (the "Company") as of December 31, 2020, based on criteria established in *Internal Control* — *Integrated Framework (2013)* issued by the Committee of Sponsoring Organizations of the Treadway Commission (COSO). In our opinion, the Company maintained, in all material respects, effective internal control over financial reporting as of December 31, 2020, based on criteria established in *Internal Control* — *Integrated Framework (2013)* issued by COSO.

We have also audited, in accordance with the standards of the Public Company Accounting Oversight Board (United States) (PCAOB), the consolidated financial statements as of and for the year ended December 31, 2020, of the Company and our report dated February 24, 2021, expressed an unqualified opinion on those financial statements.

Basis for Opinion

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

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

Definition and Limitations of Internal Control over Financial Reporting

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

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

/s/ DELOITTE & TOUCHE LLP

Seattle, Washington February 24, 2021

Item 9B: Other Information

No information	was required to	be disclosed in	a report on Forn	8-K during the fo	ourth quarter of 2020	that was not reported.

PART III

Item 10: Directors, Executive Officers and Corporate Governance

The section entitled "Proposal 1 – Election of Directors" appearing in our Proxy Statement for the Annual Meeting of Shareholders to be held on May 13, 2021 (the 2021 Proxy Statement) sets forth certain information with regard to our directors as required by Item 401 of Regulation S-K and is incorporated herein by reference.

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

The section entitled "Delinquent Section 16(a) Reports" appearing in the 2021 Proxy Statement sets forth certain information as required by Item 405 of Regulation S-K and is incorporated herein by reference.

The section entitled "Corporate Governance" appearing in the 2021 Proxy Statement sets forth certain information with respect to the Registrant's code of conduct and ethics as required by Item 406 of Regulation S-K and is incorporated herein by reference. Our code of conduct and ethics can be accessed on our website, at www.itron.com under the Investors section.

There were no material changes to the procedures by which security holders may recommend nominees to Itron's board of directors during 2021, as set forth by Item 407(c)(3) of Regulation S-K.

The section entitled "Corporate Governance" appearing in the 2021 Proxy Statement sets forth certain information regarding the Audit/Finance Committee, including the members of the Committee and the Audit/Finance Committee financial experts, as set forth by Item 407(d)(4) and (d)(5) of Regulation S-K and is incorporated herein by reference.

Item 11: Executive Compensation

The sections entitled "Compensation of Directors" and "Executive Compensation" appearing in the 2021 Proxy Statement set forth certain information with respect to the compensation of directors and management of Itron as required by Item 402 of Regulation S-K and are incorporated herein by reference.

The section entitled "Corporate Governance" appearing in the 2021 Proxy Statement sets forth certain information regarding members of the Compensation Committee required by Item 407(e)(4) of Regulation S-K and is incorporated herein by reference.

The section entitled "Compensation Committee Report" appearing in the 2021 Proxy Statement sets forth certain information required by Item 407(e)(5) of Regulation S-K and is incorporated herein by reference.

Item 12: Security Ownership of Certain Beneficial Owners and Management and Related Stockholder Matters

The section entitled "Equity Compensation Plan Information" appearing in the 2021 Proxy Statement sets forth certain information required by Item 201(d) of Regulation S-K and is incorporated herein by reference.

The section entitled "Security Ownership of Certain Beneficial Owners and Management" appearing in the 2021 Proxy Statement sets forth certain information with respect to the ownership of our common stock as required by Item 403 of Regulation S-K and is incorporated herein by reference.

Item 13: Certain Relationships and Related Transactions, and Director Independence

The section entitled "Corporate Governance" appearing in the 2021 Proxy Statement sets forth certain information required by Item 404 of Regulation S-K and is incorporated herein by reference.

The section entitled "Corporate Governance" appearing in the 2021 Proxy Statement sets forth certain information with respect to director independence as required by Item 407(a) of Regulation S-K and is incorporated herein by reference.

Item 14: Principal Accountant Fees and Services

The section entitled "Independent Registered Public Accounting Firm's Audit Fees and Services" appearing in the 2021 Proxy Statement sets forth certain information with respect to the principal accounting fees and services and the Audit/Finance Committee's policy on pre-approval of audit and permissible non-audit services performed by our independent auditors as required by Item 9(e) of Schedule 14A and is incorporated herein by reference.

PART IV

Item 15: Exhibit and Financial Statement Schedules

(a) (1) Financial Statements:

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

(a) (2) Financial Statement Schedule:

All schedules have been omitted because of the absence of conditions under which they are required or because the required information is included in the consolidated financial statements or the notes thereto.

(a) (3) Exhibits:

Exhibit Number	Description of Exhibits
2.1	Agreement and Plan of Merger, dated September 17, 2017, by and among Itron, Inc., Ivory Merger Sub, Inc., and Silver Spring, Inc. (Filed as Exhibit 2.1 to Itron Inc.'s Current Report on Form 8-K, filed on September 18, 2017)
3.1	Amended and Restated Articles of Incorporation of Itron, Inc. (Filed as Exhibit 3.1 to Itron, Inc.'s Annual Report on Form 10-K, filed on March 27, 2003)
3.2	Amended and Restated Bylaws of Itron, Inc. (Filed as Exhibit 3.2 to Itron, Inc.'s Annual Report on Form 10-K, filed on June 30, 2016)
4.1	Security Agreement dated August 5, 2011 among Itron, Inc. and Wells Fargo Bank, National Association (Filed as Exhibit 4.2 to Form 8-K filed on August 8, 2011)
4.2	First Amendment to Security Agreement dated June 23, 2015 among Itron, Inc. and Wells Fargo Bank, National Association. (Filed as Exhibit 4.2 to Itron, Inc.'s Current Report on Form 8-K, filed on June 23, 2015)
4.3	Indenture, dated as of December 22, 2017 among Itron, Inc., the guarantors from time to time party thereto and U.S. Bank National Association, as trustee. (Filed as Exhibit 4.1 to Itron, Inc.'s Current Report on Form 8-K, filed on December 22, 2017)
4.4	Second Amended and Restated Credit Agreement dated January 5, 2018 among Itron, Inc. and a syndicate of banks led by Wells Fargo Bank, National Association, JPMorgan Chase Bank, N.A., J.P. Morgan Europe Limited, J.P. Morgan Securities PLC, BNP Paribas, and Silicon Valley Bank (Filed as Exhibit 4.1 to Itron, Inc.'s Current Report on Form 8-K, filed on January 11, 2018)
4.5	Amendment No. 1 dated October 18, 2019, to the Second Amended and Restated Credit Agreement dated January 5, 2018 among Itron, Inc., certain foreign borrowers, guarantors, lenders and issuing parties thereto, and Wells Fargo Bank, National Association, as administrative agent. (Filed as Exhibit 4.1 to Itron, Inc.'s Current Report on Form 8-K, filed on October 24, 2019)
4.6	Amendment No. 2 dated October 19, 2020, to the Second Amended and Restated Credit Agreement dated January 5, 2018 among Itron, Inc., certain foreign borrowers, guarantors, lenders and issuing parties thereto, and Wells Fargo Bank, National Association, as administrative agent. (Filed as Exhibit 4.1 to Itron, Inc's Quarterly Report on Form 10-Q filed on November 2, 2020)
4.7	Description of Registrant's Securities (filed with this report)
10.1*	Form of Amended and Restated Change in Control Severance Agreement for Executive Officers. (Filed as Exhibit 10.1 to Itron, Inc.'s Annual Report on Form 10-K, filed on February 22, 2013)
10.2*	Form of Indemnification Agreements between Itron, Inc. and certain directors and officers. (Filed as Exhibit 10.9 to Itron, Inc.'s Annual Report on Form 10-K, filed on March 30, 2000)
10.3*	Amended and Restated 2010 Stock Incentive Plan. (Filed as Appendix A to Itron, Inc.'s Proxy Statement for the 2014 Annual Meeting of Shareholders, filed on March 13, 2014)
10.4*	Second Amended and Restated 2010 Stock Incentive Plan. (Filed as Appendix A to Itron, Inc.'s Proxy Statement for the 2017 Annual Meeting of Shareholders, filed on March 24, 2017)
10.5*	Rules of Itron Inc.'s Amended and Restated 2010 Stock Incentive Plan for the Grant of Restricted Stock Unit (RSU's) to Participants in France. (Filed as Exhibit 10.6 to Itron, Inc.'s Quarterly Report on Form 10-Q, filed on August 6, 2014)
10.6*	Terms of the Amended and Restated Equity Grant Program for Nonemployee Directors under the Itron, Inc. Amended and Restated 2000 Stock Incentive Plan. (Filed as Exhibit 10.4 to Itron, Inc.'s Annual Report on Form 10-K, filed on February 26, 2008)

Exhibit Number	Description of Exhibits
10.7*	Form of Stock Option Grant Notice and Agreement for use in connection with both incentive and non-qualified stock options granted under Itron, Inc.'s Amended and Restated 2000 Stock Incentive Plan. (Filed as Exhibit 10.6 to Itron, Inc.'s Current Report on Form 8-K, filed on February 18, 2010)
10.8*	Form of RSU Award Notice and Agreement for U.S. Participants for use in connection with the Company's Long-Term Performance Plan (LTPP) and issued under Itron, Inc.'s Amended and Restated 2000 Stock Incentive Plan. (Filed as Exhibit 10.1 to Itron, Inc.'s Current Report on Form 8-K, filed on February 18, 2010)
10.9*	Form of RSU Award Notice and Agreement for International Participants (excluding France) for use in connection with the Company's LTPP and issued under Itron, Inc.'s Amended and Restated 2000 Stock Incentive Plan. (Filed as Exhibit 10.2 to Itron, Inc.'s Current Report on Form 8-K, filed on February 18, 2010)
10.10*	Form of RSU Award Notice and Agreement for Participants in France for use in connection with Itron, Inc.'s LTPP and issued under Itron, Inc.'s Amended and Restated 2000 Stock Incentive Plan. (Filed as Exhibit 10.3 to Itron, Inc.'s Current Report on Form 8-K, filed on February 18, 2010)
10.11*	Form of RSU Award Notice and Agreement for all Participants (excluding France) for use in connection with Itron, Inc.'s Amended and Restated 2000 Stock Incentive Plan. (Filed as Exhibit 10.4 to Itron, Inc.'s Current Report on Form 8-K, filed on February 18, 2010)
10.12*	Form of RSU Award Notice and Agreement for Participants in France for use in connection with Itron, Inc.'s Amended and Restated 2000 Stock Incentive Plan. (Filed as Exhibit 10.5 to Itron, Inc.'s Current Report on Form 8-K, filed on February 18, 2010)
10.13*	Form of Long Term Performance RSU Award Notice and Agreement for U.S. Participants for use in connection with Itron, Inc.'s Amended and Restated 2010 Stock Incentive Plan. (Filed as Exhibit 10.4 to Itron, Inc.'s Quarterly Report on Form 10-Q, filed on August 6, 2014)
10.14*	Form of Long Term Performance RSU Award Notice and Agreement for International Participants (excluding France) for use in connection with Itron, Inc.'s Amended and Restated 2010 Stock Incentive Plan. (Filed as Exhibit 10.19 to Itron, Inc.'s Annual Report on Form 10-K, filed on February 25, 2011)
10.15*	Form of Long Term Performance RSU Award Notice and Agreement for Participants in France for use in connection with Itron, Inc.'s Amended and Restated 2010 Stock Incentive Plan. (Filed as Exhibit 10.5 to Itron, Inc.'s Quarterly Report on Form 10-Q, filed on August 6, 2014)
10.16*	Form of RSU Award Notice and Agreement for all Participants (excluding France) for use in connection with Itron, Inc.'s Amended and Restated 2010 Stock Incentive Plan. (Filed as Exhibit 10.2 to Itron, Inc.'s Quarterly Report on Form 10-Q, filed on August 6, 2014)
10.17*	Form of RSU Award Notice and Agreement for Participants in France for use in connection with Itron, Inc.'s Amended and Restated 2010 Stock Incentive Plan. (Filed as Exhibit 10.3 to Itron, Inc.'s Quarterly Report on Form 10-Q, filed on August 6, 2014)
10.18*	Form of RSU Award Notice and Agreement for Non-employee Directors for use in connection with Itron, Inc.'s Amended and Restated 2010 Stock Incentive Plan. (Filed as Exhibit 10.3 to Itron, Inc.'s Quarterly Report on Form 10-Q, filed on May 3, 2013)
10.19*	Form of Stock Option Grant Notice and Agreement for use in connection with both incentive and non-qualified stock options granted under Itron, Inc.'s Amended and Restated 2010 Stock Incentive Plan. (Filed as Exhibit 10.1 to Itron, Inc's Quarterly Report on Form 10-Q, filed on August 6, 2014)
10.20*	Amendment to the Executive Deferred Compensation Plan. (Filed as Exhibit 10.1 to Itron, Inc.'s Quarterly Report on Form 10-Q, filed on November 3, 2016)
10.21*	Amended and Restated 2012 Employee Stock Purchase Plan. (filed with this report)

Exhibit Number	Description of Exhibits
10.22	Cooperation Agreement by and among Itron, Inc., Coppersmith Capital Management LLC, Scopia Management, Inc. and certain of their specified affiliates, Jerome J. Lande and Peter Mainz, dated as of December 9, 2015. (Filed as Exhibit 10.1 to Itron, Inc.'s Current Report on Form 8-K, filed on December 11, 2015)
10.23	Amendment to Cooperation Agreement by and among Itron, Inc., Coppersmith Capital Management LLC, Scopia Management, Inc. and certain of their specified affiliates, Jerome J. Lande and Peter Mainz. (Filed as Exhibit 10.2 to Itron, Inc.'s Quarterly Report on Form 10-Q, filed on November 3, 2016)
10.24	First Amendment to Cooperation Agreement, dated November 1, 2017, by and among Itron, Inc., Scopia Management, Inc. and certain of their specified affiliates, Jerome J. Lande and certain other individuals. (Filed as Exhibit 10.1 to Itron, Inc.'s Current Report on Form 8-K, filed on November 2, 2017)
10.25*	Form of Stock Option Grant Notice and Agreement for use in connection with both incentive and non-qualified stock options granted under Itron, Inc.'s Amended and Restated 2010 Stock Incentive Plan. (Filed as Exhibit 10.1 to Itron, Inc.'s Quarterly Report on Form 10-Q, filed on May 4, 2017)
10.26*	Form of Long-Term Performance RSU Award Notice and Agreement for U.S. Participants for use in connection with Itron, Inc.'s Amended and Restated 2010 Stock Incentive Plan. (Filed as Exhibit 10.2 to Itron, Inc.'s Quarterly Report on Form 10-Q, filed on May 4, 2017)
10.27*	Form of RSU Award Notice and Agreement for all Participants for use in connection with Itron, Inc.'s Amended and Restated 2010 Stock Incentive Plan. (Filed as Exhibit 10.3 to Itron, Inc.'s Quarterly Report on Form 10-Q, filed on May 4, 2017)
10.28*	Form of Stock Option Grant Notice and Agreement for use in connection with both incentive and non-qualified stock options granted under Itron, Inc.'s Amended and Restated 2010 Stock Incentive Plan. (Filed as Exhibit 10.32 to Itron, Inc.'s Annual Report on Form 10-K, filed on February 28, 2019)
10.29*	Form of Long-Term Performance RSU Award Notice and Agreement for U.S. Participants for use in connection with Itron, Inc.'s Amended and Restated 2010 Stock Incentive Plan. (Filed as Exhibit 10.33 to Itron, Inc.'s Annual Report on Form 10-K, filed on February 28, 2019)
10.30*	Form of RSU Award Notice for awards with 1 year vesting and Agreement for all Participants for use in connection with Itron, Inc.'s Amended and Restated 2010 Stock Incentive Plan. (Filed as Exhibit 10.34 to Itron, Inc.'s Annual Report on Form 10-K, filed on February 28, 2019)
10.31*	Form of RSU Award Notice for awards with 2 year vesting and Agreement for all Participants for use in connection with Itron, Inc.'s Amended and Restated 2010 Stock Incentive Plan. (Filed as Exhibit 10.35 to Itron, Inc.'s Annual Report on Form 10-K, filed on February 28, 2019)
10.32*	Form of RSU Award Notice for awards with 3 year vesting and Agreement for all Participants for use in connection with Itron, Inc.'s Amended and Restated 2010 Stock Incentive Plan. (Filed as Exhibit 10.36 to Itron, Inc.'s Annual Report on Form 10-K, filed on February 28, 2019)
10.33*	Transition and Retirement Agreement, dated as of January 21, 2019, by and between Itron, Inc. and Philip C. Mezey. (Filed as Exhibit 10.1 to Itron, Inc.'s Current Report on Form 8-K, filed on January 22, 2019)
10.34*	Employment agreement between Itron, Inc. and Thomas L. Deitrich, dated July 16, 2019. (Filed as Exhibit 10.1 to Itron, Inc.'s Current Report on Form 8-K, filed on July 22, 2019)
10.35*	Form of Long-Term Performance RSU Award Notice and Agreement for U.S Participants for use in connection with Itron, Inc.'s Second Amended and Restated 2010 Stock Incentive Plan. (Filed as Exhibit 10.39 to Itron, Inc's Annual report on Form 10-K, filed on February 26, 2020)
10.36*	Form of RSU Award Notice and Agreement for all Participants for use in connection with Itron, Inc.'s Second Amended and Restated 2010 Stock Incentive Plan. (filed with this report)

Exhibit Number	Description of Exhibits
21.1	Subsidiaries of Itron, Inc. (filed with this report)
23.1	Consent of Deloitte & Touche LLP Independent Registered Public Accounting Firm. (filed with this report)
31.1	Certification Pursuant to Section 302 of the Sarbanes-Oxley Act of 2002. (filed with this report)
31.2	Certification Pursuant to Section 302 of the Sarbanes-Oxley Act of 2002. (filed with this report)
32.1	Certification Pursuant to Section 906 of the Sarbanes-Oxley Act of 2002. (furnished with this report)
101	The following financial information from Itron, Inc.'s Annual Report on Form 10-K for the year ended December 31, 2020 formatted in Inline XBRL (Extensible Business Reporting Language) includes: (i) the Consolidated Statements of Operations, (ii) the Consolidated Statements of Comprehensive Income (Loss), (iii) the Consolidated Balance Sheets, (iv) the Consolidated Statements of Equity, (v) the Consolidated Statements of Cash Flows, and (vi) Notes to the Consolidated Financial Statements.
104	Cover Page Interactive Data File (formatted as Inline XBRL and contained in Exhibit 101)
*	Management contract or compensatory plan or arrangement.

SIGNATURES

Pursuant to the requirements of Section 13 or 15(d) of the Securities Exchange Act of 1934, the registrant has duly caused this report to be signed on its behalf by the undersigned, thereunto duly authorized on the 24th day of February, 2021.

ITRON, INC.

By:	/s/ JOAN S. HOOPER	
Joan S. Hooper		
Senior Vice President and Chief Financial Officer		

Pursuant to the requirements of the Securities Exchange Act of 1934, this report has been signed below by the following persons on behalf of the registrant and in the capacities indicated on the 24th day of February, 2021.

Signatures	Title
/s/ THOMAS L. DEITRICH	
Thomas L. Deitrich	President and Chief Executive Officer (Principal Executive Officer), Director
/s/ JOAN S. HOOPER	
Joan S. Hooper	Senior Vice President and Chief Financial Officer
/s/ THOMAS S. GLANVILLE	
Thomas S. Glanville	Director
/s/ FRANK M. JAEHNERT	
Frank M. Jaehnert	Director
/s/ JEROME J. LANDE	
Jerome J. Lande	Director
/s/ TIMOTHY M. LEYDEN	
Timothy M. Leyden	Director
/s/ DANIEL S. PELINO	
Daniel S. Pelino	Director
/s/ GARY E. PRUITT	
Gary E. Pruitt	Director
/s/ DIANA D. TREMBLAY	
Diana D. Tremblay	Director
/s/ LYNDA L. ZIEGLER	
Lynda L. Ziegler	Chair of the Board

DIRECTORS

Lynda L. Ziegler

Chair of the Board

Thomas L. Deitrich

President and Chief Executive Officer

Thomas S. Glanville

Frank M. Jaehnert

Jerome J. Lande

Timothy M. Leyden

Daniel S. Pelino

Gary E. Pruitt

Diana D. Tremblay

EXECUTIVE OFFICERS

Thomas L. Deitrich

President and Chief Executive Officer

Joan S. Hooper

Senior Vice President and Chief Financial Officer

Michel C. Cadieux

Senior Vice President, Human Resources

Sarah Hlavinka

Senior Vice President, General Counsel and Corporate Secretary

CORPORATE & SHAREHOLDER INFORMATION

Corporate Headquarters

Itron, Inc. 2111 North Molter Road Liberty Lake, WA 99019 www.itron.com

Shareholder Inquiries

Please contact Investor Relations at (800) 635-5461 or investors@itron.com

Common Stock

Itron's Common Stock is traded on the NASDAQ Global Select Market under the symbol ITRI

Independent Auditors

Deloitte & Touche LLP Seattle, Washington

Transfer Agent

Computershare PO Box 30170 College Station, TX 77842-3170 (877)-277-9949 www.computershare.com/investor



