

2021

ANNUAL REPORT



Waters™

The image features a blue-tinted photograph of laboratory glassware, including Erlenmeyer flasks and a beaker, some containing liquids. In the upper left, the Waters logo is presented within a blue circle, which is part of a vertical line design that includes a smaller circle below it. The background is a blurred laboratory setting.

Waters™

Unlocking the Potential
of Science by Solving
Problems that Matter

A decorative graphic in the bottom right corner consisting of a white circle with a white center, enclosed within a larger white circle.



2021



Dear Shareholders, Customers, and Employees,

Thank you for continuing to place your trust in Waters. I also want to thank my colleagues who represent our indomitable spirit: your steadfast dedication to our customers and each other in 2021 was exemplary. As we continue to traverse the uncertainties of the pandemic, macroeconomic, and geopolitical environments, the need for trust, transparency, and compassion has never been greater.

Last year was also a poignant period that marked the passing of our company's founder and industry pioneer, Jim Waters. His revolutionary work in liquid chromatography catalyzed separation science and its continued innovation across the life, materials, and food sciences. Jim will always be remembered.



First the Facts

In 2021, Waters achieved revenue growth of 18% as reported and 16% on a constant currency basis, with an adjusted operating margin of 30.2% and no discernible COVID-19 tailwinds. Broad-based revenue growth was achieved across all regions with particular strength in China (25%) and a return to growth in the United States (14%). With 2020 being a pandemic year, a better measure of relative operational performance is the two-year compound annual growth rate (CAGR) for our revenues in constant currency and our 2021 adjusted operating margin against the analytical instrumentation performance of our life science tools peers. On both measures, Waters ended 2021 at the top-end of the industry. Our two-year constant currency revenue CAGR was 7% compared to the 5% average for analytical instrument businesses of our peers, while our 2021 adjusted operating margin of 30.2% was 7 percentage points higher.

Waters' shareholders benefited from our improved performance with top-quartile total shareholder returns of approximately 51% in 2021. This compared favorably to the shareholder returns of life science tools peers and the broader stock market; the S&P 500 Health Care and S&P 500 indices achieved total returns of 26% and 29%, respectively.

We also brought additional focus to our research and innovation efforts in product development, with our product vitality index¹ increasing 150 basis points year-over-year to 15% in the fourth quarter of 2021.

Unless otherwise noted, sales growth percentages are presented on a constant currency basis. Adjusted operating margin percentages are presented on a Non-GAAP basis. See the Company's website for the GAAP to Non-GAAP reconciliations for the year-over-year and the two-year CAGR for constant currency revenue and the adjusted operating margin percentage.

¹ Vitality index represents new product revenue as a percentage of total product revenue (excluding service).

18%

Revenue Growth
(As reported)

30.2%

Adjusted
Operating Margin

7%

Two-Year
Constant Currency
Revenue
CAGR

15%

Revenue Growth
Waters Division
(As reported)

25%

Revenue Growth
TA Division
(As reported)

Transformation is on Track

Waters has a simple, resilient, and repeatable business model in attractive end markets including pharmaceuticals, cutting-edge materials, clinical diagnostics, and food and environmental. We simplify sophisticated and powerful analytical instruments to address customer needs and we design consumables, informatics, and services to support high-volume applications in regulated markets.

In 2021, we continued to execute on our three-phase transformation program: first, regain our commercial momentum; second, strengthen our leadership and performance management; and third, align the Waters portfolio for growth.



Regaining Our Commercial Momentum

Waters Division revenues grew 15% and TA Division revenues grew 25% year-over-year, supported by broad-based strength across all regions led by the pharmaceutical and industrial end markets and robust instrument and recurring revenue growth.

We implemented five initiatives that contributed tangible growth during 2021:

- Waters Instrument Replacement, which contributed >\$30M to revenues;
- Service Attachment Rates², which improved by ~200bps compared to 2019;
- Contract Organization Revenues, which grew ~40% compared to 2019;
- eCommerce Adoption, which grew to ~27% of consumable sales; and
- Launch Excellence, which supported ~\$45M+ of revenues from the Arc™ HPLC and Premier product launches.

Strengthening Our Leadership and Organization

We strengthened our leadership team, adding key talent with experience in commercial execution, M&A, and technical expertise; 7 out of 9 members of the Executive Committee were newly appointed to their roles in 2021.

We built upon Waters' deep expertise in technology, science, and customer relationships by bringing back a deeper sense of focus, urgency, and accountability to all we do. For example, our newly established Innovation Board draws from our research and development, business development, and strategic marketing leadership to identify unmet needs in targeted markets, assess technology proofs of concept, and monitor the execution of top programs.

Our Science Advisory Council is comprised of scientists from across the organization who read published studies to form their own views on the evolution of the pandemic. Their expertise and insights have been central to inform policy decisions within Waters regarding vaccination, masking, and return-to-office protocols.

² Plan coverage as a percentage of the Waters instrument install base.

Driving Growth Through Innovation

Our portfolio has been rejuvenated with impactful new products across almost every product line:

MaxPeak™ Premier Technology

The MaxPeak High Performance Surfaces Technology for large molecule applications including mRNAs and oligonucleotides. This technology can measurably improve data quality by mitigating the loss of sample analytes due to analyte-to-surface interactions.



Arc™ HPLC

The Arc High Performance Liquid Chromatography (HPLC) System, an innovation designed for labs ready to modernize their LC equipment without changing their methods. Arc HPLC allows labs to transfer existing methods from any HPLC system while ensuring data quality.



ACQUITY™ Premier System

The ACQUITY Premier System, which uses a proprietary technology to improve analytical data quality and eliminate the need for time-consuming and costly passivation.



SELECT SERIES™ MRT

The SELECT SERIES MRT, a high-resolution mass spectrometer, which enables scientists to explore molecular structure and function with a unique combination of speed, resolution, and mass accuracy.



MS Quan™ Application

The MS Quan application for waters_connect™, which allows high-throughput food and environmental laboratories using Waters mass spectrometers to manage quantitative MS data in a compliant manner to cut analytical review time in half.



TRIOS™ AutoPilot Software

The new TRIOS AutoPilot Software, which automates and standardizes materials science laboratory workflows to save analysts up to 25% of the time previously spent running thermal analysis standard operating procedures and repetitive tasks.



Our Future: A Strategy for Growth

With a revived core business, we are positioning the company for future sustainable growth in an environment of mutual respect and personal growth.

Solving Problems that Matter

We comprehensively analyzed over 50 trends shaping the markets we operate in and identified the customer challenges that Waters is uniquely positioned to solve. These challenges span our core areas where we compete today and in higher-growth adjacent areas where we can apply our simple, resilient, and repeatable business model.

Our goal is to address some of the toughest challenges in key areas of life, materials, and food sciences. In our core business, we want to continue to simplify our customers' experience while maintaining the strict compliance with regulatory standards that Waters is known for.

There are several challenges that we are well-suited to address in emerging areas such as cell and gene therapy, mRNA development, clinical diagnostics, and sustainable energies. These include:

- **Bioseparations:** Separating and purifying newer modalities;
- **Bioprocess Characterization:** Decoupling the process from the product for manufacturing of large molecules;
- **LC-MS in Diagnostics:** An unbiased, multiplexed, multiomic, and ultra-high sensitivity diagnostic solution;
- **Battery Testing:** Supporting R&D for new battery technology characterization and testing; and
- **Sustainable Polymers:** Enabling the formulation of more sustainable plastics.

In addition to strong investment in organic growth, we have actively partnered with others to advance our strategic agenda:

- Our partnership with Sartorius to combine our BioAccord™ LC-MS System with their Ambr® Bioreactors gives bioprocess scientists faster and direct access to advanced quality characterization information for clone selection and process development. This accelerates the development timeline for medicines and vaccines by reducing the turnaround time for robust data by several weeks.
- Our collaboration with the University of Delaware to develop analytical solutions to better characterize biological manufacturing processes. Our researchers will co-locate at Waters' new Immerse™ Delaware Innovation and Research Lab on the University of Delaware campus to improve drug product quality, yields, process efficiency, and process control.

"With a revived core business, we are positioning the company for future sustainable growth in an environment of mutual respect and personal growth."



Investment in Our Teams

This year, we continued to make significant investments in our people, who are central to our culture and the results we deliver. We invested in building the capabilities of our people managers, including 100 new managers participating in our intensive new manager training program and 70% of our team members taking advantage of our extensive on-line training opportunities for professional and leadership skills. We also launched a training program in partnership with Duke Corporate Education to strengthen our strategic marketing, financial acumen, and leadership capabilities for approximately 30 high-potential leaders across the organization.

Capital Deployment Priorities

At Waters we maintain a strong balance sheet, access to liquidity and a well-structured debt maturity profile. This strength allows us the ability to prioritize investing in growth, including M&A and returning capital to shareholders. We continue to evaluate M&A opportunities that will meaningfully accelerate value creation in attractive, high-growth adjacent markets.



Our Commitment to the Environment

No business model is sustainable if you take more than you give. Waters has a firm commitment to leave the world better than we found it, be that in our environment or society. Waters was ranked #6 on Barron's 100 Most Sustainable U.S. Companies 2022³ and we are proud of the work highlighted in our **2021 Sustainability Report** to carry out our values and responsibilities.

Here is a selection of metrics across Environmental, Social and Governance (ESG):

- Over 50% of our direct procurement spend comes from suppliers who share our commitment to sustainability;
- 44% of our Executive Committee are women, and 33% are ethnically diverse; and
- 100/100 score on the Corporate Equality Index, an annual assessment of LGBTQ+ workplace equality administered by the Human Rights Campaign Foundation⁴.

Waters has also acted on its commitment to underrepresented communities to increase access and opportunity in Science, Technology, Engineering, and Math (STEM) including:

- Our partnership with Team New England to deliver an immersive summer internship program for high school students with hands-on experiences in science, business, and soft skills;
- Our scholarship program that Waters launched at three Historically Black Colleges and Universities including Cheyney University of Pennsylvania, Delaware State University, and Clark Atlanta University;
- Our partnership with Junior Achievement Worldwide, a long-time partner of Waters and one of the world's most impactful youth-serving nonprofits, to host a mentorship opportunity in Singapore focused on 'Girls in Science'; and
- Celebrating Diversity Month with Dorothy Phillips, a Waters trailblazer and the first African American woman to receive an undergraduate degree from Vanderbilt's College of Arts and Sciences and recipient of many accolades for her STEM outreach.

With new leadership in place and our transformation well underway, we are revisiting our ESG strategy. Our complete ESG materiality assessment is looking at areas where Waters can contribute more and improve to leave the world better than we found it. I look forward to sharing an update later this year.



"Leave the world better than we found it."

COMMITMENT TO SUSTAINABILITY



EMBRACE DIVERSITY



ACCESS TO STEM EDUCATION



³ Fifth annual Barron's ranking of America's Most Sustainable Companies, February 2022.

⁴ Human Rights Campaign Foundation's Corporate Equality Index 2022, January 2022.



The Road Ahead

Our company has made tremendous progress in 2021. Achieving these results in a “normal year” would have been quite an accomplishment, but to do so in these turbulent times with a major transformation and new leadership team is quite remarkable.

I am equally proud of what we have accomplished as I am excited for the road ahead. As we look to 2022 and beyond, I am confident we will continue to sustain our commercial momentum, while cultivating our indomitable spirit by fostering a diverse and inclusive culture driven to solve our customers’ problems. And as we make inroads into faster-growing adjacencies, we can further unlock the potential of science by solving problems that matter to our customers, shareholders, and employees.

Dr. Udit Batra, Ph.D.
President and Chief Executive Officer

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

Form 10-K

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

For the fiscal year ended December 31, 2021

or

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

Commission File Number: 01-14010

Waters Corporation

(Exact name of registrant as specified in its charter)

Delaware

*(State or other jurisdiction of
incorporation or organization)*

13-3668640

*(I.R.S. Employer
Identification No.)*

34 Maple Street

Milford, Massachusetts 01757

(Address, including zip code, of principal executive offices)

(508) 478-2000

(Registrant's telephone number, including area code)

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

<u>Title of each class</u>	<u>Trading Symbol(s)</u>	<u>Name of each exchange on which registered</u>
Common Stock, par value \$0.01 per share	WAT	New York Stock Exchange, Inc.

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

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

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

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

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

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

Large accelerated filer ☒ Accelerated filer ☐ Non-accelerated filer ☐ Smaller reporting company ☐
Emerging growth company ☐

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

Indicate by check mark whether the registrant has filed a report on and attestation to its management's assessment of the effectiveness of its internal control over financial reporting under Section 404(b) of the Sarbanes-Oxley Act (15 U.S.C. 7262(b)) by the registered public accounting firm that prepared or issued its audit report. ☒

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

State the aggregate market value of the registrant's common stock held by non-affiliates of the registrant as of July 3, 2021: \$21,855,696,546.

Indicate the number of shares outstanding of the registrant's common stock as of February 18, 2022: 60,515,620

DOCUMENTS INCORPORATED BY REFERENCE

Portions of the registrant's definitive proxy statement that will be filed for the 2022 Annual Meeting of Stockholders are incorporated by reference in Part III.

WATERS CORPORATION AND SUBSIDIARIES
ANNUAL REPORT ON FORM 10-K
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PART I

Item 1: *Business*

General

Waters Corporation (the “Company,” “Waters™,” “we,” “our,” or “us”) is a specialty measurement company that operates with a fundamental underlying purpose to advance the science that enables our customers to enhance human health and well-being. Waters has pioneered analytical workflow solutions involving liquid chromatography, mass spectrometry and thermal analysis innovations serving the life, materials and food sciences for more than 60 years. The Company primarily designs, manufactures, sells and services high performance liquid chromatography (“HPLC”), ultra-performance liquid chromatography (“UPLC™” and together with HPLC, referred to as “LC”) and mass spectrometry (“MS”) technology systems and support products, including chromatography columns, other consumable products and comprehensive post-warranty service plans. These systems are complementary products that are frequently employed together (“LC-MS”) and sold as integrated instrument systems using common software platforms. In addition, the Company designs, manufactures, sells and services thermal analysis, rheometry and calorimetry instruments through its TA Instruments™ (“TA”) product line. The Company is also a developer and supplier of advanced software-based products that interface with the Company’s instruments, as well as other manufacturers’ instruments.

The Company’s products are used by pharmaceutical, biochemical, industrial, nutritional safety, environmental, academic and governmental customers working in research and development, quality assurance and other laboratory applications. LC is a standard technique and is utilized in a broad range of industries to detect, identify, monitor and measure the chemical, physical and biological composition of materials, and to purify a full range of compounds. MS technology, principally in conjunction with chromatography, is employed in drug discovery and development, including clinical trial testing, the analysis of proteins in disease processes (known as “proteomics”), nutritional safety analysis and environmental testing. LC-MS instruments combine a liquid phase sample introduction and separation system with mass spectrometric compound identification and quantification. The Company’s thermal analysis, rheometry and calorimetry instruments are used in predicting the suitability and stability of fine chemicals, pharmaceuticals, water, polymers, metals and viscous liquids for various industrial, consumer goods and healthcare products, as well as for life science research.

Waters Corporation, organized as a Delaware corporation in 1991, is a holding company that owns all of the outstanding common stock of Waters Technologies Corporation, its operating subsidiary. Waters Corporation became a publicly-traded company with its initial public offering (“IPO”) in November 1995. Since the IPO, the Company has added two significant and complementary technologies to its range of products with the acquisitions of TA Instruments in May 1996 and Micromass Limited in September 1997.

Business Segments

The Company’s business activities, for which discrete financial information is available, are regularly reviewed and evaluated by the chief operating decision maker. As a result of this evaluation, the Company determined that it has two operating segments: Waters and TA. The Waters operating segment is primarily in the business of designing, manufacturing, selling and servicing LC and MS instrument systems, columns and other precision chemistry consumables that can be integrated and used along with other analytical instruments. The TA operating segment is primarily in the business of designing, manufacturing, selling and servicing thermal analysis, rheometry and calorimetry instruments. The Company’s two operating segments have similar economic characteristics; product processes; products and services; types and classes of customers; methods of distribution; and regulatory environments. Because of these similarities, the two segments have been aggregated into one reporting segment for financial statement purposes.

Information concerning revenues and long-lived assets attributable to each of the Company’s products, services and geographic areas is set forth in Note 18 in the Notes to the Consolidated Financial Statements, which is incorporated herein by reference.

Waters Products and Markets

High Performance and Ultra Performance Liquid Chromatography

HPLC is a standard technique used to identify and analyze the constituent components of a variety of chemicals and other materials. The Company believes that HPLC's performance capabilities enable it to separate, identify and quantify a high proportion of all known chemicals. As a result, HPLC is used to analyze substances in a wide variety of industries for research and development purposes, quality control and process engineering applications.

The most significant end-use markets for HPLC are those served by the pharmaceutical and life science industries. In these markets, HPLC is used extensively to understand diseases, identify new drugs, develop manufacturing methods and assure the potency and purity of new pharmaceuticals. HPLC is also used in a variety of other applications, such as analyses of foods and beverages for nutritional labeling and compliance with safety regulations and the testing of water and air purity within the environmental testing industry, as well as applications in other industries, such as chemical and consumer products. Waters also has in vitro diagnostic (IVD) labelled products that are used as general-purpose instruments for clinical diagnostic applications, such as newborn screening and therapeutic drug management, in countries where these products are registered. HPLC is also used by universities, research institutions and governmental agencies, such as the United States Food and Drug Administration ("FDA") and the United States Environmental Protection Agency ("EPA") and their foreign counterparts that mandate safety and efficacy testing.

In 2004, Waters introduced a novel technology that the Company describes as ultra performance liquid chromatography that utilizes a packing material with small, uniform diameter particles and a specialized instrument, the ACQUITY UPLC™, to accommodate the increased pressure and narrower chromatographic bands that are generated by these small and tightly packed particles. By using the ACQUITY UPLC, researchers and analysts are able to achieve more comprehensive chemical separations and faster analysis times in comparison with many analyses previously performed by HPLC. In addition, in using the ACQUITY UPLC, researchers have the potential to extend the range of applications beyond that of HPLC, enabling them to uncover more levels of scientific information. While offering significant performance advantages, the ACQUITY UPLC is also compatible with the Company's software products and the general operating protocols of HPLC. For these reasons, the Company's customers and field sales and support organizations are well positioned to utilize this innovative technology and instrument. In 2018, the Company introduced the ACQUITY ARC™ Bio System, a versatile, iron-free, bio-inert, quaternary liquid chromatograph specifically engineered to improve bioseparation analytical methods. The Company also introduced the ACQUITY UPLC PLUS series in 2018, consisting of the H-Class PLUS, H-Class PLUS Bio and I-Class PLUS systems, which incorporate foundational enhancements into the legacy systems.

Waters manufactures LC instruments that are offered in configurations that allow for varying degrees of automation, from component configured systems for academic teaching and research applications to fully automated systems for regulated and high sample throughput testing, and that have a variety of detection technologies, from optical-based ultra-violet ("UV") absorbance, refractive index and fluorescence detectors to a suite of MS-based detectors, optimized for certain analyses.

In 2019, the Company introduced the ACQUITY™ Advanced Polymer Chromatography™ System, which is the first fully solvent-compatible UPLC system to perform size exclusion, gradient polymer elution and solvent compatible reversed-phase liquid chromatographic separations on a single platform. The all-in-one system gives research scientists greater analytical versatility and speed when conducting research on next-generation polymers. In 2020, the Company introduced the Waters Arc™ HPLC System, a new HPLC system for routine testing in the pharmaceutical, food, academic and materials markets. A key target application is quality control in laboratories performing batch release tests on small molecule pharmaceuticals. In 2021, the Company introduced the new ACQUITY PREMIER LC solution and the Arc Premier System both featuring Waters' MaxPeak™ High Performance Surface ("HPS") technology. MaxPeak™ HPS technology, which was first introduced with the

Company's introduction of ACQUITY™ PREMIER Columns in 2020, is a surface technology that forms a barrier between the sample and the metal surfaces of both the system and column, eliminating the need for system passivation, mitigating the loss of metal-sensitive analytes and yielding higher quality data in less time and effort.

The primary consumable products for LC are chromatography columns. These columns are packed with separation media used in the LC testing process and are typically replaced at regular intervals. The chromatography column contains one of several types of packing material, typically stationary phase particles made from silica or polymeric resins. As a pressurized sample is introduced to the column inlet and permeates through the packed column, it is separated into its constituent components.

Waters HPLC columns can be used on Waters-branded and competitors' LC systems. The Company believes that it is one of a few suppliers in the world that manufactures silica and polymeric resins, packs columns and distributes its own products. In doing so, the Company believes it can better ensure product consistency, a key attribute for its customers in quality control laboratories, and can react quickly to new customer requirements. The Company believes that its ACQUITY UPLC lines of columns are used primarily on its ACQUITY UPLC instrument systems and, furthermore, that its ACQUITY UPLC instruments primarily use ACQUITY UPLC columns. In 2019, the Company introduced the BioResolv SCX mAb Columns and VanGuard™ FIT Cartridge technologies. These new cation exchange column lines with specialized consumables are designed to simplify and improve the characterization and monitoring of monoclonal antibody (mAb) therapeutics, as well as enable mAb charge-variant analyses as required by the World Health Organization, the FDA and the International Conference on Harmonization for confirming the efficacy and safety of biologics and biosimilars with discovery, development and manufacturing applications. In 2020, Waters introduced ACQUITY™ PREMIER Columns, a new family of premium sub-2-micron columns featuring MaxPeak™ HPS technology. The columns are for use with any brand of UPLC system and can measurably improve data quality by mitigating the loss of sample analytes due to analyte-to-surface interactions.

The Company's precision chemistry consumable products also include environmental and nutritional safety testing products, including Certified Reference Materials ("CRM"s) and Proficiency Testing ("PT") products. Laboratories around the world and across multiple industries use these products for quality control and proficiency testing and also purchase product support services required to help with their federal and state mandated accreditation requirements or with quality control over critical pharmaceutical analysis.

In 2020, the Company acquired all of the outstanding stock of Andrew Alliance, S.A. and its two operating subsidiaries, Andrew Alliance USA, Inc. and Andrew Alliance France, SASU (collectively, "Andrew Alliance"), for \$80 million, net of cash acquired. Andrew Alliance offers lab workflow automation solutions with the combination of its software platform and smart, connected laboratory equipment and accessories. The Company expects the acquisition to positively impact our customers' workflows by improving the repeatability, performance and speed of laboratory operations and chemistry workflows.

Mass Spectrometry and Liquid Chromatography-Mass Spectrometry

MS is a powerful analytical technology that is used to identify unknown compounds, to quantify known materials and to elucidate the structural and chemical properties of molecules by measuring the masses of molecules that have been converted into ions.

The Company is a technology and market leader in the development, manufacture, sale and service of MS instruments and components. These instruments are typically integrated and used along with other complementary analytical instruments and systems, such as LC, chemical electrophoresis and gas chromatography. A wide variety of instrumental designs fall within the overall category of MS instrumentation, including devices that incorporate quadrupole, ion trap, time-of-flight ("ToF"), magnetic sector and ion mobility technologies. Furthermore, these technologies are often used in tandem (MS-MS) to maximize the speed and/or efficacy of certain experiments.

Currently, the Company offers a wide range of MS instrument systems utilizing various combinations of quadrupole, Tof and ion mobility designs. These instrument systems are used in drug discovery and development, as well as for environmental, clinical and nutritional safety testing. The overwhelming majority of mass spectrometers sold by the Company are designed to utilize an LC system and a liquid compatible interface (such as an electrospray ionization source) as the sample introduction device. These products supply a diverse market with a strong emphasis on the pharmaceutical, biomedical, clinical, food and beverage and environmental market segments worldwide.

MS is an increasingly important detection technology for LC. The Company's smaller-sized mass spectrometers, such as the single quadrupole detector ("SQD") and the tandem quadrupole detector ("TQD"), are often referred to as LC "detectors" and are typically sold as part of an LC system or as an LC system upgrade. Larger quadrupole systems, such as the Xevo™ TQ and Xevo TQ-S instruments, are used primarily for experiments performed for late-stage drug development, including clinical trial testing. Quadrupole time-of-flight ("Q-ToF") instruments, such as the Company's SYNAPT™ G2-S, are often used to analyze the role of proteins in disease processes, an application sometimes referred to as "proteomics".

LC and MS are typically embodied within an analytical system tailored for either a dedicated class of analyses or as a general purpose analytical device. An increasing percentage of the Company's customers are purchasing LC and MS components simultaneously and it has become common for LC and MS instrumentation to be used within the same laboratory and operated by the same user. The descriptions of LC and MS above reflect the historical segmentation of these analytical technologies and the historical categorization of their respective practitioners. Increasingly in today's instrument market, this segmentation and categorization is becoming obsolete as a high percentage of instruments used in the laboratory embody both LC and MS technologies as part of a single device. In response to this development and to further promote the high utilization of these hybrid instruments, the Company has organized its Waters operating segment to develop, manufacture, sell and service integrated LC-MS systems.

In 2019, the Company introduced the BioAccord™ system, a liquid chromatography-mass spectrometry solution that expands access to high-resolution time-of-flight mass spectrometry capabilities. The system provides new levels of user experience with automated setup and self-diagnosis delivered through an intuitive user interface. Also in 2019, the Company introduced the Cyclic IMS system, which seamlessly integrates cyclic ion mobility technology into a high-performance research-grade time-of-flight mass spectrometer. In addition, the Company introduced the SYNAPT XS, a new highly flexible, high-resolution mass spectrometer for research and development labs focused on discovery applications. The Company also reinforced its tandem quadrupole mass spectrometry portfolio during the current year with upgrades to the Xevo TQ-S micro and the introduction of the new Xevo TQ-S cronos. The Xevo TQ-S micro features new performance enhancements that bring the quantitation of highly polar, ionic compounds in food to a higher level. The Xevo TQ-S cronos is a new, tandem quadrupole mass spectrometer purposely-built for routine quantitation of large numbers of small-molecule organic compounds over a wide concentration range. The Xevo TQ-S micro and the Xevo TQ-S cronos are also well suited to meet regulatory requirements for pesticide residue analysis, the monitoring for contaminants in processed foods, identifying drugs of abuse, and performing impurity profiling of pharmaceuticals. In 2020, the Company introduced the new RADIANT™ ASAP™ System, a novel direct mass detector engineered for non-mass spectrometry experts to conduct fast and accurate analyses of solids and liquids with minimal sample prep. Also in 2020, the Company introduced enhancements for the Waters Xevo G2-XS QToF SYNAPT XS and SELECT SERIES Cyclic IMS, including a new fragmentation technique and imaging option. In 2021, the Company introduced the Waters SELECT SERIES™ MRT, a high-resolution mass spectrometer that combines Multi-Reflecting Time-of-Flight ("MRT") technology with enhanced desorption electrospray ionization and new matrix-assisted laser desorption ionization imaging sources. The platform will serve as the basis for Waters' next generation Tof instruments with applications in pharmaceutical, biomedical, natural products, and materials research. Also in 2021, the Company released the ACQUITY RDa™ Detector featuring SmartMS™, the company's newest Tof MS designed to improve the ease and reliability of small molecule analysis for pharmaceutical, academic, food, and forensic applications. The Company also introduced a new peptide

multi-attribute method workflow for the BioAccord LC-MS system in 2021, which is an end to end workflow for analyzing monoclonal antibodies and other protein and peptide based drugs.

Based upon 2021 reports from independent marketing research firms and publicly-disclosed sales figures from competitors, the Company believes that it is one of the world's largest manufacturers and distributors of LC and LC-MS instrument systems, chromatography columns and other consumables and related services.

The Company has been a developer and supplier of software-based products that interface with both the Company's and other suppliers' instruments. The Company's newest software technology is the waters_connect™ platform. In 2019, the Company introduced the first of a series of applications on this platform supporting the BioAccord system and the Xevo G2 XS mass spectrometers. These applications support biopharmaceutical workflows, simplifying the collection of often complex LCMS data for use in biopharmaceutical development and into QC where it is used to assure the quality of existing medicines and new drug formulations. The platform design of waters_connect has enabled rapid delivery of several major updates including new biopharma application workflows designed in close collaboration with biopharmaceutical innovators to solve specific challenges they face with existing solutions. The platform also provides the foundation for the connected lab of the future where data is no longer siloed but can be securely shared among a community of connected scientists. Waters_connect joins the existing suite of informatics products – Empower™ Chromatography Data Software, MassLynx™ Mass Spectrometry Software and NuGenesis™ Scientific Data Management System, each of which is used to support innovations within world-leading institutions. In 2020, Waters announced the availability of Waters Empower BC LAC/ETM with SecureSync, a newly enhanced solution to preserve the ability for laboratories to work locally when organizations with distributed laboratory environments experience an enterprise interruption.

On December 15, 2020, the Company acquired all of the outstanding stock of Integrated Software Solutions Pty Limited and its two operating subsidiaries Integrated Software Solutions Limited and Integrated Software Solutions USA, LLC (collectively, "ISS"), for \$4 million, net of cash acquired. In addition, the Company may have to pay additional consideration which has an estimated fair value of \$1 million as of the close date. The contingent consideration is recorded as a liability and will be paid to the prior shareholders of ISS if certain revenue and customer account conditions are achieved over the next two years after the acquisition date. ISS offers clinical laboratory software systems that will support and further expand product offerings within our clinical business. The net assets acquired primarily relate to ISS' laboratory information system, OMNI-Lab.

Waters Service

Services provided by Waters enable customers to maximize technology productivity, support customer compliance activities and provide transparency into enterprise resource management efficiencies. The customer benefits from improved budget control, data-driven technology adoption and accelerated workflow at a site or on a global perspective. The Company considers its service offerings to be highly differentiated from our competition, as evidenced by a consistent increase in annual service revenues. The Company's principal competitors in the service market include PerkinElmer, Inc., Agilent Technologies, Inc. and Thermo Fisher Scientific Inc. These competitors can provide certain services on Waters instruments to varying degrees and always present competitive risk.

The servicing and support of instruments, software and accessories is an important source of revenue and represented over 35% of sales for Waters in 2021. These revenues are derived primarily through the sale of support plans, demand services, spare parts, customer performance validation services and customer training. Support plans typically involve scheduled instrument maintenance and an agreement to promptly repair a non-functioning instrument in return for a fee described in a contract that is priced according to the configuration of the instrument.

TA Products and Markets

Thermal Analysis, Rheometry and Calorimetry

Thermal analysis measures the physical or thermodynamic characteristics of materials as a function of temperature. Changes in temperature affect several characteristics of materials, such as their heat flow characteristics, physical state, weight, dimension and mechanical and electrical properties, which may be measured by one or more thermal analysis techniques, including calorimetry. Consequently, thermal analysis techniques are widely used in the development, production and characterization of materials in various industries, such as plastics, chemicals, automobiles, pharmaceuticals and electronics.

Rheometry instruments often complement thermal analyzers in characterizing materials. Rheometry characterizes the flow properties of materials and measures their viscosity, elasticity and deformation under different types of “loading” or other conditions. The information obtained under such conditions provides insight into a material’s behavior during processing, packaging, transport, usage and storage.

Thermal analysis, rheometry and calorimetry instruments are heavily used in material testing laboratories and, in many cases, provide information useful in predicting the suitability and stability of industrial polymers, fine chemicals, pharmaceuticals, water, metals and viscous liquids in various industrial, consumer goods and healthcare products, as well as for life science research. As with systems offered by Waters, a range of instrument configurations is available with increasing levels of sample handling and information processing automation. In addition, systems and accompanying software packages can be tailored for specific applications.

In 2019, TA introduced a range of new instruments including the TMA 450, a Rheo-Raman™ capability for the DHR product line, and a High Sensitivity Pressure Cell for the ARES-G2 Rheometer. The Discovery™ TMA 450, precisely measures dimensional changes of materials from (150) to 1,000° C and handles virtually all sample configurations for testing in expansion, compression, flexure and tension modes. The Rheo-Raman capability for the DHR product line combines a Raman spectrometer with the DHR to enable simultaneous collection of rheology and Raman spectroscopy data. This combination allows for direct correlation between flow characteristics and the unique spectroscopic fingerprints of each material including information about its chemical and morphological structure. The High Sensitivity Pressure Cell for the ARES-G2 Rheometer enables scientists to perform sensitive viscoelastic measurements under controlled atmospheric pressure and temperature and gain detailed understanding of complex fluid behavior in complex environments. Also in 2019, TA introduced the MSF16 Multi-Specimen Fatigue Instrument. The MSF16 extends the capability of accelerated cyclic components and products under repeated loading, significantly accelerating fatigue analysis.

In 2020, TA introduced the new Discovery X3 Differential Scanning Calorimeter (“X3 DSC”), Discovery Hybrid Rheometers and TAM IV Micro XL isothermal microcalorimeter. The X3 DSC accelerates productivity in customers’ laboratories by enabling three samples to be measured in a single experiment, compared to the single-sample series operation of the other available DSC offerings in the market. This particularly addresses a need in high-throughput laboratories in industries such as composites, electronics and polymer manufacturing. The new line of Discovery Hybrid Rheometers provides increased sensitivity and versatility of rheometry measurements, supporting the development of next-generation, high-performance materials by improving the productivity and efficiency of materials science research. The TAM IV Micro XL isothermal calorimeter supports the development of new battery chemistries by measuring self-discharge and unwanted reactions that reduce battery life and efficiency.

In 2021, TA introduced the TMA 450RH and the Discovery SA. The TMA 450RH provides measurements of dimensional compatibility of materials under controlled temperature and humidity that are important for the development of new electronic devices. The Discovery SA is used in pharmaceutical development to assess the impact of moisture in drug product processing and storage on crystalline structure, which is related to drug product efficacy.

In 2021, TA introduced the TRIOS AutoPilot software for its thermal analyzer product line. This software helps laboratory staff using TA's thermal analyzers create routine and streamlined standard operating procedures improving the speed and productivity of thermal analysis measurements.

TA Service

Similar to Waters, the servicing and support of TA's instruments is an important source of revenue and represented more than 20% of sales for TA in 2021. TA operates independently from the Waters operating segment, though many of its overseas offices are situated in Waters' facilities to achieve operational efficiencies. TA has dedicated field sales and service operations. Service sales are primarily derived from the sale of support plans, replacement parts and billed labor fees associated with the repair, maintenance and upgrade of installed systems.

Global Customers

The Company typically has a broad and diversified customer base that includes pharmaceutical accounts, other industrial accounts, universities and governmental agencies. Purchase of the Company's instrument systems is often dependent on its customers' capital spending, or funding as in the cases of academic, governmental and research institutions, which often fluctuate from year to year. The pharmaceutical segment represents the Company's largest sector and includes multinational pharmaceutical companies, generic drug manufacturers, contract research organizations ("CRO"s) and biotechnology companies. The Company's other industrial customers include chemical manufacturers, polymer manufacturers, food and beverage companies and environmental testing laboratories. The Company also sells to universities and governmental agencies worldwide. The Company's technical sales and support staff members work closely with its customers in developing and implementing applications that meet their full range of analytical requirements. During 2021, 60% of the Company's net sales were to pharmaceutical accounts, 30% to other industrial accounts and 10% to academic institutions and governmental agencies.

The Company typically experiences an increase in sales in the fourth quarter, as a result of purchasing habits for capital goods of many customers who tend to exhaust their spending budgets by calendar year end. The Company does not rely on any single customer for a material portion of its sales. During fiscal years 2021, 2020 and 2019, no single customer accounted for more than 2% of the Company's net sales.

Sales and Service

The Company has one of the largest direct sales and service organizations focused exclusively on the analytical workflows offered by the Company. Across these product technologies, using respective specialized sales and service workforces, the Company serves its customer base with 82 sales offices throughout the world as of December 31, 2021 and approximately 4,300, 4,000 and 4,000 field representatives in 2021, 2020 and 2019, respectively. This investment in sales and service personnel serves to maintain and expand the Company's installed base of instruments. The Company's sales representatives have direct responsibility for account relationships, while service representatives work in the field to install instruments, train customers and minimize instrument downtime. In-house and field-based technical support representatives work directly with customers, providing them assistance with applications and procedures on Company products. The Company provides customers with comprehensive information through various corporate and regional internet websites and product literature, and also makes consumable products available through electronic ordering facilities and a dedicated catalog.

Manufacturing and Distribution

The Company provides high product quality by overseeing each stage of the production of its instruments, columns and chemical reagents.

The Company currently assembles a portion of its LC instruments at its facility in Milford, Massachusetts, where it performs machining, assembly and testing. The Milford facility maintains quality management and environmental management systems in accordance with the requirements of ISO 9001:2015, ISO 13485:2016 and ISO 14001:2015, and adheres to applicable regulatory requirements (including the FDA Quality System Regulation and the European In-Vitro Diagnostic Directive). The Company outsources manufacturing of certain electronic components, such as computers, monitors and circuit boards, to outside vendors that meet the Company's quality requirements. In addition, the Company outsources the manufacturing of certain LC instrument systems and components to well-established contract manufacturing firms in Singapore. The Company's Singapore entity is ISO 9001:2015 certified and manages all Asian outsourced manufacturing as well as the distribution of all products from Asia. The Company may pursue outsourcing opportunities as they arise but believes it maintains adequate supply chain and manufacturing capabilities in the event of disruption or natural disasters.

The Company primarily manufactures and distributes its LC columns at its facilities in Taunton, Massachusetts and Wexford, Ireland. In February 2018, the Company's Board of Directors approved expanding its Taunton location. The Company has incurred costs of \$200 million on this facility through the end of 2021, and anticipates spending approximately \$50 million to complete this new state-of-the-art facility in 2022. The Taunton facility processes, sizes and treats silica and polymeric media that are packed into columns, solid phase extraction cartridges and bulk shipping containers in both Taunton and Wexford. The Wexford facility also manufactures and distributes certain data, instruments and software components for the Company's LC, MS and TA product lines. The Company's Taunton facility is certified to ISO 9001:2015. The Wexford facility is certified to ISO 9001:2015 and ISO 13485:2016/EN ISO 13485:2016. VICAM™ manufactures antibody-linked resins and magnetic beads that are packed into columns and kits in Milford, Massachusetts and Nixa, Missouri. The Company manufactures and distributes its Analytical Standards and Reagents and Environmental Resource Associates ("ERA") product lines at its facility in Golden, Colorado, which is certified to ISO 9001:2015 and accredited to ISO/IEC 17025:2017, ISO/IEC 17034:16 and ISO Guide 34. Some ERA products are also manufactured in the Wexford, Ireland facility, which is also accredited to ISO/IEC 17025:2005, ISO/IEC 17034:2016.

The Company manufactures and distributes its MS products at its facilities in Wilmslow, England and Wexford, Ireland. Certain components or modules of the Company's MS instruments are manufactured at its facility in Solihull, England and by long-standing outside contractors. Each stage of this supply chain is closely monitored by the Company to maintain high quality and performance standards. The instruments, components or modules are then returned to the Company's facilities, where its engineers perform final assembly, calibrations to customer specifications and quality control procedures. The Company's MS facilities are certified to ISO 9001:2015 and ISO 13485:2016/EN ISO 13485:2016 and adhere to applicable regulatory requirements (including the FDA Quality System Regulation and the European In-Vitro Diagnostic Directive).

TA's thermal analysis, rheometry and calorimetry products are manufactured and distributed at the Company's New Castle, Delaware, Eden Prairie, Minnesota, Lindon, Utah and Huellhorst, Germany facilities. Similar to MS, elements of TA's products are manufactured by outside contractors and are then returned to the Company's facilities for final assembly, calibration and quality control. The Company's New Castle facility is certified to ISO 9001:2015 and ISO 17025:2005 standards and the Eden Prairie facility is certified to both ISO 9001:2015 and ISO/IEC 17025:2017 standards, and the Lindon facility is certified to ISO 9001:2015.

Raw Materials

The Company purchases a variety of raw materials, primarily consisting of high temperature alloy sheet metal and castings, forgings, pre-plated metals and electrical components from various vendors. The materials used by the Company's operations are generally available from a number of sources and in sufficient quantities to meet current requirements subject to normal lead times.

The Company is subject to rules of the Securities and Exchange Commission (“SEC”) under the Dodd-Frank Wall Street Reform and Consumer Protection Act, requiring disclosure as to whether certain materials (tantalum, tin, gold and tungsten), known as conflict minerals, which may be contained in the Company’s products, are mined from the Democratic Republic of the Congo and adjoining countries. In 2020, the Company was not able to determine with certainty the country of origin of some of the conflict minerals in its manufactured products. However, the Company does not have knowledge that any of its conflict minerals originated from the Democratic Republic of the Congo or adjoining countries. The Company is in the process of evaluating its 2021 supply chain, and the Company plans to file its 2021 Form SD with the SEC in May 2022. The results of this and future evaluations may impose additional costs and may introduce new risks related to the Company’s ability to verify the origin of any conflict minerals contained in its products.

In addition, the Company continues to monitor environmental health and safety regulations in countries in which it operates throughout the world, in particular, European Union and China Restrictions on the use of certain Hazardous Substances in electrical and electronic equipment (RoHS) and European Union Waste Electrical and Electronic Equipment directives. Further information regarding these regulations is available on the Company’s website, www.waters.com, under the caption “About Waters / Corporate Governance”.

Research and Development

The Company maintains an active research and development program focused on the development and commercialization of products that extend, complement and update its existing product offering. The Company’s research and development expenditures for 2021, 2020 and 2019 were \$168 million, \$141 million and \$143 million, respectively. In addition, the Company is party to an existing licensing arrangement for certain intellectual property relating to mass spectrometry technologies yet to be commercialized and for which there was no future alternative use as of the acquisition date. This licensing arrangement is significantly related to new, biologically-focused applications, as well as other applications, and requires the Company to make additional future payments of up to \$7 million if certain milestones are achieved, as well as royalties on future net sales.

Nearly all of the Company’s LC products have been developed at the Company’s main research and development center located in Milford, Massachusetts, with input and feedback from the Company’s extensive field organizations and customers. The majority of the Company’s MS products are developed at facilities in England and most of the Company’s current materials characterization products are developed at the Company’s research and development center in New Castle, Delaware. At December 31, 2021, 2020 and 2019, there were 1,150, 1,112 and 1,089 employees, respectively, involved in the Company’s research and development efforts. The Company has increased research and development expenses from its continued commitment to invest significantly in new product development and existing product enhancements, and as a result of acquisitions. Despite the Company’s active research and development programs, there can be no assurance that the Company’s product development and commercialization efforts will be successful or that the products developed by the Company will be accepted by the marketplace.

In 2020, the Company opened a new research laboratory in Cambridge, MA, which will serve as a strategic, collaborative space in the community, where Waters can partner with academia, research and industry to accelerate the next generation of scientific advancements.

Human Capital

We believe that our people differentiate our business and are vital to our continued success. As a result, we have made important investments in our workforce through initiatives and programs that support talent development and inclusion and enhance our Total Rewards programs.

Employees

The Company employed approximately 7,800, 7,400 and 7,500 employees at December 31, 2021, December 31, 2020 and 2019, respectively, with approximately 39% of the Company's employees located in the United States. The Company believes its employee relations are generally good. The Company's employees are not unionized or affiliated with any internal or external labor organizations.

Talent Development

We believe that our future success depends in a significant part on our continued ability to attract and retain highly skilled employees and then contribute to the growth and development of these employees.

We further the growth and development of our employees by investing in various programs, digital platforms and workshops that build professional and technical skills.

Inclusion & Diversity

We believe inclusion is a core tenet of organizational success and that fostering a sense of inclusivity allows our employees to maximize their performance contribution to our business. We celebrate difference and diversity in our Employee Circles, which are composed of employees from throughout the company, which provide a forum in which to promote topics related to diversity and inclusion focusing on gender, Multicultural, Veterans and LGBTQ+ employees and allies. All employees are encouraged to participate in these Employee Circles at the local and global levels. We have also rolled out training to all employees to support an inclusive culture that values diverse perspectives.

We believe that part of fostering an inclusive and increasingly racially and ethnically diverse workforce requires understanding the makeup of our current employees. As of December 31, 2021, our workforce is:

- 32% female, with women occupying 30% of company leadership roles (defined as Senior Director or above) compared with 18% in 2016, a 12% increase; and
- 19% racially and/or ethnically diverse, with 9% of our workforce identifying as Asian, 3% as Black or African American, 6% identifying as Hispanic/Latinx and 1% identifying as two or more races.

Recruitment

Waters has focused on expanding diversity in our recruitment processes. We have developed hiring partnerships with agencies such as the National Society of Black Engineers, Recruit Military, Out in Tech and Power to Fly to expand the pipeline of strong candidates.

Health and Safety

The health and safety of our employees is our highest priority. Through online and in-person training programs, we believe that we foster a safe workplace and ensure that all employees are empowered to prevent accidents and injuries.

We manufacture products deemed essential to critical infrastructure, including health and safety, food and agriculture, and energy, and as a result, the majority of our production sites continued operating during the COVID-19 pandemic.

During the pandemic, we invested in maintaining safe work environments for our employees. We responded to the COVID-19 pandemic by, among other things:

- Adding work from home flexibility;
- Adjusting attendance policies to encourage those who are sick to stay home;

- Increasing cleaning protocols across all work locations;
- Initiating regular communication regarding impacts of the COVID-19 pandemic, including health and safety protocols and procedures;
- Establishing new physical distancing and safety procedures for employees who need to be onsite;
- Modifying workspaces as appropriate;
- Implementing protocols to address actual and suspected COVID-19 cases and potential exposure; and
- Continuing to modify and evolve our COVID-19 response plan as governments issue new recommendations and guidelines.

Competition

The analytical instrument systems, supplies and services market is highly competitive. The Company encounters competition from several worldwide suppliers and other companies in both domestic and foreign markets for each of its three primary technologies. The Company competes in its markets primarily on the basis of product performance, reliability, service and, to a lesser extent, price. Competitors continuously introduce new products and have instrument businesses that are generally more diversified than the Company's business. Some competitors have greater financial resources and broader distribution than the Company's.

In the markets served by Waters, the Company's principal competitors include: Agilent Technologies, Inc., Shimadzu Corporation, Bruker Corporation, Danaher Corporation and Thermo Fisher Scientific Inc. In the markets served by TA, the Company's principal competitors include: PerkinElmer, Inc., NETZSCH-Geraetebau GmbH, Thermo Fisher Scientific Inc., Malvern PANalytical Ltd., a subsidiary of Spectris plc, Mettler-Toledo International Inc. and Anton-Paar GmbH.

The market for consumable LC products, including separation columns, is highly competitive and generally more fragmented than the analytical instruments market. The Company encounters competition in the consumable columns market from chemical companies that produce column sorbents and small specialized companies that primarily pack purchased sorbents into columns and subsequently package and distribute columns. The Company believes that it is one of the few suppliers that processes silica and polymeric resins, packs columns and distributes its own products. The Company competes in this market on the basis of performance, reproducibility, reputation and, to a lesser extent, price. In recent years, the Company's principal competitors for consumable products have included: Danaher Corporation; Merck KGaA; Agilent Technologies, Inc.; General Electric Company and Thermo Fisher Scientific Inc. The ACQUITY UPLC instrument is designed to offer a predictable level of performance when used with ACQUITY UPLC columns and the Company believes that the expansion of the ACQUITY UPLC instrument base will enhance its chromatographic column business because of the high level of synergy between ACQUITY UPLC columns and the ACQUITY UPLC instruments.

Patents, Trademarks and Licenses

The Company owns a number of United States and foreign patents and has patent applications pending in the United States and abroad. Certain technology and software has been acquired or is licensed from third parties. The Company also owns a number of trademarks. The Company's patents, trademarks and licenses are viewed as valuable assets to its operations. However, the Company believes that no one patent or group of patents, trademark or license is, in and of itself, essential to the Company such that its loss would materially affect the Company's business as a whole.

Environmental Matters and Climate Change

The Company is subject to foreign and U.S. federal, state and local laws, regulations and ordinances that (i) govern activities or operations that may have adverse environmental effects, such as discharges to air and

water as well as handling and disposal practices for solid and hazardous wastes, and (ii) impose liability for the costs of cleaning up and certain damages resulting from sites of past spills, disposals or other releases of hazardous substances. The Company believes that it currently conducts its operations and has operated its business in the past in substantial compliance with applicable environmental laws. From time to time, Company operations have resulted or may result in noncompliance with environmental laws or liability for cleanup pursuant to environmental laws. The Company does not currently anticipate any material adverse effect on its operations, financial condition or competitive position as a result of its efforts to comply with environmental laws.

The Company is sensitive to the growing global debate with respect to climate change. An internal sustainability working group develops increasingly robust data with respect to the Company's utilization of carbon producing substances in an effort to continuously reduce the Company's carbon footprint. In 2019, the Company published a sustainability report identifying the various actions and behaviors the Company adopted in 2018 concerning its commitment to both the environment and the broader topic of social responsibility. The Company has continued to annually publish a sustainability report detailing the Company's efforts to address its environmental impact and uphold its social responsibilities. See Item 1A, Risk Factors – *The effects of climate change could harm the Company's business*, for more information on the potential significance of climate change legislation. See also Note 18 in the Notes to the Consolidated Financial Statements for financial information about geographic areas.

Available Information

The Company files or furnishes all required reports with the SEC. The Company is an electronic filer and the SEC maintains a website that contains reports, proxy and information statements and other information regarding issuers that file electronically with the SEC. The address of the SEC electronic filing website is <http://www.sec.gov>. The Company also makes available, free of charge on its website, its annual report on Form 10-K, quarterly reports on Form 10-Q, current reports on Form 8-K and any amendments to those reports as soon as reasonably practicable after such material is electronically filed with or furnished to the SEC. The website address for Waters Corporation is <http://www.waters.com> and SEC filings can be found under the caption "Investors".

Forward-Looking Statements

Certain of the statements in this Form 10-K, including the information incorporated by reference herein, may contain forward-looking statements with respect to future results and events, including any statements regarding, among other items, anticipated trends or growth in the Company's business, including, but not limited to, the impact of the ongoing COVID-19 pandemic; the impact of new or proposed tariff or trade regulations or changes in the interpretation or enforcement of existing regulations; the impact of foreign currency translation on financial results; development of products by acquired businesses; the growth rate of sales and research and development expenses; the impact of costs associated with developing new technologies and bringing these new technologies to market; the impact of new product launches and the associated costs, such as the amortization expense related to software platforms; geographic sales mix of business; development of products by acquired businesses and the amount of contingent payments to the sellers of an acquired business; anticipated expenses, including interest expense, capitalized software costs and effective tax rates; the impact of the Tax Cuts and Jobs Act (the "2017 Tax Act") in the U.S.; the impact and outcome of the Company's various ongoing tax audit examinations; the achievement of contractual milestones to preserve foreign tax rates; the impact and outcome of litigation matters; the impact of the loss of intellectual property protection; the impact of new accounting standards and pronouncements; the adequacy of the Company's supply chain and manufacturing capabilities and facilities; the impact of regulatory compliance; the Company's expected cash flow, borrowing capacity, debt repayment and refinancing; the Company's ability to fund working capital, capital expenditures, service debt, repay outstanding lines of credit, make authorized share repurchases, fund potential acquisitions and pay any adverse litigation or tax audit liabilities, particularly in the U.S.; future impairment charges; the Company's

contributions to defined benefit plans; the Company's expectations regarding changes to its financial position; compliance with applicable environmental laws; and the impact of recent acquisitions on sales and earnings.

Many of these statements appear, in particular, in Part II, Item 7, Management's Discussion and Analysis of Financial Condition and Results of Operations of this Form 10-K. Statements that are not statements of historical fact may be deemed forward-looking statements. You can identify these forward-looking statements by the use of the words "feels", "believes", "anticipates", "plans", "expects", "may", "will", "would", "intends", "suggests", "appears", "estimates", "projects", "should" and similar expressions, whether in the negative or affirmative. These statements are subject to various risks and uncertainties, many of which are outside the control of the Company, including, and without limitation:

- Risks related to the effects of the COVID-19 pandemic on our business, including: portions of our global workforce being unable to work fully and/or effectively due to working remotely, illness, quarantines, government actions, facility closures or other reasons related to the pandemic, increased risks of cyber-attacks resulting from our temporary remote working model, disruptions in our manufacturing capabilities or to our supply chain, volatility and uncertainty in global capital markets limiting our ability to access capital, customers being unable to make timely payment for purchases and volatility in demand for our products.
- Foreign currency exchange rate fluctuations that could adversely affect translation of the Company's future sales, financial operating results and the condition of its non-U.S. operations, especially when a currency weakens against the U.S. dollar.
- Current global economic, sovereign and political conditions and uncertainties, particularly regarding the effect of new or proposed tariff or trade regulations; the United Kingdom's exit from the European Union, as well as the Chinese government's ongoing tightening of restrictions on procurement by government-funded customers; the Company's ability to access capital and maintain liquidity in volatile market conditions; changes in timing and demand for the Company's products among the Company's customers and various market sectors, particularly if they should reduce capital expenditures or are unable to obtain funding, as in the cases of academic, governmental and research institutions; the effect of mergers and acquisitions on customer demand for the Company's products; and the Company's ability to sustain and enhance service.
- Negative industry trends; changes in the competitive landscape as a result of changes in ownership, mergers and continued consolidation among the Company's competitors; introduction of competing products by other companies and loss of market share; pressures on prices from customers or resulting from competition; regulatory, economic and competitive obstacles to new product introductions; lack of acceptance of new products; expansion of our business in developing markets; spending by certain end-markets; ability to obtain alternative sources for components and modules; and the possibility that future sales of new products related to acquisitions, which trigger contingent purchase payments, may exceed the Company's expectations.
- Increased regulatory burdens as the Company's business evolves, especially with respect to the FDA and EPA, among others, as well as regulatory, environmental and logistical obstacles affecting the distribution of the Company's products, including the impact, if any, of the coronavirus in China or elsewhere; completion of purchase order documentation by our customers; and the customers' ability to obtain letters of credit or other financing alternatives.
- Risks associated with lawsuits, particularly involving claims for infringement of patents and other intellectual property rights.
- The impact and costs incurred from changes in accounting principles and practices; the impact and costs of changes in statutory or contractual tax rates in jurisdictions in which the Company operates, specifically as it relates to the 2017 Tax Act in the U.S.; shifts in taxable income among jurisdictions with different effective tax rates; and the outcome of and costs associated with ongoing and future tax audit examinations or changes in respective country legislation affecting the Company's effective rates.

Certain of these and other factors are further described below in Item 1A, Risk Factors, of this Form 10-K. Actual results or events could differ materially from the plans, intentions and expectations disclosed in the forward-looking statements, whether because of these factors or for other reasons. All forward-looking statements speak only as of the date of this annual report on Form 10-K and are expressly qualified in their entirety by the cautionary statements included in this report. Except as required by law, the Company does not assume any obligation to update any forward-looking statements.

Item 1A: Risk Factors

The Company is subject to risks and uncertainties, including, but not limited to, the following:

RISKS RELATED TO THE CORONAVIRUS (COVID-19) PANDEMIC

The adverse effects of the continuing COVID-19 pandemic and an indeterminate recovery period has negatively affected the Company's business and operations, and may continue to negatively impact the Company's business and operations, the nature and extent of such impact is highly uncertain.

The impact of the global COVID-19 pandemic over the last two years has resulted in a widespread public health crisis. The COVID-19 pandemic has caused significant volatility and continued spread throughout the United States and globally, which has disrupted and may continue to disrupt the Company's business. The Company operates in over 35 countries, including those in the regions most impacted by the COVID-19 pandemic. In response, governments of most countries, including the United States, as well as private businesses, have implemented numerous measures attempting to contain and mitigate the effects of COVID-19. Such measures have had and are expected to continue to have adverse impacts on the United States and foreign economies of uncertain severity and duration, and have had and may continue to have a negative impact on the Company's operations, including Company sales, supply chain and cash flow.

The COVID-19 pandemic has and may continue to have a significant impact on our supply chain if our manufacturing facilities or those of third parties to whom we outsource certain manufacturing processes, the distribution centers where our inventory is managed or the operations of our logistics and other service providers are disrupted, temporarily closed or experience worker shortages. The current logistic and supply chain issues being experienced throughout the world have made it more difficult for us to manage our operations and as such we cannot provide any assurances that any further disruptions in the logistics and supply chains will not have a material impact on our future financial results and cashflows. We have and may continue to have disruptions or delays in shipments of certain materials or components of our products.

In addition, in the event of a sustained downturn in customer demand or other economic conditions due to the COVID-19 pandemic could result in material charges related to bad debt or inventory write-offs, restructuring charges, or impairments of long-lived assets, including both tangible and intangible assets. Furthermore, such a sustained downturn in financial markets and asset values could adversely affect the Company's cost of capital, liquidity and access to capital markets.

The COVID-19 pandemic has caused the Company to take measures to modify its business practices. We have invested in maintaining safe work environments for our employees by, among other things, adding work from home flexibility, adjusting attendance policies to encourage those who are sick to stay at home, increasing cleaning protocols across all work locations, initiating regular communications regarding the impacts of the COVID-19 pandemic, establishing new physical distancing and safety procedures for employees, modifying workplaces as appropriate and implementing protocols to address actual and suspected COVID-19 cases and potential exposure. Further, the Company has modified policies regarding employee travel and physical participation in meetings, events and conferences. The Company may take further actions as may be required by government authorities or that the Company determines are in the best interests of, among others, its employees, customers, distributors and suppliers. The Company's change in business practices may result in the Company experiencing lower workforce efficiency and productivity. In addition, as Company employees work from home

and access the Company's systems remotely, the Company may be subject to heightened security risks, including the risks of cyber-attacks. Although we are in re-opening processes for our corporate and other facilities, such processes may face future closure requirements. There is no certainty that the Company measures will be sufficient to mitigate the risks posed by COVID-19, and the Company's ability to perform critical functions could be adversely impacted. Furthermore, the Company's business could be adversely affected if any of the Company's key management employees are unable to perform their duties for a period of time, including as a result of illness.

The degree to which COVID-19 ultimately affects the Company's business, financial results and operations will depend on future developments, which are highly uncertain and cannot be predicted, including, but not limited to, the duration and spread of the outbreak, including the effect of the emergence of variants of the virus, its severity, the actions to contain the virus or treat its impact, the availability, distribution, acceptance and efficacy of a vaccine, and how quickly and to what extent normal economic and operating conditions can resume.

RISKS RELATED TO MACROECONOMIC CONDITIONS

The Company's international operations may be negatively affected by political events, wars or terrorism and regulatory changes, related to either a specific country or a larger region. These potential political, currency and economic disruptions, as well as foreign currency exchange rate fluctuations, could have a material adverse effect on the Company's results of operations or financial condition.

Approximately 72% and 71% of the Company's net sales in 2021 and 2020, respectively, were outside of the United States and were primarily denominated in foreign currencies. In addition, the Company has considerable manufacturing operations in Ireland and the U.K., as well as significant subcontractors located in Singapore. As a result, a significant portion of the Company's sales and operations are subject to certain risks, including adverse developments in the political, regulatory and economic environment, in particular, uncertainty regarding possible changes to foreign and domestic trade policy; the effect of the U.K.'s exit from the European Union as well as the financial difficulties and debt burden experienced by a number of European countries; the instability and potential impact of war or terrorism; the instability and possible dissolution of the Euro as a single currency; sudden movements in a country's foreign exchange rates due to a change in a country's sovereign risk profile or foreign exchange regulatory practices; tariffs and other trade barriers; the impact of global health pandemics and epidemics, such as COVID-19; difficulties in staffing and managing foreign operations; and associated adverse operational, contractual and tax consequences.

Additionally, the U.S. dollar value of the Company's net sales, cost of sales, operating expenses, interest, taxes and net income varies with foreign currency exchange rate fluctuations. Significant increases or decreases in the value of the U.S. dollar relative to certain foreign currencies, particularly the Euro, Japanese yen and British pound, could have a material adverse effect or benefit on the Company's results of operations or financial condition.

Global economic conditions may decrease demand for the Company's products and harm the Company's financial results.

The Company is a global business that may be adversely affected by changes in global economic conditions. These changes in global economic conditions, both inside and outside the U.S., may affect the demand for the Company's products and services. This may result in a decline in sales in the future, increased rate of order cancellations or delays, increased risk of excess or obsolete inventories, longer sales cycles and potential difficulty in collecting sales proceeds. There can be no assurance regarding demand for the Company's products and services in the future.

Disruption in worldwide financial markets could adversely impact the Company's access to capital and financial condition.

Financial markets in the U.S., Europe and Asia have experienced times of extreme disruption, including, among other things, sharp increases in the cost of new capital, credit rating downgrades and bailouts, severely

diminished capital availability and severely reduced liquidity in money markets. Financial and banking institutions have also experienced disruptions, resulting in large asset write-downs, higher costs of capital, rating downgrades and reduced desire to lend money. There can be no assurance that there will not be future deterioration or prolonged disruption in financial markets or financial institutions. Any future deterioration or prolonged disruption in financial markets or financial institutions in which the Company participates may impair the Company's ability to access its existing cash, utilize its existing syndicated bank credit facility funded by such financial institutions, and impair its ability to access sources of new capital. The cost to the Company of any new capital raised and interest expense would increase if this were to occur.

RISKS RELATED TO OUR BUSINESS

The Company's financial results are subject to changes in customer demand, which may decrease for a number of reasons, many beyond the Company's control.

The demand for the Company's products is dependent upon the size of the markets for its LC, LC-MS, thermal analysis, rheometry and calorimetry products; the timing and level of capital spending and expenditures of the Company's customers; changes in governmental regulations, particularly affecting drug, food and drinking water testing; funding available to academic, governmental and research institutions; general economic conditions and the rate of economic growth in the Company's major markets; and competitive considerations. The Company typically experiences an increase in sales in its fourth quarter as a result of purchasing habits for capital goods by customers that tend to exhaust their spending budgets by calendar year end. However, there can be no assurance that the Company will effectively forecast customer demand and appropriately allocated research and development expenditures to products with high growth and high margin prospects. Additionally, there can be no assurance that the Company's results of operations or financial condition will not be adversely impacted by a change in any of the factors listed above or the continuation of uncertain global economic conditions.

Additionally, the analytical instrument market may, from time to time, experience low sales growth. Approximately 60% and 59% of the Company's net sales in 2021 and 2020, respectively, were to worldwide pharmaceutical and biotechnology companies, which may be periodically subject to unfavorable market conditions and consolidations. Unfavorable industry conditions could have a material adverse effect on the Company's results of operations or financial condition.

Competitors may introduce more effective or less expensive products than the Company's, which could result in decreased sales. The competitive landscape may transform as a result of potential changes in ownership, mergers and continued consolidations among the Company's competitors, which could harm the Company's business.

The analytical instrument market and, in particular, the portion related to the Company's HPLC, UPLC, LC-MS, thermal analysis, rheometry and calorimetry product lines, is highly competitive and subject to rapid changes in technology. The Company encounters competition from several international instrument suppliers and other companies in both domestic and foreign markets. Some competitors have instrument businesses that are generally more diversified than the Company's business, but are typically less focused on the Company's chosen markets. Over the years, some competitors have merged with other competitors for various reasons, including increasing product line offerings, improving market share and reducing costs. There can be no assurance that the Company's competitors will not introduce more effective and less costly products than those of the Company or that the Company will be able to increase its sales and profitability from new product introductions. There can be no assurance that the Company's sales and marketing forces will compete successfully against the Company's competitors in the future.

Strategies for organic growth require developing new technologies and bringing these new technologies to market, which could negatively impact the Company's financial results.

The Company's corporate strategy is fundamentally based on winning through organic innovation and deep application expertise. The Company is in the process of developing new products with recently acquired technologies. The future development of these new products will require a significant amount of spending over

the next few years before significant, robust sales will be realized. Furthermore, these new products will be sold into both the non-clinical and clinical markets, and any new products requiring FDA clearance may take longer to bring to market. There can be no assurance given as to the timing of these new product launches and the ultimate realization of sales and profitability in the future.

The Company's software or hardware may contain coding or manufacturing errors that could impact their function, performance and security, and result in other negative consequences.

Despite testing prior to the release and throughout the lifecycle of a product or service, the detection and correction of any errors in released software or hardware can be time consuming and costly. This could delay the development or release of new products or services, or new versions of products or services, create security vulnerabilities in the Company's products or services, and adversely affect market acceptance of products or services. If the Company experiences errors or delays in releasing its software or hardware, or new versions thereof, its sales could be affected and revenues could decline. Errors in software or hardware could expose the Company to product liability, performance and warranty claims as well as harm to brand and reputation, which could impact future sales.

Disruption of operations at the Company's manufacturing facilities could harm the Company's financial condition.

The Company manufactures LC instruments at facilities in Milford, Massachusetts and through a subcontractor in Singapore; precision chemistry separation columns at its facilities in Taunton, Massachusetts and Wexford, Ireland; MS products at its facilities in Wilmslow, England, Solihull, England and Wexford, Ireland; thermal analysis and rheometry products at its facilities in New Castle, Delaware and other instruments and consumables at various other locations as a result of the Company's acquisitions. Any prolonged disruption to the operations at any of these facilities, whether due to labor difficulties, destruction of or damage to any facility or other reasons, could have a material adverse effect on the Company's results of operations or financial condition.

Failure to adequately protect intellectual property could have materially adverse effects on the Company's results of operations or financial condition.

There can be no assurance that any patents held by the Company will not be challenged, invalidated or circumvented or that the rights granted thereunder will provide competitive advantages to the Company. Additionally, there could be successful claims against the Company by third-party patent holders with respect to certain Company products that may infringe the intellectual property rights of such third parties. The Company's patents, including those licensed from others, expire on various dates. If the Company is unable to protect its intellectual property rights, it could have an adverse and material effect on the Company's results of operations or financial condition.

The Company's business would suffer if the Company were unable to acquire adequate sources of supply.

Most of the raw materials, components and supplies purchased by the Company are available from a number of different suppliers; however, a number of items are purchased from limited or single sources of supply and disruption of these sources could have, at a minimum, a temporary adverse effect on shipments and the financial results of the Company. A prolonged inability to obtain certain materials or components could have an adverse effect on the Company's financial condition or results of operations and could result in damage to its relationships with its customers and, accordingly, adversely affect the Company's business.

The Company's sales would deteriorate if the Company's outside contractors fail to provide necessary components or modules.

Certain components or modules of the Company's LC and MS instruments are manufactured by outside contractors, including the manufacturing of LC instrument systems and related components by contract manufacturing firms in Singapore. Disruptions of service by these outside contractors could have an adverse effect on the supply chain and the financial results of the Company. A prolonged inability to obtain these components or modules could have an adverse effect on the Company's financial condition or results of operations.

The Company's business could be harmed by actions of distributors and other third parties that sell our products.

The Company sells some products through third parties, including distributors and value-added resellers. This exposes us to various risks, including competitive pressure, concentration of sales volumes, credit risks and compliance risks. We may rely on one or a few key distributors for a product or market and the loss of these distributors could reduce our revenue or net earnings. Distributors may also face financial difficulties, including bankruptcy, which could harm our collection of accounts receivable. Violations of the U.S. Foreign Corrupt Practices Act ("FCPA"), the U.K. Bribery Act or similar anti-bribery laws by distributors or other third-party intermediaries could materially impact our business. Risks related to our use of distributors may reduce sales, increase expenses and weaken our competitive position.

The Company's financial results are subject to unexpected shifts in pre-tax income between tax jurisdictions, changing application of tax law and tax audit examinations.

The Company is subject to rates of income tax that range from 0% up to 34% in various jurisdictions in which it conducts business. In addition, the Company typically generates a substantial portion of its income in the fourth quarter of each fiscal year. Geographical shifts in income from previous quarters' projections caused by factors including, but not limited to, changes in volume and product mix and fluctuations in foreign currency translation rates, could therefore have potentially significant favorable or unfavorable effects on the Company's income tax expense, effective tax rate and results of operations.

Governments in the jurisdictions in which the Company operates implement changes to tax laws and regulations from time to time. Any changes in corporate income tax rates or regulations regarding transfer pricing or repatriation of dividends or capital, as well as changes in the interpretation of existing tax laws and regulations, in the jurisdictions in which the Company operates could adversely affect the Company's cash flow and lead to increases in its overall tax burden, which would negatively affect the Company's profitability.

The Company entered into a new Development and Expansion Incentive in Singapore that provides a concessionary income tax rate of 5% on certain types of income for the period April 1, 2021 through March 31, 2026. Prior to April 1, 2021, the Company had a tax exemption in Singapore on certain types of income, based upon the achievement and continued satisfaction of certain operational and financial milestones, which the Company met as of December 31, 2020 and maintained through March 2021. The Company had determined that it was more likely than not to realize the tax exemption in Singapore and, accordingly, did not recognize any reserves for unrecognized tax benefits on its balance sheet related to this tax exemption. If any of the milestone targets were not met, the Company would not have been entitled to the tax exemption on income earned in Singapore dating back to the start date of the agreement (April 1, 2016), and all the tax benefits previously recognized would be reversed, resulting in the recognition of income tax expense equal to the statutory tax of 17% on income earned during that period.

As a global business, the Company is subject to tax audit examinations in various jurisdictions throughout the world. The Company must manage the cost and disruption of responding to governmental audits, investigation and proceedings. In addition, the impact of the settlement of pending or future tax audit examination could have an unfavorable effect on the Company's income tax expense, effective tax rate and results of operations.

RISKS RELATED TO HUMAN CAPITAL MANAGEMENT

We may not be able to attract and retain qualified employees.

Our future success depends upon the continued service of our executive officers and other key management and technical personnel, and on our ability to continue to identify, attract, retain and motivate them. Implementing our business strategy requires specialized engineering and other talent, as our revenues are highly dependent on technological and product innovations. The market for employees in our industry is extremely competitive, and competitors for talent, particularly engineering talent, increasingly attempt to hire, and to varying degrees have

been successful in hiring, our employees. A number of such competitors for talent are significantly larger than us and are able to offer compensation in excess of what we are able to offer. Further, existing immigration laws make it more difficult for us to recruit and retain highly skilled foreign national graduates of universities in the United States, making the pool of available talent even smaller. If we are unable to attract and retain qualified employees, our business may be harmed.

The loss of key members of management and the risks inherent in succession planning could adversely affect the Company's results of operations or financial condition.

The operation of the Company requires managerial and operational expertise. None of the Company's key management employees, with the exception of the Chief Executive Officer and Chief Financial Officer, have an employment contract with the Company and there can be no assurance that such individuals will remain with the Company. If, for any reason, other key personnel do not continue to be active in management, the Company's results of operations or financial condition could be adversely affected.

RISKS RELATED TO CYBERSECURITY AND DATA PRIVACY

Disruption, cyber-attack or unforeseen problems with the security, maintenance or upgrade of the Company's information and web-based systems could have an adverse effect on the Company's operations and financial condition.

The Company relies on its technology infrastructure and that of its software and banking partners, among other functions, to interact with suppliers, sell products and services, fulfill contract obligations, ship products, collect and make electronic wire and check based payments and otherwise conduct business. The Company's technology infrastructure may be vulnerable to damage or interruption from, but not limited to, natural disasters, power loss, telecommunication failures, terrorist attacks, computer viruses, unauthorized access to customer or employee data, unauthorized access to and funds transfers from Company bank accounts and other attempts to harm the Company's systems. For example, in December 2021, a vulnerability named "Log4Shell" was reported for the widely used Java logging library, Apache Log4j 2. We have reviewed the use of this library within our software product portfolio and in our IT environment and have taken steps to mitigate the vulnerability. To date, cybersecurity incidents have not resulted in a material adverse impact to our business or operations, but there can be no guarantee we will not experience such an impact. Additionally, we must maintain and periodically upgrade our information and web-based systems, which has caused and will in the future cause temporary interruptions to our technology infrastructure. Any prolonged disruption to the Company's technology infrastructure, at any of its facilities, could have a material adverse effect on the Company's results of operations or financial condition.

If the Company's security measures are compromised or fail to adequately protect its technology infrastructure, research and development efforts or manufacturing operations, the Company's products and services may be perceived as vulnerable or unreliable, the information protected by the Company's controls and processes may be subject to unauthorized access, acquisition or modification, the Company's brand and reputation could be damaged, the services that the Company provides to its customers could be disrupted, and customers may stop using the Company's products and services, all of which could reduce the Company's revenue and earnings, increase its expenses and expose the Company to legal claims and regulatory actions.

The Company is in the business of designing, manufacturing, selling and servicing analytical instruments to life science, pharmaceutical, biochemical, industrial, nutritional safety and environmental, academic and governmental customers working in research and development, quality assurance and other laboratory applications, and the Company is also a developer and supplier of software-based products that support instrument systems. Many of the Company's customers are in highly regulated industries. While the Company has invested time and resources implementing measures designed to protect the integrity and security of its technology infrastructure, research and development processes, manufacturing operations, products and services, and the internal and external data managed by the Company, there is a risk these measures will be defeated or compromised or that they are otherwise insufficient to protect against existing or emerging threats. The Company also has acquired companies, products, services and technologies over time and may face inherent risk when integrating these acquisitions into the Company. In addition, at times, the Company faces attempts by third

parties to defeat its security measures or exploit vulnerabilities in its systems. These risks will increase as the Company continues to grow and expand geographically, and its systems, products and services become increasingly digital and sensor- and web-based.

The Company could suffer significant damage to its brand and reputation if a security incident resulted in unauthorized access to, acquisition of, or modification to the Company's technology infrastructure, research and development processes, manufacturing operations, its products and services as well as the internal and external data managed by the Company. Such an incident could disrupt the Company's operations and customers could lose confidence in the Company's ability to deliver quality and reliable products or services. This could negatively impact sales and could increase costs related to fixing and addressing these incidents and any vulnerabilities exposed by them, as well as to lawsuits, regulatory investigations, claims or legal liability including contractual liability, costs and expenses owed to customers and business partners.

RISKS RELATED TO COMPLIANCE, REGULATORY OR LEGAL CHANGES

Compliance failures could harm the Company's business.

The Company is subject to regulation by various federal, state and foreign governments and agencies in areas including, among others, health and safety, import/export, privacy and data protection, FCPA and environmental laws and regulations. A portion of the Company's operations are subject to regulation by the FDA and similar foreign regulatory agencies. These regulations are complex and govern an array of product activities, including design, development, labeling, manufacturing, promotion, sales and distribution. Any failure by the Company to comply with applicable governmental regulations could result in product recalls, the imposition of fines, restrictions on the Company's ability to conduct or expand its operations or the cessation of all or a portion of its operations.

Regulators globally are increasingly imposing greater fines and penalties for privacy and data protection violations, and the European Union has enacted a broad data protection regulation with fines based on a percentage of global revenues. Changes in laws or regulations associated with enhanced protection of certain sensitive types of personal information, such as information related to health, could greatly increase the cost of compliance and the cost of providing the Company's products or services. Any failure, or perceived failure, by the Company to comply with laws and regulations on privacy, data security or consumer protection, or other policies, public perception, standards, self-regulatory requirements or legal obligations, could result in lost or restricted business, proceedings, actions or fines brought against the Company or levied by governmental entities or others, or could otherwise adversely affect the business and harm the Company's reputation.

Some of the Company's operations are subject to domestic and international laws and regulations with respect to the manufacturing, handling, use or sale of toxic or hazardous substances. This requires the Company to devote substantial resources to maintain compliance with those applicable laws and regulations. If the Company fails to comply with such requirements in the manufacturing or distribution of its products, it could face civil and/or criminal penalties and potentially be prohibited from distributing or selling such products until they are compliant.

Some of the Company's products are also subject to the rules of certain industrial standards bodies, such as the International Standards Organization. The Company must comply with these rules, as well as those of other agencies, such as the United States Occupational Safety and Health Administration. Failure to comply with such rules could result in the loss of certification and/or the imposition of fines and penalties, which could have a material adverse effect on the Company's operations.

As a publicly-traded company, the Company is subject to the rules of the SEC and the New York Stock Exchange. In addition, the Company must comply with the Sarbanes-Oxley regulations, which require the Company to establish and maintain adequate internal control over financial reporting. The Company's efforts to comply with such laws and regulations are time consuming and costly. While we continue to enhance our controls, we cannot be certain that we will be able to prevent future significant deficiencies or material

weaknesses. Failure to comply with such regulations or having inadequate internal controls could have a material adverse effect on the Company's financial condition and operations, which could cause investors to lose confidence in our reported financial information and could have a negative effect on the trading price of our stock and our access to capital.

The Company is subject to the rules of the SEC under the Dodd-Frank Wall Street Reform and Consumer Protection Act, requiring disclosure as to whether certain materials (tantalum, tin, gold and tungsten), known as conflict minerals, which may be contained in the Company's products, are mined from the Democratic Republic of the Congo and adjoining countries. In 2020, the Company was not able to determine with certainty the country of origin of some of the conflict minerals in its manufactured products. However, the Company does not have knowledge that any of its conflict minerals originated from the Democratic Republic of the Congo or adjoining countries. The Company is in the process of evaluating its 2021 supply chain, and the Company plans to file its 2021 Form SD with the SEC in May 2022. The results of this and future evaluations may impose additional costs and may introduce new risks related to the Company's ability to verify the origin of any conflict minerals contained in its products.

The Company may be harmed by improper conduct of any of our employees, agents or business partners.

We cannot provide assurance that our internal controls and compliance systems will always protect the Company from acts committed by employees, agents or business partners that would violate domestic and international laws, including laws governing payments to government officials, bribery, fraud, kickbacks and false claims, pricing, sales and marketing practices, conflicts of interest, competition, export and import compliance, money laundering and data privacy. In particular, the FCPA, the U.K. Bribery Act and similar anti-bribery laws generally prohibit companies and their intermediaries from making improper payments to government officials for the purpose of obtaining or retaining business, and we operate in many parts of the world that have experienced governmental corruption to some degree. Any such improper actions or allegations of such acts could damage our reputation and subject us to civil or criminal investigations in the U.S. and in other jurisdictions and related shareholder lawsuits, could lead to substantial civil and criminal, monetary and non-monetary penalties and could cause us to incur significant legal and investigatory fees. In addition, the government may seek to hold us liable as a successor for violations committed by companies in which we invest or that we acquire. We also rely on our suppliers to adhere to our supplier standards of conduct and material violations of such standards of conduct could occur that could have a material effect on our business, reputation and financial statements.

Environmental, social and corporate governance ("ESG") issues, including those related to climate change and sustainability, may have an adverse effect on our business, financial condition and results of operations and damage our reputation.

There is an increasing focus from certain investors, customers, consumers, employees and other stakeholders concerning ESG matters. Additionally, public interest and legislative pressure related to public companies' ESG practices continue to grow. If our ESG practices fail to meet regulatory requirements or investor, customer, consumer, employee or other stakeholders' evolving expectations and standards for responsible corporate citizenship in areas including environmental stewardship and sustainability, support for local communities, Board of Director and employee diversity, human capital management, employee health and safety practices, product quality, supply chain management, corporate governance and transparency, our reputation, brand and employee retention may be negatively impacted, and our customers and suppliers may be unwilling to continue to do business with us.

Customers, consumers, investors and other stakeholders are increasingly focusing on environmental issues, including climate change, energy and water use, plastic waste and other sustainability concerns. Concern over climate change or plastics and packaging materials, in particular, may result in new or increased legal and regulatory requirements to reduce or mitigate impacts to the environment. Changing customer and consumer preferences or increased regulatory requirements may result in increased demands or requirements regarding plastics and packaging materials, including single-use and non-recyclable plastic products and packaging, other

components of our products and their environmental impact on sustainability, or increased customer and consumer concerns or perceptions (whether accurate or inaccurate) regarding the effects of substances present in certain of our products. Complying with these demands or requirements could cause us to incur additional manufacturing, operating or product development costs.

If we do not adapt to or comply with new regulations, or fail to meet evolving investor, industry or stakeholder expectations and concerns regarding ESG issues, investors may reconsider their capital investment in our Company, and customers and consumers may choose to stop purchasing our products, which could have a material adverse effect on our reputation, business or financial condition.

GENERAL RISK FACTORS

The effects of climate change could harm the Company's business.

The Company's manufacturing processes for certain of its products involve the use of chemicals and other substances that are regulated under various international, federal, state and local laws governing the environment. In the event that any future climate change legislation would require that stricter standards be imposed by domestic or international environmental regulatory authorities with respect to the use and/or levels of possible emissions from such chemicals and/or other substances, the Company may be required to make certain changes and adaptations to its manufacturing processes. Any such changes could have a material adverse effect on the financial statements of the Company.

Another potential effect of climate change is an increase in the severity of global weather conditions. The Company's manufacturing facilities are located in the U.S., U.K., Ireland and Germany. In addition, the Company manufactures a growing percentage of its HPLC, UPLC and MS products in both Singapore and Ireland. Severe weather and geological conditions or events, including earthquakes, hurricanes and/or tsunamis, could potentially cause significant damage to the Company's manufacturing facilities in each of these countries. The effects of such damage and the resulting disruption of manufacturing operations and the impact of lost sales could have a material adverse impact on the financial results of the Company.

Estimates and assumptions made in accounting for the Company's results from operations are dependent on future results, which involve significant judgments and may be imprecise and may differ materially from actual results.

The preparation of consolidated financial statements in conformity with generally accepted accounting principles requires the Company to make estimates and judgments that affect the reported amounts of assets, liabilities, revenues and expenses, and related disclosure of contingent liabilities at the dates of the financial statements. These estimates and assumptions must be made due to certain information used in preparation of our financial statements which is dependent on future events, cannot be calculated with a high degree of precision from data available or is not capable of being readily calculated based on generally accepted methodologies. The Company believes that the accounting related to revenue recognition, bad debts, inventory valuation, goodwill and intangible assets, income taxes, warranty and installation provisions, litigation, retirement plan obligations, stock-based compensation, business combinations and asset acquisitions, uncertain tax positions and contingencies involves significant judgments and estimates. Actual results for all estimates could differ materially from the estimates and assumptions used, which could have a material adverse effect on our financial condition and results of operations.

The Company's financial condition and results of operations could be adversely affected by changes to the Company's retirement plans or retirement plan assets.

The Company sponsors various retirement plans, both inside and outside the United States. Any changes in regulations made by governments in countries in which the Company sponsors retirement plans could adversely impact the Company's cash flows or results of operations. In connection with these retirement plans, the Company is exposed to market risks associated with changes in the various capital markets. For example, changes in long-term interest rates affect the discount rate that is used to measure the Company's retirement plan

obligations and related expense. In addition, changes in the market value of investments held by the retirement plans could materially impact the funded status of the retirement plans, and affect the related pension expense and level and timing of contributions required under applicable laws.

The Company's financial condition and results of operations could be adversely affected if the Company is unable to maintain a sufficient level of cash flow.

The Company had \$1.5 billion in debt and \$569 million in cash, cash equivalents and investments as of December 31, 2021. As of December 31, 2021, the Company also had the ability to borrow an additional \$1.6 billion from its existing, committed credit facility. All but a small portion of the Company's debt was in the U.S. There is a substantial cash requirement in the United States to fund operations and capital expenditures, service debt interest obligations, finance potential United States acquisitions and continue authorized stock repurchase programs. As such, the Company's financial condition and results of operations could be adversely impacted if the Company is unable to generate and maintain a sufficient level of cash flow to address these requirements through (1) cash from operations, (2) the Company's ability to access its existing cash and revolving credit facility, (3) the ability to expand the Company's borrowing capacity and (4) other sources of capital obtained at an acceptable cost.

Debt covenants, and the Company's failure to comply with them, could negatively impact the Company's capital and financial results.

The Company's debt is subject to restrictive debt covenants that limit the Company's ability to engage in certain activities that could otherwise benefit the Company. These debt covenants include restrictions on the Company's ability to enter into certain contracts or agreements, which may limit the Company's ability to make dividend or other payments, secure other indebtedness, enter into transactions with affiliates and consolidate, merge or transfer all or substantially all of the Company's assets. The Company is also required to meet specified financial ratios under the terms of the Company's debt agreements. The Company's ability to comply with these financial restrictions and all other covenants is dependent on the Company's future performance, which is subject to, but not limited to, prevailing economic conditions and other factors, including factors that are beyond the Company's control, such as foreign exchange rates, interest rates, changes in technology and changes in the level of competition.

Item 1B: Unresolved Staff Comments

None.

Item 2: Properties

Waters Corporation operates 19 United States facilities and 69 international facilities, including field offices. The Company believes its facilities are suitable and adequate for its current production level and for reasonable growth over the next several years. The Company's primary facilities are summarized in the table below.

Primary Facility Locations (1)

<u>Location</u>	<u>Function (2)</u>	<u>Owned/Leased</u>
Golden, CO	M, R, S, D, A	Leased
New Castle, DE	M, R, S, D, A	Owned
Franklin, MA	D	Leased
Milford, MA	M, R, S, A	Owned
Taunton, MA	M, R	Owned
Cambridge, MA	R, S	Leased
Eden Prairie, MN	M, R, S, D, A	Leased
Nixa, MO	M, S, D, A	Leased
Lindon, UT	M, R, S, D, A	Leased
Beijing, China	S, A	Leased
Shanghai, China	S, A	Leased
Solihull, England	M, A	Owned
Wilmslow, England	M, R, S, D, A	Owned
St. Quentin, France	S, A	Leased
Huellhorst, Germany	M, R, S, D, A	Owned
Hong Kong	S, A	Leased
Wexford, Ireland	M, R, D, A	Owned
Bangalore, India	M, S, D, A	Owned
Etten-Leur, Netherlands	S, D, A	Owned
Brasov, Romania	R, A	Leased
Singapore	R, S, D, A	Leased

(1) The Company operates more than one primary facility within certain states and foreign countries.

(2) M = Manufacturing; R = Research; S = Sales and Service; D = Distribution; A = Administration

The Company operates and maintains 9 field offices in the United States and 56 field offices abroad in addition to sales offices in the primary facilities listed above. The Company's field office locations are listed below.

Field Office Locations (3)

<u>United States</u>	<u>International</u>		
Costa Mesa, CA	Australia	Hungary	Norway
Pleasanton, CA	Austria	India	People's Republic of China
Wood Dale, IL	Belgium	Ireland	Portugal
Carmel, IN	Brazil	Israel	Poland
Columbia, MD	Canada	Italy	Puerto Rico
Morrisville, NC	Czech Republic	Japan	Spain
Parsippany, NJ	Denmark	Korea	Sweden
Plymouth Meeting, PA	Finland	Malaysia	Switzerland
Bellaire, TX	France	Mexico	Taiwan
	Germany	Netherlands	United Arab Emirates
			United Kingdom

(3) The Company operates more than one field office within certain states and foreign countries.

Item 3: Legal Proceedings

From time to time, the Company and its subsidiaries are involved in various litigation matters arising in the ordinary course of business. The Company believes it has meritorious arguments in its current litigation matters and believes any outcome, either individually or in the aggregate, will not be material to the Company's financial position or results of operations.

Item 4: Mine Safety Disclosures

Not applicable.

PART II

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

The Company's common stock is registered under the Securities Exchange Act of 1934, as amended (the "Exchange Act"), and is listed on the New York Stock Exchange under the symbol "WAT". As of February 19, 2022, the Company had 75 common stockholders of record. The Company has not declared or paid any dividends on its common stock in its past three fiscal years and does not intend to pay cash dividends in the foreseeable future. Any future determination to pay cash dividends will be made at the discretion of the Board of Directors and will depend on restrictions and other factors the Board of Directors may deem relevant. The Company has not made any sales of unregistered equity securities in the years ended December 31, 2021, 2020 or 2019.

Securities Authorized for Issuance under Equity Compensation Plans

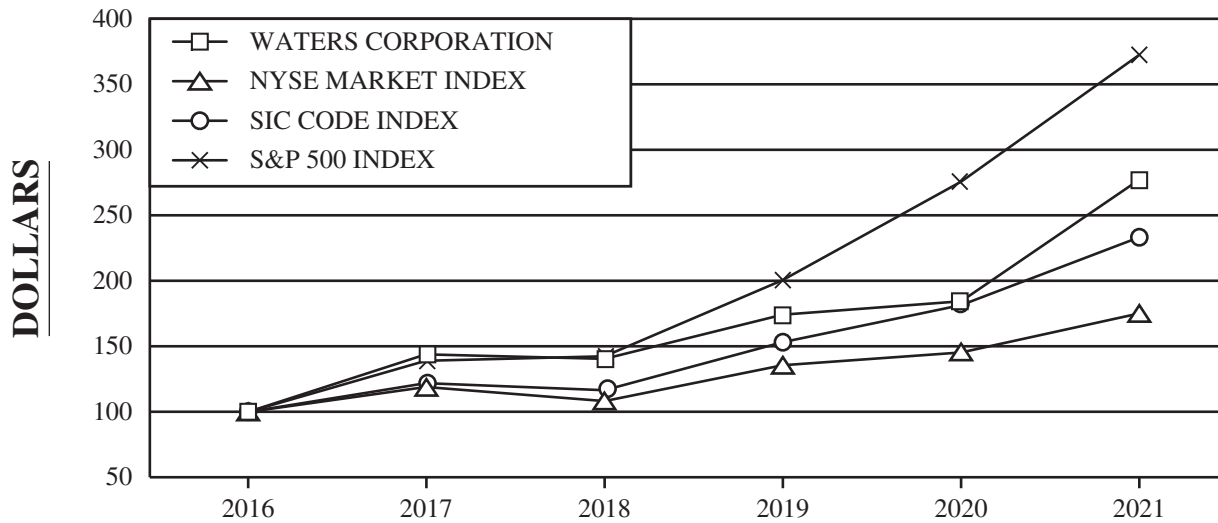
Equity compensation plan information is incorporated by reference from Part III, Item 12, Security Ownership of Certain Beneficial Owners and Management and Related Stockholder Matters, of this document and should be considered an integral part of this Item 5.

Stock Price Performance Graph

The following performance graph and related information shall not be deemed to be “soliciting material” or to be “filed” with the SEC, nor shall such information be incorporated by reference into any future filing under the Securities Act of 1933, as amended (“Securities Act”), or the Exchange Act, except to the extent that the Company specifically incorporates it by reference into such filing.

The following graph compares the cumulative total return on \$100 invested as of December 31, 2016 (the last day of public trading of the Company’s common stock in fiscal year 2016) through December 31, 2021 (the last day of public trading of the common stock in fiscal year 2021) in the Company’s common stock, the NYSE Market Index, the SIC Code 3826 Index and the S&P 500 Index. The return of the indices is calculated assuming reinvestment of dividends during the period presented. The Company has not paid any dividends since its IPO. The stock price performance shown on the graph below is not necessarily indicative of future price performance.

COMPARISON OF CUMULATIVE TOTAL RETURN SINCE DECEMBER 31, 2016 AMONG WATERS CORPORATION, NYSE MARKET INDEX, SIC CODE 3826 INDEX – LABORATORY ANALYTICAL INSTRUMENTS AND S&P 500 INDEX



	2016	2017	2018	2019	2020	2021
WATERS CORPORATION	100.00	143.75	140.38	173.86	184.11	277.25
NYSE MARKET INDEX	100.00	118.73	108.10	135.68	145.16	175.18
SIC CODE INDEX	100.00	121.83	116.49	153.17	181.35	233.41
S&P 500 INDEX	100.00	139.02	142.44	200.67	275.70	372.23

Purchases of Equity Securities by the Issuer

The following table provides information about purchases by the Company during the three months ended December 31, 2021 of equity securities registered by the Company under the Exchange Act (in thousands, except per share data):

Period	Total Number of Shares Purchased (1)	Average Price Paid per Share	Total Number of Shares Purchased as Part of Publicly Announced Programs	Maximum Dollar Value of Shares that May Yet Be Purchased Under the Programs (2)
October 3, 2021 to October 30, 2021	145	\$351.92	145	\$989,582
October 31, 2021 to November 27, 2021	141	\$348.42	141	\$940,385
November 28, 2021 to December 31, 2021	162	\$346.16	162	\$884,561
Total	<u>448</u>	<u>\$348.74</u>	<u>448</u>	<u>\$884,561</u>

- (1) The Company repurchased less than one thousand shares of common stock at a cost of less than \$1 million related to the vesting of restricted stock during the three months ended December 31, 2021.
- (2) In January 2019, the Company's Board of Directors authorized the Company to repurchase up to \$4 billion of its outstanding common stock in open market or private transactions over a two-year period. This program replaced the remaining amounts available under the pre-existing authorization. In December 2020, the Company's Board of Directors authorized the extension of the share repurchase program through January 21, 2023. The size and timing of these purchases, if any, will depend on our stock price and market and business conditions, as well as other factors.

Item 6: Reserved**Item 7: Management's Discussion and Analysis of Financial Condition and Results of Operations****Business Overview**

The Company has two operating segments: Waters™ and TA™. Waters products and services primarily consist of high performance liquid chromatography ("HPLC"), ultra performance liquid chromatography ("UPLC™" and, together with HPLC, referred to as "LC"), mass spectrometry ("MS") and precision chemistry consumable products and related services. TA products and services primarily consist of thermal analysis, rheometry and calorimetry instrument systems and service sales. The Company's products are used by pharmaceutical, biochemical, industrial, nutritional safety, environmental, academic and government customers. These customers use the Company's products to detect, identify, monitor and measure the chemical, physical and biological composition of materials and to predict the suitability and stability of fine chemicals, pharmaceuticals, water, polymers, metals and viscous liquids in various industrial, consumer goods and healthcare products.

COVID-19 Pandemic

Both the Company's domestic and international operations have been and continue to be affected by the ongoing global COVID-19 pandemic that has led to volatility and uncertainty in the U.S. and international markets. The Company is actively managing its business to respond to the COVID-19 impact; however, the Company cannot reasonably estimate the length or severity of the COVID-19 pandemic, including the effect of the emergence of variants of the virus, or the related response, or the extent to which the disruption may materially impact the Company's business, consolidated financial position, consolidated results of operations or consolidated cash flows in the future.

The COVID-19 pandemic has not materially impacted the Company's manufacturing facilities or those of the third parties to whom it outsources certain manufacturing processes, the distribution centers where its inventory is managed, or the operations of its logistics and other service providers. The Company also did not see material disruptions or delays in shipments of certain materials or components of its products. However, the current logistic and supply chain issues being experienced throughout the world have made it more difficult for us to manage our operations and as such we cannot provide any assurances that any further disruptions in the logistics and supply chains will not have a material impact on our future financial results and cashflows.

The Company has taken decisive and appropriate actions throughout the COVID-19 pandemic, and continues to take proactive measures to guard the health of its global employee base and the safety of all customer interactions. The Company has implemented rigorous protocols to promote a safe work environment in all of its locations that are operational around the world and continues to closely monitor and update its multi-phase process for the safe return of employees to their physical workplaces as social distancing, governmental requirements, including capacity limitations, and other protocols allow.

The vast majority of the markets the Company serves, most notably the pharmaceutical, biomedical research, materials sciences, food/environmental and clinical markets, have continued to operate at various levels, and the Company is working closely with these customers to facilitate their seamless operation.

The COVID-19 pandemic continues to be fluid with uncertainties and risks across the global economy. During 2020, the Company took a proactive approach managing through this unpredictability and implemented a series of cost reduction actions, which included temporary salary reductions, furloughs and reductions in non-essential spending and other working capital reductions in order to preserve liquidity and enhance financial flexibility. These cost reductions were completed by the end of 2020 and reduced the Company's spending by approximately \$100 million in 2020. The majority of these cost saving actions were reinstated at the beginning of 2021, which negatively impacted the Company's cashflows in 2021 and also attributed to the increase in expenses as a result of the normalization of these costs.

Financial Overview

The Company's operating results are as follows for the years ended December 31, 2021, 2020 and 2019 (dollars in thousands, except per share data):

	Year Ended December 31,			% change	
	2021	2020	2019	2021 vs. 2020	2020 vs. 2019
Revenues:					
Product sales	\$1,822,070	\$1,497,333	\$1,567,189	22%	(4%)
Service sales	963,804	868,032	839,407	11%	3%
Total net sales	2,785,874	2,365,365	2,406,596	18%	(2%)
Costs and operating expenses:					
Cost of sales	1,156,533	1,006,689	1,010,700	15%	— %
Selling and administrative expenses	626,968	553,698	534,791	13%	4%
Research and development expenses	168,358	140,777	142,955	20%	(2%)
Purchased intangibles amortization	7,143	10,587	9,693	(33%)	9%
Asset impairments	—	6,945	—	(100%)	**
Litigation provision	5,165	1,180	—	338%	**
Operating income	821,707	645,489	708,457	27%	(9%)
Operating income as a % of sales	29.5%	27.3%	29.4%		
Other income (expense), net	17,203	(1,775)	(3,586)	**	51%
Interest expense, net	(32,717)	(32,800)	(26,632)	— %	(23%)
Income before income taxes	806,193	610,914	678,239	32%	(10%)
Provision for income taxes	113,350	89,343	86,041	27%	4%
Net income	\$ 692,843	\$ 521,571	\$ 592,198	33%	(12%)
Net income per diluted common share	\$ 11.17	\$ 8.36	\$ 8.69	34%	(4%)

** Percentage not meaningful

The Company's net sales increased approximately 18% in 2021 as compared to 2020, and decreased 2% in 2020 as compared to 2019. The increase in sales in 2021 can be attributed to the strong sales performance across most major geographies, end markets, and product categories due to customer demand continuing to return to pre-pandemic normal operations. Foreign currency translation increased sales by 2% and less than 1% in 2021 and 2020, respectively. The Company's recent acquisitions did not have material impacts on sales growth. Unless otherwise noted, sales growth or decline percentages are presented as compared with the same period in the prior year.

Instrument system sales increased 23% in 2021 and decreased 8% in 2020. In 2021, the increase in instrument system sales was attributable to customer demand continuing to increase to pre-COVID-19 pandemic levels as customer laboratories and manufacturing facilities continued to return to normal operations. This strength in 2021 was broad-based, particularly in LC, LC-MS and TA instrument system sales. Foreign currency translation had minimal impact on instrument system sales in 2021 and increased sales by 1% in 2020. Recurring revenues (combined sales of precision chemistry consumables and services) increased 13% and 4% in 2021 and 2020, respectively, as a result of a larger installed base of customers and higher billing demand for service sales. In 2020, recurring revenues were impacted by the interruption of business activities and the uncertainty caused by the COVID-19 pandemic. Recurring revenues were positively impacted by foreign currency translation in 2021 and 2020, which increased sales by 2% and 1%, respectively.

Geographically, the sales growth in 2021 was broad-based across the world, and was due to customer demand continuing to increase to pre-pandemic levels as customer laboratories and manufacturing facilities continued to return to normal operations. In 2021, the strong sales performance was broad-based across all regions, with sales increasing 20% in Asia, 16% in the Americas, and 17% in Europe. Foreign currency translation increased sales by 1% and 3% in Asia and Europe, respectively. The sales declines in 2020 were broad-based across the world, except for Europe, and were due to the weaker demand and disruption of business activities caused by the COVID-19 lockdowns.

Sales to pharmaceutical customers increased 20% and 2% in 2021 and 2020, respectively, with foreign currency translation positively impacting sales by 1% in both 2021 and 2020. The pharmaceutical sales growth was driven by strong double-digit growth in all major regions, including 45% in China, 26% in India, 17% in the Americas and 15% in Europe as strong customer demand continued to recover to pre-pandemic levels. Foreign currency translation added 4% to Europe sales growth in 2021. Combined sales to industrial customers, which include material characterization, food, environmental and fine chemical markets, increased 17% in 2021 and decreased 2% in 2020, with foreign currency translation increasing sales by 2% and 1% in 2021 and 2020, respectively. This increase in sales to industrial customers was driven by the TA business as TA's sales grew 26% in 2021 as compared to a decline of 8% in 2020. Combined sales to academic and government customers increased 7% in 2021 and decreased 16% in 2020, with foreign currency translation increasing sales by 2% in 2021 and having minimal impact on sales in 2020. Sales to our academic and governmental customers are highly dependent on when institutions receive funding to purchase our instrument systems and, as such, sales can vary significantly from period to period.

Operating income was \$822 million in 2021, an increase of 27% as compared to 2020. This increase was primarily a result of the increase in sales volumes caused by our customers resuming laboratory and manufacturing operations throughout the world and the favorable impact of foreign currency translation. The operating income increase was partially offset by the restoration of expenses that had been decreased in 2020 which consisted of a series of cost reduction actions that included salary reductions, furloughs and reductions in non-essential spending that increased operating income by approximately \$100 million in 2020. In addition, in the second half of 2021, the Company's operating income was negatively impacted by higher freight costs and higher costs associated with certain electronic components.

Operating income decreased 9% in 2020 as compared to 2019. This decrease can be attributed to the decline in sales volumes caused by the COVID-19 pandemic, unfavorable manufacturing absorption and unfavorable foreign currency translation. The operating income decline was partially mitigated by a series of cost reduction actions, equaling \$100 million, implemented by the Company in 2020. Operating income in 2020 also included \$27 million of severance-related costs in connection with a reduction in workforce and lease termination and exit costs.

Operating income as a percentage of sales was 29.5%, 27.3% and 29.4% in 2021, 2020 and 2019, respectively. The 2020 operating income percentage decreased as a result of the decrease in sales volume due to the COVID-19 pandemic. In addition, the 2020 operating margin benefited by the \$100 million of cost reduction actions. The 2021 operating income margin was negatively impacted by the cost actions as these costs had been reinstated by the beginning of 2021.

The Company's effective tax rates were 14.1%, 14.6% and 12.7% for 2021, 2020 and 2019, respectively. Net income per diluted share was \$11.17, \$8.36 and \$8.69 in 2021, 2020 and 2019, respectively.

The Company generated \$747 million, \$791 million and \$643 million of net cash flows from operations in 2021, 2020 and 2019, respectively. The decrease in operating cash flow in 2021 was primarily a result of the \$100 million of 2020 cost actions and working capital improvements implemented being reinstated once customer demand increased. Included in the 2021, 2020 and 2019 net cash flow from operations is \$38 million,

\$38 million and \$29 million, respectively, of income tax payments made in the U.S. in relation to the 2017 transition tax liability. The Company is required to make a U.S. federal tax payment of approximately \$38 million in 2022 to tax authorities in connection with the Company's estimated remaining transition tax liabilities of \$327 million under the 2017 Tax Act. The remainder of the liability is required to be paid in annual installments of \$72 million, \$96 million and \$121 million in 2023, 2024 and 2025, respectively.

Cash flows used in investing activities included capital expenditures related to property, plant, equipment and software capitalization of \$161 million, \$172 million and \$164 million in 2021, 2020 and 2019, respectively. The cash flows from investing activities in 2021 also included \$49 million of capital expenditures related to the expansion of the Company's precision chemistry consumable operations in the United States. The Company has incurred costs of \$200 million on this facility through the end of 2021, and anticipates spending approximately \$50 million to complete this new state-of-the-art facility in 2022.

On September 17, 2021, the Company entered into an amended and restated credit agreement (the "2021 Credit Agreement"), which amended the Company's existing credit agreement entered into in 2017 (the "2017 Credit Agreement"). The 2021 Credit Agreement provides for a \$1.8 billion revolving facility (the "2021 Credit Facility") and converted the \$300 million term loan under the 2017 Credit Agreement into part of the new revolving facility. As of December 31, 2021, the 2021 Credit Facility had a total of \$210 million outstanding. As of December 31, 2020, the revolving credit facility and the term loan governed by the 2017 Credit Agreement had a total of \$100 million and \$300 million, respectively, outstanding. The 2021 Credit Facility matures on September 17, 2026 and requires no scheduled prepayments before that date.

In March 2021, the Company issued senior unsecured notes with an aggregate principal amount of \$500 million. The Series N \$100 million notes have a five-year term and a fixed interest rate of 1.68%. The Series O \$400 million notes have a 10-year term and a fixed interest rate of 2.25%.

In January 2019, the Company's Board of Directors authorized the Company to repurchase up to \$4 billion of its outstanding common stock over a two-year period. During 2021, 2020 and 2019, the Company repurchased 2.0 million, 0.8 million and 11.1 million shares of the Company's outstanding common stock at a cost of \$640 million, \$167 million and \$2.5 billion, respectively, under authorized share repurchase programs. As of December 31, 2021, the Company has a total of \$885 million authorized for future repurchases. In December 2020, the Company's Board of Directors authorized the extension of the share repurchase program through January 21, 2023. The Company believes that it has the financial flexibility to fund these share repurchases given current cash and investment levels and debt borrowing capacity, as well as to invest in research, technology and business acquisitions to further grow the Company's sales and profits.

Results of Operations

Sales by Geography

Geographic sales information is presented below for the years ended December 31, 2021, 2020 and 2019 (dollars in thousands):

	Year Ended December 31,			% change	
	2021	2020	2019	2021 vs. 2020	2020 vs. 2019
Net Sales:					
Asia:					
China	\$ 521,128	\$ 404,352	\$ 439,557	29%	(8%)
Japan	182,597	179,815	180,707	2%	— %
Asia Other	372,040	315,010	318,848	18%	(1%)
Total Asia	1,075,765	899,177	939,112	20%	(4%)
Americas:					
United States	774,014	678,313	692,277	14%	(2%)
Americas Other	151,206	119,529	137,964	27%	(13%)
Total Americas	925,220	797,842	830,241	16%	(4%)
Europe	784,889	668,346	637,243	17%	5%
Total net sales	<u>\$2,785,874</u>	<u>\$2,365,365</u>	<u>\$2,406,596</u>	<u>18%</u>	<u>(2%)</u>

In 2021, sales increased 18% as compared to 2020, due to stronger demand for our products and services across most major geographies and customer classes as a result of our customers resuming laboratory and manufacturing operations, as well as the pent-up demand from 2020 caused by the COVID-19 pandemic. The sales strength was broad-based, driven by continued growth in recurring revenues and the strong sales growth in instruments, particularly in LC instrument system sales. Foreign currency translation increased sales by 2% in 2021 and had minimal impact on sales in 2020.

In 2020, sales decreased 2% as compared to 2019, as the COVID-19 pandemic caused interruptions in business activities and uncertainties that resulted in our customers reducing purchases of our products and services. The sales declines in 2020 were broad-based across all geographies and were a result of the weaker demand and disruption of business activities caused by the COVID-19 lockdowns, except in Europe where sales increased 5% as compared to the prior year. The most significant decline in sales in 2020 occurred in China, where sales declined 8%, as well as declines of 2% in the U.S. and 13% in the Americas Other region.

Sales by Trade Class

Net sales by customer class are presented below for the years ended December 31, 2021, 2020 and 2019 (dollars in thousands):

	Year Ended December 31,			% change	
	2021	2020	2019	2021 vs. 2020	2020 vs. 2019
Pharmaceutical	\$1,667,061	\$1,386,966	\$1,365,275	20%	2%
Industrial	829,204	707,772	719,377	17%	(2%)
Academic and governmental	289,609	270,627	321,944	7%	(16%)
Total net sales	<u>\$2,785,874</u>	<u>\$2,365,365</u>	<u>\$2,406,596</u>	<u>18%</u>	<u>(2%)</u>

In 2021, sales to pharmaceutical customers increased 20% with foreign currency translation positively impacting sales by 1%. The increase in sales to pharmaceutical customers was broad-based with double-digit sales growth across most major geographies, primarily due to stronger demand for our products and services as a result of our customers continuing to resume laboratory and manufacturing operations. Sales also benefited from the demand from certain pharmaceutical customers involved with COVID-19 diagnostic testing and the increase in the development of new drugs and therapies. Sales to industrial customers in 2021 increased 17%, primarily due to customers continuing to resume laboratory and manufacturing operations during the year and this growth was driven by the increased customer demand for our TA products. Foreign currency translation increased sales to industrial customers by 2% in 2021. Sales to academic and government customers increased 7% in 2021, with foreign currency translation increasing sales by 2%.

In 2020, sales to pharmaceutical customers increased 2% with foreign currency translation positively impacting sales by 1%. The lower sales volumes to pharmaceutical customers in 2020, particularly in the first half of the year, can be attributed to the disruption in business activities caused by COVID-19, despite increased demand for our products and services from certain pharmaceutical customers who are involved with COVID-19 diagnostic testing and the development of new drugs and therapies. Sales to industrial customers in 2020 declined 2%, which were significantly impacted by the TA sales declines of 8% in 2020. The sales declines to academic and government customers were broad-based across all product classes as academic and governmental customers adjusted their spending to mitigate the effects of the COVID-19 pandemic, which significantly impacted sales in China.

Waters Products and Services Net Sales

Net sales for Waters products and services were as follows for the years ended December 31, 2021, 2020 and 2019 (dollars in thousands):

	Year Ended December 31,						% change	
	2021	% of Total	2020	% of Total	2019	% of Total	2021 vs. 2020	2020 vs. 2019
Waters instrument systems	\$1,089,248	44%	\$ 890,855	42%	\$ 963,871	45%	22%	(8%)
Chemistry consumables	507,209	21%	432,080	20%	412,018	19%	17%	5%
Total Waters product sales . . .	1,596,457	65%	1,322,935	62%	1,375,889	64%	21%	(4%)
Waters service	876,626	35%	794,189	38%	761,594	36%	10%	4%
Total Waters net sales	<u>\$2,473,083</u>	<u>100%</u>	<u>\$2,117,124</u>	<u>100%</u>	<u>\$2,137,483</u>	<u>100%</u>	<u>17%</u>	<u>(1%)</u>

Waters products and service sales increased 17% in 2021 and declined 1% in 2020, with the effect of foreign currency translation increasing Waters sales by 2% and 1% in 2021 and 2020, respectively. Waters instrument system sales (LC and MS technology-based) increased 22% in 2021 primarily due to customer demand continuing to increase to pre-pandemic levels as customer laboratories and manufacturing facilities continued to return to normal operations. Precision chemistry consumables sales increased double-digits due to the strong demand across most major geographies driven by the uptake in columns and application-specific testing kits to pharmaceutical customers. Waters service sales increased 10% due to higher service demand billings as COVID-19 business closures and restrictions began to ease. In addition, sales growth in 2021 benefited from the growing contributions made by the Company's recent introductions of new higher-performing products which included the ACQUITY PREMIER System, Arc Premier HPLC System and Multi-Reflecting ToF mass spectrometers.

In 2020 Waters instrument system sales (LC and MS technology-based) decreased 8%, primarily attributed to the weaker demand for our products and services by our customers due to the disruption and uncertainty caused by the COVID-19 pandemic. Precision chemistry consumables sales increased 5% in 2020, despite the disruption in business activities caused by COVID-19. Waters service sales increased 4%, primarily due to increased sales of service plans and higher service demand billings to a higher installed base of customers

respectively, with sales in 2020 being partially offset by the weaker demand and disruption of business activities caused by the COVID-19 lockdowns.

TA Product and Services Net Sales

Net sales for TA products and services were as follows for the years ended December 31, 2021, 2020 and 2019 (dollars in thousands):

	Year Ended December 31,						% change	
	2021	% of Total	2020	% of Total	2019	% of Total	2021 vs. 2020	2020 vs. 2019
TA instrument systems	\$225,613	72%	\$174,398	70%	\$191,300	71%	29%	(9%)
TA service	87,178	28%	73,843	30%	77,813	29%	18%	(5%)
Total TA net sales	<u>\$312,791</u>	<u>100%</u>	<u>\$248,241</u>	<u>100%</u>	<u>\$269,113</u>	<u>100%</u>	<u>26%</u>	<u>(8%)</u>

TA instrument system and service sales growth in 2021 was broad-based across all geographies increasing 26%, and was primarily driven by stronger demand as a result of our customers continuing to resume laboratory and manufacturing operations. In 2021, the increase in TA instrument system sales was primarily driven by strength in all major regions. The increase in TA service sales was attributable to customers continuing to resume their operations after the restrictions caused by COVID-19 during 2020, as well as sales of service plans and billings to a higher installed base of customers. The effect of foreign currency translation increased TA's sales by 1% in 2021.

TA product and service sales declines in 2020 were primarily due to lower customer demand resulting from the COVID-19 pandemic. TA's instrument system sales declined in 2019 primarily due to lower customer demand resulting from macroeconomic conditions, tariff posturing and political instability. TA service sales increased in 2019 due to sales of service plans and billings to a higher installed base of customers. TA sales declined in all major regions in 2020, with foreign currency translation having minimal impact on TA's sales.

Cost of Sales

Cost of sales increased 15% in 2021 as compared to 2020, primarily due to the increase in sales volumes during the year, the reinstatement in 2021 of expenses that had been reduced as a result of the COVID-19 pandemic in 2020 that consisted of salary reductions, furloughs and reductions in non-essential spending as well as an increase in freight costs.

Cost of sales is affected by many factors, including, but not limited to, foreign currency translation, product mix, product costs of instrument systems and amortization of software platforms. At current foreign currency exchange rates, the Company expects foreign currency translation to decrease sales and gross profit during 2022.

Selling and Administrative Expenses

Selling and administrative expenses increased 13% and 4% in 2021 and 2020, respectively. The increase in selling and administrative expenses in 2021 can be attributed to the higher salary merit and variable incentive compensation costs as well as the impact of the reinstatement of salary reductions, furloughs and reductions in non-essential spending that occurred in 2020. The increase in selling and administrative expenses in 2020 can be attributed to the salary merit and incentive compensation increases along with the severance-related costs in connection with a reduction in workforce and lease-termination and exit costs. Severance and lease termination and exit costs were \$27 million and \$10 million in 2020 and 2019, respectively. Offsetting these increases in selling and administrative expenses were \$70 million of savings in 2020, which includes COVID-19 and restructuring cost saving actions that reduced planned salaries and non-essential spending. The effect of foreign currency translation increased selling and administrative expenses by 1% in 2021 and had a minimal impact on selling and administrative expenses in 2020.

As a percentage of net sales, selling and administrative expenses were 22.5%, 23.4% and 22.2% for 2021, 2020 and 2019, respectively.

Research and Development Expenses

Research and development expenses increased 20% in 2021 and decreased 2% in 2020. The increase in research and development expenses was impacted by additional headcount, merit compensation and costs associated with new products and the development of new technology initiatives as well as the reinstatement of COVID-19 cost actions implemented in 2020. Research and development expenses in 2020 include \$15 million of cost action savings from salary reductions, furloughs and reductions in non-essential spending. Foreign currency translation decreased research and development expenses in 2021 by 1% and had minimal impact on research and development costs in 2020.

Asset Impairments

During 2020, due to a shift in strategic priorities, the Company recorded a non-cash charge of \$10 million for the impairment of certain intangible assets associated with the acquisition of Medimass Research Development and Service Kft (“Medimass”). In conjunction with the intangible asset impairment, the Company also reduced its liability for contingent consideration of \$3 million during 2020 as the carrying value of this liability is based on the future sales of the Medimass intangible assets that were impaired. See Note 2, Basis of Presentation and Summary of Significant Accounting Policies, under the heading “Asset Impairments” in the Notes to Consolidated Financial Statements for a description of the impairment charge.

Other Income (Expense), Net

In 2021, the Company executed a settlement agreement to resolve patent infringement litigation with Bruker Corporation and Bruker Daltronik GmbH regarding their timsTOF product line. In connection with the settlement, the Company is entitled to receive \$10 million in guaranteed payments, including minimum royalty payments, which were recognized within other income in our consolidated statement of operations. In 2021, the Company also recorded an unrealized gain of \$10 million due to an observable change in the fair value of an existing investment the Company does not have the ability to exercise significant influence over.

Interest Expense, Net

Net interest expense in 2021 remained consistent with 2020 as the increase in the average debt balance in 2021 was offset by the impact of lower interest rates. The increase in net interest expense from 2019 to 2020 is due to higher debt balances in 2020.

Provision for Income Taxes

The Company’s effective tax rates were 14.1%, 14.6% and 12.7% in 2021, 2020 and 2019, respectively.

The Company’s effective income tax rate differs from the U.S. federal statutory rate each year due to differences in the proportionate amounts of pre-tax income recognized in jurisdictions with different effective tax rates and the items discussed below.

The four principal jurisdictions in which the Company manufactures are the U.S., Ireland, the U.K. and Singapore, where the statutory tax rates were 21%, 12.5%, 19% and 17%, respectively, as of December 31, 2021. The Company entered into a new Development and Expansion Incentive in Singapore that provides a concessionary income tax rate of 5% on certain types of income for the period of April 1, 2021 through March 31, 2026. Prior to April 1, 2021, the Company had a tax exemption on income arising from qualifying activities in Singapore, based upon the achievement of certain contractual milestones, which the Company met as of December 31, 2020 and maintained through March 2021. The effect of applying these concessionary income tax rates rather than the statutory tax rate to income arising from qualifying activities in Singapore increased the

Company's net income during the years ended December 31, 2021, 2020 and 2019 by \$20 million, \$21 million and \$24 million, respectively, and increased the Company's net income per diluted share by \$0.32, \$0.33 and \$0.35, respectively.

During 2021, the Company's effective tax rate differed from the 21% U.S. statutory tax rate primarily due to the jurisdictional mix of earnings, a \$10 million provision related to the Global Intangible Low-Taxed Income ("GILTI") tax and a tax benefit of \$7 million on stock-based compensation.

The 2020 effective tax rate differed from the U.S. federal statutory tax rate primarily due to the jurisdictional mix of earnings, a \$13 million provision related to the GILTI tax and a tax benefit of \$7 million on stock-based compensation.

The 2019 effective tax rate differed from the U.S. federal statutory tax rate primarily due to the jurisdictional mix of earnings, an \$11 million provision related to the GILTI tax and tax benefit of \$9 million related to stock-based compensation.

The Company's effective tax rate is influenced by many significant factors, including, but not limited to, the wide range of income tax rates in jurisdictions in which the Company operates; sales volumes and profit levels in each tax jurisdiction; changes in tax laws, tax rates and policies; the outcome of various ongoing tax audit examinations; and the impact of foreign currency transactions and translation. As a result of variability in these factors, the Company's effective tax rates in the future may not be similar to the effective tax rates for the current or prior years, or for previously forecasted periods.

Liquidity and Capital Resources

Condensed Consolidated Statements of Cash Flows (in thousands):

	Year Ended December 31,		
	2021	2020	2019
Net income	\$ 692,843	\$ 521,571	\$ 592,198
Depreciation and amortization	131,680	125,361	105,296
Stock-based compensation	29,918	36,865	38,577
Deferred income taxes	16,633	(2,693)	9,620
Asset impairments	—	6,945	—
Observable unrealized gain on investment	(9,707)	—	—
Change in accounts receivable	(62,448)	37,467	(22,195)
Change in inventories	(67,250)	18,940	(31,854)
Change in accounts payable and other current liabilities	46,110	140,598	9,784
Change in deferred revenue and customer advances	37,845	11,073	12,189
Effect of the 2017 Tax Cuts and Jobs Act	—	—	(3,229)
Other changes	(68,350)	(105,620)	(67,299)
Net cash provided by operating activities	747,274	790,507	643,087
Net cash (used in) provided by investing activities	(231,630)	(264,094)	768,802
Net cash used in financing activities	(438,275)	(440,502)	(1,872,678)
Effect of exchange rate changes on cash and cash equivalents	(12,830)	15,069	224
Increase (decrease) in cash and cash equivalents	<u>\$ 64,539</u>	<u>\$ 100,980</u>	<u>\$ (460,565)</u>

Cash Flow Provided By Operating Activities

Net cash provided by operating activities was \$747 million, \$791 million and \$643 million in 2021, 2020 and 2019, respectively. The changes within net cash provided by operating activities include the following significant changes in the sources and uses of net cash provided by operating activities, aside from the changes in net income:

- The changes in accounts receivable were primarily attributable to the increase in sales volumes as well as the timing of sales and the timing of payments made by customers. Days sales outstanding was 66 days at December 31, 2021, 70 days at December 31, 2020 and 77 days at December 31, 2019.
- The increase in inventory in 2021 can be attributed to higher sales volumes and the increase in safety stock levels to mitigate logistic and supply chain issues. The change in inventory in 2020 compared to 2019 is a result of the Company's efforts to reduce its inventory levels during the COVID-19 pandemic to preserve its liquidity.
- The changes in accounts payable and other current liabilities were the result of timing of payments to vendors. In addition, the changes in 2021, 2020 and 2019 include \$38 million, \$38 million and \$29 million, respectively, of income tax payments made in the U.S. relating to the Company's estimated 2017 tax reform liability. In addition, in 2021, the change was impacted by the normalization of COVID-19 cost actions, as well as higher variable incentive compensation costs.
- Net cash provided from deferred revenue and customer advances results from annual increases in new service contracts as a higher installed base of customers renew annual service contracts.
- Other changes were attributable to variation in the timing of various provisions, expenditures, prepaid income taxes and accruals in other current assets, other assets, other liabilities and an income tax payment related to the 2017 Tax Act. In addition, in 2019, the Company made \$11 million of contributions to certain defined benefit pension plans.

Cash (Used in) Provided By Investing Activities

Net cash used in investing activities totaled \$232 million and \$264 million in 2021 and 2020, respectively, while net cash provided by investing activities was \$769 million in 2019. Additions to fixed assets and capitalized software were \$161 million, \$172 million and \$164 million in 2021, 2020 and 2019, respectively. The cash flows from investing activities in 2021 also included \$49 million of capital expenditures related to the expansion of the Company's precision chemistry consumable operations in the United States. The Company has incurred costs of \$200 million on this facility through the end of 2021, and anticipates spending approximately \$50 million to complete this new state-of-the-art facility in 2022.

During 2021, 2020 and 2019, the Company purchased \$280 million, \$26 million and \$37 million of investments, respectively. During 2021, 2020 and 2019, \$218 million, \$21 million and \$1.0 billion of investments matured, respectively.

In January 2020, the company entered into a definitive agreement to acquire Andrew Alliance, an innovator in specialty laboratory automation technology, including software and robotics for approximately \$80 million in cash. The Company had an equity investment in Andrew Alliance that was valued at \$4 million and included as part of the total consideration. This acquisition did not have a material effect on the Company's sales and expenses in 2020.

In December 2020, the company entered into a definitive agreement to acquire ISS, a provider of clinical laboratory software systems, for \$4 million in cash. This acquisition did not have a material effect on the Company's sales and expenses in 2020.

There were no business acquisitions in 2021 and 2019.

During 2021, 2020 and 2019, the Company made \$2 million, \$6 million and \$9 million of investments in unaffiliated companies, respectively.

Cash Used in Financing Activities

On September 17, 2021, the Company entered into an amended and restated credit agreement (the “2021 Credit Agreement”), which amended the Company’s existing credit agreement entered into in 2017 (the “2017 Credit Agreement”). The 2021 Credit Agreement provides for a \$1.8 billion revolving facility (the “2021 Credit Facility”) and converted the \$300 million term loan under the 2017 Credit Agreement into part of the new revolving facility. As of December 31, 2021, the 2021 Credit Facility had a total of \$210 million outstanding. As of December 31, 2020, the revolving credit facility and the term loan governed by the 2017 Credit Agreement had a total of \$100 million and \$300 million, respectively, outstanding. The 2021 Credit Facility matures on September 17, 2026 and requires no scheduled prepayments before that date.

In March 2021, the Company issued senior unsecured notes with an aggregate principal amount of \$500 million. The Series N \$100 million notes have a five-year term and a fixed interest rate of 1.68%. The Series O \$400 million notes have a 10-year term and a fixed interest rate of 2.25%.

The Company’s net debt borrowings increased by \$160 million in 2021, decreased by \$325 million in 2020 and increased by \$535 million in 2019. As of December 31, 2021, the Company had a total of \$1.5 billion in outstanding debt, which consisted of \$1.3 billion in outstanding senior unsecured notes and \$210 million borrowed under a revolving credit facility, with both the term loan and revolving credit facilities under the 2017 Credit Agreement. As of December 31, 2021, the Company had a total amount available to borrow under the 2017 Credit Agreement of \$1.6 billion after outstanding letters of credit. As of December 31, 2021, the Company was in compliance with all debt covenants.

As of December 31, 2021, the Company has entered into three-year interest rate cross-currency swap derivative agreements with a notional value of \$230 million to hedge the variability in the movement of foreign currency exchange rates on a portion of its Euro-denominated net asset investments. As a result of entering into these agreements, the Company lowered its net interest expense by \$11 million, \$15 million and \$12 million during 2021, 2020 and 2019, respectively. The Company anticipates that these swap agreements will lower net interest expense by approximately \$1 million in 2022, as the three-year term of the agreements expire. During 2021, the Company entered into a new cross-currency swap derivative agreement with a notional value of \$40 million.

In January 2019, the Company’s Board of Directors authorized the Company to repurchase up to \$4 billion of its outstanding common stock over a two-year period. During 2021, 2020 and 2019, the Company repurchased 2.0 million, 0.8 million and 11.1 million shares of the Company’s outstanding common stock at a cost of \$640 million, \$167 million and \$2.5 billion, respectively, under the January 2019 authorization and other previously announced programs. In December 2020, the Company’s Board of Directors authorized the extension of the share repurchase program through January 21, 2023. In addition, the Company repurchased \$9 million, \$9 million and \$8 million of common stock related to the vesting of restricted stock units during the years ended December 31, 2021, 2020 and 2019, respectively.

The Company received \$56 million, \$66 million and \$54 million of proceeds from the exercise of stock options and the purchase of shares pursuant to the Company’s employee stock purchase plan in 2021, 2020 and 2019, respectively.

The Company had cash, cash equivalents and investments of \$569 million as of December 31, 2021. The majority of the Company’s cash and cash equivalents are generated from foreign operations, with \$440 million held by foreign subsidiaries at December 31, 2021, of which \$298 million was held in currencies other than U.S. dollars.

As of December 31, 2021, the Company's material cash requirements include the following contractual and other obligations:

Long-term debt. As of December 31, 2021, the Company had \$1.5 billion of cash requirements for the principal on long-term debt that will mature and be paid as follows: \$50 million in 2023; \$100 million in 2024; \$670 million in 2026; \$300 million in 2029 and \$400 million in 2031.

Interest on Senior Unsecured Notes. As of December 31, 2021, the Company had \$240 million of cash requirements for the interest on senior unsecured notes that is to be paid as follows: \$39 million in 2022; \$38 million in 2023; \$35 million in 2024; \$33 million in 2025; \$27 million in 2026; \$20 million in both 2027 and 2028; \$17 million in 2029; \$9 million in 2030; and \$2 million in 2031. See also Note 9 in the Notes to the Consolidated Financial Statements for financial information about interest payable.

2017 Tax Act liabilities. As a result of the 2017 Tax Act, the Company incurred a Transition Toll Tax, that would be paid over an eight-year period, starting in 2018, and will not accrue interest. As of December 31, 2021, the Company had a remaining cash requirement of \$327 million of which \$38 million, \$72 million, \$96 million and \$121 million will be paid in 2022, 2023, 2024 and 2025, respectively. See also Note 10 in the Notes to the Consolidated Financial Statements for financial information about tax liabilities.

Operating Leases. The Company's operating leases consist of property leases for sales, demonstration, laboratory, warehouse and office spaces, automotive leases for sales and service personnel and equipment leases, primarily used in our manufacturing and distribution operations. For leases with terms greater than 12 months, the Company recorded the related right-of-use asset and lease liability obligation at the present value of lease payments over the term of the leases. Some of the Company's leases include rental escalation clauses, renewal options and/or termination options that are factored into our determination of lease payments. A certain number of these leases contain rent escalation clauses, either fixed or adjusted periodically for inflation of market rates, that are factored into the Company's determination of lease payments. The Company also has variable lease payments that do not depend on a rate or index, primarily for items such as real estate taxes and other expenses, which are recorded as variable costs when incurred. The Company's cash requirements for future lease payments were approximately \$94 million as of December 31, 2021. See also Note 12 in the Notes to the Consolidated Financial Statements for financial information about lease liabilities.

Long-term Software Contract Commitments. For contracts the Company is committed to that are not cancelable without penalties. The Company's contractual obligation with these vendors was approximately \$28 million as of December 31, 2021.

Management believes, as of the date of this report, that the Company's financial position, along with expected future cash flows from earnings based on historical trends and the ability to raise funds from external sources and the borrowing capacity from existing, committed credit facilities, will be sufficient to service debt and fund working capital and capital spending requirements, authorized share repurchase amounts and potential acquisitions for at least the next twelve months.

Critical Accounting Policies and Estimates

Summary

The preparation of consolidated financial statements requires the Company to make estimates and judgments that affect the reported amounts of assets, liabilities, revenues and expenses, and related disclosure of contingent liabilities. Critical accounting policies are those that are central to the presentation of the Company's financial condition and results of operations that require management to make estimates about matters that are highly uncertain and that would have a material impact on the Company's results of operations given changes in the estimate that are reasonably likely to occur from period to period or use of different estimates that reasonably could have been used in the current period. On an ongoing basis, the Company evaluates its policies and estimates. The Company bases its estimates on historical experience and on various other assumptions that are

believed to be reasonable under the circumstances, the results of which form the basis for making judgments about the carrying values of assets and liabilities that are not readily apparent from other sources. Actual amounts may differ from these estimates under different assumptions or conditions. There are other items within the Company's consolidated financial statements that require estimation, but are not deemed critical as defined above. Changes in estimates used in these and other items could potentially have a material impact on the Company's consolidated financial statements.

Revenue Recognition

The Company recognizes revenue upon transfer of control of promised products and services to customers in an amount that reflects the consideration the Company expects to receive in exchange for those products or services. The Company generally enters into contracts that include a combination of products and services. Revenue is allocated to distinct performance obligations and is recognized net of allowances for returns and discounts.

The Company recognizes revenue on product sales at the time control of the product transfers to the customer. In substantially all of the Company's arrangements, title of the product transfers at shipping point and, as a result, the Company determined control transfers at the point of shipment. In more limited cases, there are destination-based shipping terms and, thus, control is deemed to transfer when the products arrive at the customer site. All incremental costs of obtaining a contract are expensed as and when incurred if the expected amortization period of the asset that would have been recognized is one year or less. Shipping and handling costs are included as a component of cost of sales. In situations where the control of the goods transfers prior to the completion of the Company's obligation to ship the products to its customers, the Company has elected the practical expedient to account for the shipping services as a fulfillment cost. Accordingly, such costs are recognized when control of the related goods is transferred to the customer. In more rare situations, the Company has revenue associated with products that contain specific customer acceptance criteria and the related revenue is not recognized before the customer acceptance criteria are satisfied. The Company elected to exclude from the measurement of the transaction price all taxes assessed by a governmental authority that are both imposed on and concurrent with specific revenue-producing transactions and collected by the Company from a customer.

Generally, the Company's contracts for products include a performance obligation related to installation. The Company has determined that the installation represents a distinct performance obligation and revenue is recognized separately upon the completion of installation. The Company determines the amount of the transaction price to allocate to the installation service based on the standalone selling price of the product and the service, which requires judgment. The Company determines the relative standalone selling price of installation based upon a number of factors, including hourly service billing rates and estimated installation hours. In developing these estimates, the Company considers past history, competition, billing rates of current services and other factors.

The Company has sales from standalone software, which are included in instrument systems revenue. These arrangements typically include software licenses and maintenance contracts, both of which the Company has determined are distinct performance obligations. The Company determines the amount of the transaction price to allocate to the license and maintenance contract based on the relative standalone selling price of each performance obligation. Software license revenue is recognized at the point in time when control has been transferred to the customer. The revenue allocated to the software maintenance contract is recognized on a straight-line basis over the maintenance period, which is the contractual term of the contract, as a time-based measure of progress best reflects the Company's performance in satisfying this obligation. Unspecified rights to software upgrades are typically sold as part of the maintenance contract on a when-and-if-available basis.

Payment terms and conditions vary among the Company's revenue streams, although terms generally include a requirement of payment within 30 to 60 days of product shipment. Prior to providing payment terms to customers, an evaluation of their credit risk is performed. Returns and customer credits are infrequent and insignificant and are recorded as a reduction to sales. Rights of return are not included in sales arrangements and, therefore, there is minimal variable consideration included in the transaction price of our products.

Service revenue includes (i) service and software maintenance contracts and (ii) service calls (time and materials). Instrument service contracts and software maintenance contracts are typically annual contracts, which are billed at the beginning of the contract or maintenance period. The amount of the service and software maintenance contract is recognized on a straight-line basis to revenue over the maintenance service period, which is the contractual term of the contract, as a time-based measure of progress best reflects the Company's performance in satisfying this obligation. There are no deferred costs associated with the service contract, as the cost of the service is recorded when the service is performed. Service calls are recognized to revenue at the time a service is performed.

The Company's deferred revenue liabilities at December 31, 2021 of \$274 million on the consolidated balance sheets consist of the obligation on instrument service contracts and customer payments received in advance, prior to transfer of control of the instrument. The Company records deferred revenue primarily related to its service contracts, where consideration is billable at the beginning of the service period.

Allowance for credit losses on Accounts Receivable

The Company adopted new accounting guidance regarding the accounting for credit losses as of January 1, 2020 using a modified retrospective transition approach that was applied to our trade receivable balances. The allowance for credit losses policies described below were effective as of January 1, 2020.

The Company maintains allowances for expected credit losses based on applying a historical loss rate to trade receivable aging balances to estimate a general reserve balance on current receivables along with an additional adjustment for any specific receivables with known or anticipated issues affecting the likelihood of recovery. The historical loss rate is calculated by comparing the prior year actual sales and accounts receivable balances to estimate the period of collection of trade receivables by aging category. This collection information by aging category is then compared to write offs over the same prior year period to estimate the amount of allowance that is attributable to each category of our accounts receivable aging. Past due balances with a probability of default based on historical data as well as relevant available forward-looking information are included in the specific adjustment. If the financial condition of the Company's customers were to deteriorate beyond what is estimated in the current expected credit loss model, resulting in an impairment of their ability to make payments, additional allowances may be required. The Company does not request collateral from its customers, but collectibility is enhanced through the use of credit card payments and letters of credit. The Company assesses collectibility based on a number of factors, including, but not limited to, past transaction history with the customer, the credit-worthiness of the customer, industry trends and the macro-economic environment. Historically, the Company has not experienced significant credit losses. Sales returns and allowances are estimates of future product returns related to current period revenue. Material differences may result in the amount and timing of revenue for any period if management made different judgments or utilized different estimates for sales returns and allowances for expected credit losses. The Company's accounts receivable balance at December 31, 2021 was \$613 million, net of allowances for expected credit losses of \$13 million.

Loss Provision on Inventory

The Company values all of its inventories at the lower of cost or net realizable value on a first-in, first-out basis ("FIFO"). The Company estimates revisions to its inventory valuations based on technical obsolescence, historical demand, projections of future demand, including that in the Company's current backlog of orders, and industry and market conditions. If actual future demand or market conditions are less favorable than those projected by management, additional write-downs may be required. The Company's inventory balance at December 31, 2021 was recorded at its net realizable value of \$356 million, which is net of write-downs of \$32 million.

Long-Lived Assets, Intangible Assets and Goodwill

The Company assesses the impairment of identifiable intangibles, long-lived assets and goodwill whenever events or changes in circumstances indicate that the carrying value may not be recoverable. Factors the Company considers important which could trigger impairment include, but are not limited to, the following:

- significant underperformance relative to historical or projected future operating results, particularly as it pertains to capitalized software and patent costs;
- significant negative industry or economic trends, competitive products and technologies; and
- significant changes or developments in strategic technological collaborations or legal matters which affect the Company's capitalized patents, purchased technology, trademarks and intellectual properties, such as licenses.

When the Company determines that the carrying value of an individual intangible asset, long-lived asset or goodwill may not be recoverable based upon the existence of one or more of the above indicators, an estimate of undiscounted future cash flows produced by that intangible asset, long-lived asset or goodwill, including its eventual residual value, is compared to the carrying value to determine whether impairment exists. In the event that such cash flows are not expected to be sufficient to recover the carrying amount of the asset, the asset is written-down to its estimated fair value. Net intangible assets, long-lived assets and goodwill amounted to \$242 million, \$548 million and \$438 million, respectively, as of December 31, 2021.

The Company performs annual impairment reviews of its goodwill on December 31 of each year. For goodwill impairment review purposes, the Company has two reporting units: Waters and TA. The Company currently does not expect to record an impairment charge in the foreseeable future as the estimated fair values of the reporting units significantly exceeds the carrying value of the reporting units; however, there can be no assurance that, at the time future reviews are completed, a material impairment charge will not be recorded. The factors that could cause a material goodwill impairment charge in the future include, but are not limited to, the following:

- significant decline in the Company's projected revenue, earnings or cash flows;
- significant adverse change in legal factors or business climate;
- significant decline in the Company's stock price or the stock price of comparable companies;
- adverse action or assessment by a regulator; and
- unanticipated competition.

Income Taxes

As part of the process of preparing the consolidated financial statements, the Company is required to estimate its income taxes in each of the jurisdictions in which it operates. This process involves the Company estimating its income taxes, taking into account the amount, timing and character of taxable income, tax deductions and credits and assessing changes in tax laws, regulations, agreements and treaties. Differing treatment of items for tax and accounting purposes, such as depreciation, amortization and inventory reserves, result in deferred tax assets and liabilities, which are included within the consolidated balance sheets. In the event that actual results differ from these estimates, or the Company adjusts these estimates in future periods, such changes could materially impact the Company's financial position and results of operations.

The accounting standards for income taxes require that a company continually evaluate the necessity of establishing or changing a valuation allowance for deferred tax assets depending on whether it is more likely than not that the actual benefit of those assets will be realized in future periods.

Uncertain Tax Positions

The Company accounts for its uncertain tax return positions in accordance with the accounting standards for income taxes, which require financial statement reporting of the expected future tax consequences of uncertain tax positions on the presumption that all concerned tax authorities possess full knowledge of those tax positions, as well as all of the pertinent facts and circumstances, but prohibit any discounting of unrecognized tax benefits associated with those positions for the time value of money. The Company classified interest and penalties related to unrecognized tax benefits as a component of the provision for income taxes. At December 31, 2021, the Company had unrecognized tax benefits, excluding interest and penalties, of \$29 million.

The Company has a new Development and Expansion Incentive in Singapore that provides a concessionary income tax rate of 5% on certain types of income for the period April 1, 2021 through March 31, 2026. This new incentive has similar requirements for business spending targets, attaining and sustaining employment targets and performance of certain research and manufacturing activities as previous agreements. Prior to April 1, 2021, the Company had a tax exemption on income arising from qualifying activities in Singapore, based upon the achievement of certain contractual milestones, which the Company met as of December 31, 2020 and maintained through March 2021. These milestones include the following types of objectives: reaching and maintaining annual revenue and business spending targets; meeting capital expenditures targets; attaining and sustaining employment targets; and establishing a local research and development and service center. The Company determined that it was more likely than not to realize the tax exemption in Singapore and, accordingly, did not recognize any reserves for unrecognized tax benefits on its balance sheet related to this exemption. In the event that any of the milestone targets were not met, the Company would not be entitled to the tax exemption on income earned in Singapore and all the tax benefits previously recognized would be reversed, resulting in the recognition of income tax expense equal to the statutory tax of 17% on income earned during that period.

Warranty

Product warranties are recorded at the time revenue is recognized for certain product shipments. While the Company engages in extensive product quality programs and processes, including actively monitoring and evaluating the quality of its component suppliers, the Company's warranty obligation is affected by product failure rates, material usage and service delivery costs incurred in correcting a product failure. Should actual product failure rates, material usage or service delivery costs differ from the Company's previous estimates, revisions to the estimated warranty liability would be required. At December 31, 2021, the Company's warranty liability was \$11 million.

Litigation

As described in Part I, Item 3, Legal Proceedings, of this Form 10-K, the Company is a party to various pending litigation matters. With respect to each pending claim, management determines whether it can reasonably estimate whether a loss is probable and, if so, the probable range of that loss. If and when management has determined, with respect to a particular claim, both that a loss is probable and that it can reasonably estimate the range of that loss, the Company records a charge equal to either its best estimate of that loss or the lowest amount in that probable range of loss. The Company will disclose additional exposures when the range of loss is subject to considerable uncertainty.

Pension and Other Retirement Benefits

In 2018, the Company settled its defined benefit pension plan in the United States. As a result of this settlement, the Company's defined benefit pension obligations were significantly reduced in 2018 and 2019. The Company still maintains a number of smaller defined benefit pension plans and other retirement benefits throughout the world. Assumptions used in determining projected benefit obligations and the fair values of plan assets for the Company's remaining less significant pension plans and other retirement benefits are evaluated periodically by management. Changes in assumptions are based on relevant Company data. Critical assumptions, such as the

discount rate used to measure the benefit obligations and the expected long-term rate of return on plan assets, are evaluated and updated annually. The Company has assumed that the weighted-average expected long-term rate of return on plan assets will be 6.25% for its U.S. benefit plans and 2.58% for its non-U.S. benefit plans.

At the end of each year, the Company determines the discount rate that reflects the current rate at which the pension liabilities could be effectively settled. The Company utilized Milliman's Bond Matching model to determine the discount rate for its U.S. benefit plans. The Company determined the discount rate for its non-U.S. benefit plans based on the analysis of the Mercer Pension Discount Curve for high quality investments as of December 31, 2021 that best matched the timing of the plan's future cash flows for the period to maturity of the pension benefits. Once the interest rates were determined, the plan's cash flow was discounted at the spot interest rate back to the measurement date. At December 31, 2021, the Company determined the weighted-average discount rate to be 2.70% for the U.S. benefit plans and 1.40% for the non-U.S. benefits plans.

A one-quarter percentage point increase in the assumed long-term rate of return would decrease the Company's net periodic benefit cost by less than \$1 million. A one-quarter percentage point increase in the discount rate would decrease the Company's net periodic benefit cost by less than \$1 million.

Stock-based Compensation

The accounting standards for stock-based compensation require that all share-based payments to employees be recognized in the statements of operations based on their fair values. The Company has used the Black-Scholes option pricing model and Monte Carlo simulation model to determine the fair value of its stock option awards and performance stock unit awards, respectively. Under the fair-value recognition provisions of this statement, share-based compensation cost is measured at the grant date based on the value of the award and is recognized as expense over the vesting period. Determining the fair value of share-based awards at the grant date requires judgment, including estimating stock price volatility and employee stock option exercise behaviors. If actual results differ significantly from these estimates, stock-based compensation expense and the Company's results of operations could be materially impacted. As stock-based compensation expense recognized in the consolidated statements of operations is based on awards that ultimately are expected to vest, the amount of the expense has been reduced for estimated forfeitures. These accounting standards require forfeitures to be estimated at the time of grant and revised, if necessary, in subsequent periods if actual forfeitures differ from those estimates. Forfeitures are estimated based on historical experience. If factors change and the Company employs different assumptions in the application of these accounting standards, the compensation expense that the Company records in future periods may differ significantly from what the Company has recorded in the current period. The Company recognizes the expense using the straight-line attribution method.

As of December 31, 2021, unrecognized compensation costs and related weighted-average lives over which the costs will be amortized were as follows (in millions):

	Unrecognized Compensation Costs	Weighted-Average Life in Years
Stock options	\$20	3.5
Restricted stock units	44	3.3
Performance stock units	12	2.0
Total	<u>\$76</u>	3.1

Business Combinations and Asset Acquisitions

The Company accounts for business acquisitions under the accounting standards for business combinations. The results of each acquisition are included in the Company's consolidated results as of the acquisition date and the purchase price of an acquisition is allocated to tangible and intangible assets and assumed liabilities based on

their estimated fair values. Any excess of the fair value consideration transferred over the estimated fair values of the net assets acquired is recognized as goodwill. Acquired in-process research and development (“IPR&D”) included in a business combination is capitalized as an indefinite-lived intangible asset. Development costs incurred after the acquisition are expensed as incurred and acquired IPR&D is tested for impairment annually until completion of the acquired programs. Upon commercialization, this indefinite-lived intangible asset is then accounted for as a finite-lived intangible asset and amortized on a straight-line basis over its estimated useful life, subject to periodic impairment reviews. If the research and development project is abandoned, the indefinite-lived asset is charged to expense. Legal costs, due diligence costs, business valuation costs and all other business acquisition costs are expensed when incurred.

The Company also acquires intellectual property through licensing arrangements. These arrangements often require upfront payments and may include additional milestone or royalty payments, contingent upon certain future events. IPR&D acquired in an asset acquisition (as opposed to a business combination) is expensed immediately unless there is an alternative future use. Subsequent payments made for the achievement of milestones are evaluated to determine whether they have an alternative future use or should be expensed. Payments made to third parties subsequent to commercialization are capitalized and amortized over the remaining useful life of the related asset, and are classified as intangible assets.

Recent Accounting Standard Changes and Developments

Information regarding recent accounting standard changes and developments is incorporated by reference from Part II, Item 8, Financial Statements and Supplementary Data, of this document and should be considered an integral part of this Item 7. See Note 2 in the Notes to the Consolidated Financial Statements for recently adopted and issued accounting standards.

Item 7A: *Quantitative and Qualitative Disclosures About Market Risk*

Derivative Transactions

The Company is a global company that operates in over 35 countries and, as a result, the Company’s net sales, cost of sales, operating expenses and balance sheet amounts are significantly impacted by fluctuations in foreign currency exchange rates. The Company is exposed to currency price risk on foreign currency exchange rate fluctuations when it translates its non-U.S. dollar foreign subsidiaries’ financial statements into U.S. dollars, and when any of the Company’s subsidiaries purchase or sell products or services in a currency other than its own currency.

The Company’s principal strategies in managing exposures to changes in foreign currency exchange rates are to (1) naturally hedge the foreign-currency-denominated liabilities on the Company’s balance sheet against corresponding assets of the same currency, such that any changes in liabilities due to fluctuations in foreign currency exchange rates are typically offset by corresponding changes in assets and (2) mitigate foreign exchange risk exposure of international operations by hedging the variability in the movement of foreign currency exchange rates on a portion of its Euro-denominated net asset investments. The Company presents the derivative transactions in financing activities in the statement of cash flows.

Foreign Currency Exchange Contracts

The Company does not specifically enter into any derivatives that hedge foreign-currency-denominated operating assets, liabilities or commitments on its balance sheet, other than a portion of certain third-party accounts receivable and accounts payable, and the Company’s net worldwide intercompany receivables and payables, which are eliminated in consolidation. The Company periodically aggregates these net worldwide balances by currency and then enters into foreign currency exchange contracts that mature within 90 days to hedge a portion of the remaining balance to minimize some of the Company’s currency price risk exposure. The foreign currency exchange contracts are not designated for hedge accounting treatment. Principal hedged currencies include the Euro, Japanese yen, British pound, Mexican peso and Brazilian real.

Interest Rate Cross-Currency Swap Agreements

As of December 31, 2021, the Company had three-year interest rate cross-currency swap derivative agreements with a notional value of \$230 million to hedge the variability in the movement of foreign currency exchange rates on a portion of its Euro-denominated net asset investments. Under hedge accounting, the change in fair value of the derivative that relates to changes in the foreign currency spot rate are recorded in the currency translation adjustment in other comprehensive income and remain in accumulated comprehensive income in stockholders' equity (deficit) until the sale or substantial liquidation of the foreign operation. The difference between the interest rate received and paid under the interest rate cross-currency swap derivative agreement is recorded in interest income in the statement of operations.

The Company's foreign currency exchange contracts and interest rate cross-currency swap agreements included in the consolidated balance sheets are classified as follows (in thousands):

	December 31, 2021		December 31, 2020	
	Notional Value	Fair Value	Notional Value	Fair Value
Foreign currency exchange contracts:				
Other current assets	\$ 55,309	\$ 504	\$ 66,690	\$ 836
Other current liabilities	\$ 9,000	\$ 195	\$ 20,000	\$ 185
Interest rate cross-currency swap agreements:				
Other liabilities	\$230,000	\$ 5,363	\$560,000	\$44,996
Accumulated other comprehensive loss		\$15,944		\$44,996

The following is a summary of the activity included in the consolidated statements of operations and statements of comprehensive income related to the foreign currency exchange contracts and interest rate cross-currency swap agreements (in thousands):

	Financial Statement Classification	Year Ended December 31,		
		2021	2020	2019
Foreign currency exchange contracts:				
Realized (losses) gains on closed contracts	Cost of sales	\$ (1,973)	\$ 1,444	\$ (3,552)
Unrealized (losses) gains on open contracts	Cost of sales	(343)	1,663	(1,292)
Cumulative net pre-tax (losses) gains	Cost of sales	<u>\$ (2,316)</u>	<u>\$ 3,107</u>	<u>\$ (4,844)</u>
Interest rate cross-currency swap agreements:				
Interest earned	Interest income	\$11,084	\$ 15,296	\$11,709
Unrealized gains (losses) on open contracts	Accumulated other comprehensive loss	\$29,052	\$(44,996)	\$ 4,485

Assuming a hypothetical adverse change of 10% in year-end exchange rates (a strengthening of the U.S. dollar), the fair market value of the foreign currency exchange contracts outstanding as of December 31, 2021 would decrease pre-tax earnings by approximately \$5 million. Assuming a hypothetical adverse change of 10% in year-end exchange rates (a strengthening of the U.S. dollar), the fair market value of the interest rate cross-currency swap agreements outstanding as of December 31, 2021 would increase by approximately \$23 million and would be recorded to foreign currency translation in other comprehensive income within stockholders' equity (deficit). The related impact on interest income would not have a material effect on pre-tax earnings.

The Company's cash and cash equivalents are not subject to significant interest rate risk due to the short maturities of these instruments. The Company's cash equivalents represent highly liquid investments, with original maturities of 90 days or less, primarily in bank deposits, U.S. treasury bill money market funds and commercial paper. As of December 31, 2021, the carrying value of the Company's cash and cash equivalents approximated fair value.

The Company is exposed to the risk of interest rate fluctuations from the investments of cash generated from operations. Investments with maturities greater than 90 days are classified as investments, and are held primarily in U.S. dollar-denominated treasury bills and commercial paper, bank deposits and corporate debt securities. As of December 31, 2021, the Company estimates that a hypothetical adverse change of 100 basis points across all maturities would not have a material effect on the fair market value of its portfolio.

The Company is also exposed to the risk of exchange rate fluctuations. The Company maintains cash balances in various operating accounts in excess of federally insured limits, and in foreign subsidiary accounts in currencies other than the U.S. dollar. As of December 31, 2021 and 2020, \$440 million out of \$569 million and \$364 million out of \$443 million, respectively, of the Company's total cash, cash equivalents and investments were held by foreign subsidiaries. In addition, \$298 million out of \$569 million and \$254 million out of \$443 million of cash, cash equivalents and investments were held in currencies other than the U.S. dollar at December 31, 2021 and 2020, respectively. As of December 31, 2021, the Company had no holdings in auction rate securities or commercial paper issued by structured investment vehicles.

Assuming a hypothetical adverse change of 10% in year-end exchange rates (a strengthening of the U.S. dollar), the fair market value of the Company's cash, cash equivalents and investments held in currencies other than the U.S. dollar as of December 31, 2021 would decrease by approximately \$30 million, of which the majority would be recorded to foreign currency translation in other comprehensive income within stockholders' equity.

Item 8: Financial Statements and Supplementary Data

Management's 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 Rules 13a-15(f) and 15d-15(f) under the Exchange Act. 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.

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 (2013)* issued by the Committee of Sponsoring Organizations of the Treadway Commission (COSO). Based on our evaluation under the framework in *Internal Control — Integrated Framework (2013)*, our management, including our chief executive officer and chief financial officer, concluded that our internal control over financial reporting was effective as of December 31, 2021.

The effectiveness of our internal control over financial reporting as of December 31, 2021 has been audited by PricewaterhouseCoopers LLP, an independent registered public accounting firm, as stated in their report which is included herein.

Report of Independent Registered Public Accounting Firm

To the Board of Directors and Stockholders of Waters Corporation

Opinions on the Financial Statements and Internal Control over Financial Reporting

We have audited the accompanying consolidated balance sheets of Waters Corporation and its subsidiaries (the “Company”) as of December 31, 2021 and 2020, and the related consolidated statements of operations, of comprehensive income, of stockholders’ equity (deficit) and of cash flows for each of the three years in the period ended December 31, 2021, including the related notes (collectively referred to as the “consolidated financial statements”). We also have audited the Company’s internal control over financial reporting as of December 31, 2021, 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 consolidated financial statements referred to above present fairly, in all material respects, the financial position of the Company as of December 31, 2021 and 2020, and the results of its operations and its cash flows for each of the three years in the period ended December 31, 2021 in conformity with accounting principles generally accepted in the United States of America. Also in our opinion, the Company maintained, in all material respects, effective internal control over financial reporting as of December 31, 2021, based on criteria established in *Internal Control—Integrated Framework* (2013) issued by the COSO.

Basis for Opinions

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

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

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

Definition and Limitations of Internal Control over Financial Reporting

A company’s internal control over financial reporting is a process designed to provide reasonable assurance regarding the reliability of financial reporting and the preparation of financial statements for external purposes in

accordance with generally accepted accounting principles. A company's internal control over financial reporting includes those policies and procedures that (i) pertain to the maintenance of records that, in reasonable detail, accurately and fairly reflect the transactions and dispositions of the assets of the company; (ii) 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 (iii) provide reasonable assurance regarding prevention or timely detection of unauthorized acquisition, use, or disposition of the company's assets that could have a material effect on the financial statements.

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

Critical Audit Matters

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

Goodwill Impairment Assessment

As described in Notes 2 and 8 to the consolidated financial statements, the Company's consolidated goodwill balance was \$438 million as of December 31, 2021. Management tests for goodwill impairment using a fair-value approach at the reporting unit level annually, or earlier, if an event occurs or circumstances change that would more likely than not reduce the fair value of a reporting unit below its carrying amount. The Company performs an annual goodwill impairment assessment for its reporting units as of December 31 each year. Under the impairment assessment, if the carrying amount of a reporting unit exceeds its fair value, an impairment loss is recognized in an amount equal to the amount of the excess carrying amount of the reporting unit over its fair value. This impairment is limited to the total amount of goodwill allocated to that reporting unit. The fair value of reporting units was estimated using a discounted cash flows technique, which includes certain management assumptions, such as estimated future cash flows, estimated growth rates and discount rates. As disclosed by management, the estimated fair value of the reporting units significantly exceeds the carrying value.

The principal considerations for our determination that performing procedures relating to the goodwill impairment assessment is a critical audit matter are the significant judgment by management when developing the fair value measurement of the reporting units, which in turn led to a high degree of auditor judgment and effort in performing procedures and evaluating management's significant assumptions related to the estimated growth rates.

Addressing the matter involved performing procedures and evaluating audit evidence in connection with forming our overall opinion on the consolidated financial statements. These procedures included testing the effectiveness of controls relating to management's goodwill impairment assessment, including controls over the valuation of the Company's reporting units. These procedures also included, among others, (i) testing management's process for developing the fair value estimates; (ii) evaluating the appropriateness of the discounted cash flow models; (iii) testing the completeness and accuracy of underlying data used in the models; and (iv) evaluating the significant assumptions used by management related to the estimated growth rates. Evaluating management's

assumptions related to estimated revenue growth rates involved evaluating whether the growth rates used by management were reasonable considering the current and past performance of the reporting units and whether those growth rates were consistent with evidence obtained in other areas of the audit.

/s/ PricewaterhouseCoopers LLP

Boston, Massachusetts

February 24, 2022

We have served as the Company's auditor since 1994.

WATERS CORPORATION AND SUBSIDIARIES
CONSOLIDATED BALANCE SHEETS

	December 31,	
	2021	2020
(In thousands, except per share data)		
ASSETS		
Current assets:		
Cash and cash equivalents	\$ 501,234	\$ 436,695
Investments	68,051	6,451
Accounts receivable, net	612,648	573,316
Inventories	356,095	304,281
Other current assets	90,914	80,290
Total current assets	1,628,942	1,401,033
Property, plant and equipment, net	547,913	494,003
Intangible assets, net	242,401	258,645
Goodwill	437,865	444,362
Operating lease assets	84,734	93,252
Other assets	153,077	148,625
Total assets	<u>\$ 3,094,932</u>	<u>\$ 2,839,920</u>
LIABILITIES AND STOCKHOLDERS' EQUITY		
Current liabilities:		
Notes payable and debt	\$ —	\$ 150,000
Accounts payable	96,799	72,212
Accrued employee compensation	101,192	72,166
Deferred revenue and customer advances	227,561	198,240
Current operating lease liabilities	27,906	27,764
Accrued income taxes	61,278	76,558
Accrued warranty	10,718	10,950
Other current liabilities	155,054	197,093
Total current liabilities	680,508	804,983
Long-term liabilities:		
Long-term debt	1,513,870	1,206,515
Long-term portion of retirement benefits	64,027	72,620
Long-term income tax liabilities	319,547	357,493
Long-term operating lease liabilities	59,623	68,197
Other long-term liabilities	89,803	97,968
Total long-term liabilities	2,046,870	1,802,793
Total liabilities	2,727,378	2,607,776
Commitments and contingencies (Notes 6, 9, 10, 11, 12, 13 and 17)		
Stockholders' equity:		
Preferred stock, par value \$0.01 per share, 5,000 shares authorized, none issued at December 31, 2021 and December 31, 2020	—	—
Common stock, par value \$0.01 per share, 400,000 shares authorized, 162,084 and 161,666 shares issued, 60,728 and 62,309 shares outstanding at December 31, 2021 and December 31, 2020, respectively	1,621	1,617
Additional paid-in capital	2,114,880	2,029,465
Retained earnings	7,800,832	7,107,989
Treasury stock, at cost, 101,356 and 99,357 shares at December 31, 2021 and December 31, 2020, respectively	(9,437,914)	(8,788,984)
Accumulated other comprehensive loss	(111,865)	(117,943)
Total stockholders' equity	367,554	232,144
Total liabilities and stockholders' equity	<u>\$ 3,094,932</u>	<u>\$ 2,839,920</u>

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

WATERS CORPORATION AND SUBSIDIARIES
CONSOLIDATED STATEMENTS OF OPERATIONS

	Year Ended December 31,		
	2021	2020	2019
	(In thousands, except per share data)		
Revenues:			
Product sales	\$1,822,070	\$1,497,333	\$1,567,189
Service sales	963,804	868,032	839,407
Total net sales	2,785,874	2,365,365	2,406,596
Costs and operating expenses:			
Cost of product sales	752,514	638,033	642,706
Cost of service sales	404,019	368,656	367,994
Selling and administrative expenses	626,968	553,698	534,791
Research and development expenses	168,358	140,777	142,955
Purchased intangibles amortization	7,143	10,587	9,693
Asset impairments	—	6,945	—
Litigation provision (Note 11)	5,165	1,180	—
Total costs and operating expenses	1,964,167	1,719,876	1,698,139
Operating income	821,707	645,489	708,457
Other income (expense), net	17,203	(1,775)	(3,586)
Interest expense	(44,938)	(49,070)	(48,690)
Interest income	12,221	16,270	22,058
Income before income taxes	806,193	610,914	678,239
Provision for income taxes	113,350	89,343	86,041
Net income	\$ 692,843	\$ 521,571	\$ 592,198
Net income per basic common share	\$ 11.25	\$ 8.40	\$ 8.76
Weighted-average number of basic common shares	61,575	62,094	67,627
Net income per diluted common share	\$ 11.17	\$ 8.36	\$ 8.69
Weighted-average number of diluted common shares and equivalents	62,028	62,414	68,166

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

WATERS CORPORATION AND SUBSIDIARIES
CONSOLIDATED STATEMENTS OF COMPREHENSIVE INCOME

	Year Ended December 31,		
	2021	2020	2019
	(In thousands)		
Net income	\$692,843	\$521,571	\$592,198
Other comprehensive income (loss):			
Foreign currency translation	(1,903)	5,984	1,631
Unrealized (losses) gains on investments before income taxes	(26)	—	3,046
Income tax benefit (expense)	6	—	(641)
Unrealized (losses) gains on investments, net of tax	(20)	—	2,405
Retirement liability adjustment before reclassifications	9,342	(6,786)	(9,360)
Amounts reclassified to other income (expense), net	1,167	1,389	1,979
Retirement liability adjustment before income taxes	10,509	(5,397)	(7,381)
Income tax (expense) benefit	(2,508)	941	1,845
Retirement liability adjustment, net of tax	8,001	(4,456)	(5,536)
Other comprehensive income (loss)	6,078	1,528	(1,500)
Comprehensive income	<u>\$698,921</u>	<u>\$523,099</u>	<u>\$590,698</u>

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

WATERS CORPORATION AND SUBSIDIARIES
CONSOLIDATED STATEMENTS OF CASH FLOWS

	Year Ended December 31,		
	2021	2020	2019
	(In thousands)		
Cash flows from operating activities:			
Net income	\$ 692,843	\$ 521,571	\$ 592,198
Adjustments to reconcile net income to net cash provided by operating activities:			
Stock-based compensation	29,918	36,865	38,577
Deferred income taxes	16,633	(2,693)	9,620
Depreciation	71,560	68,685	53,839
Amortization of intangibles	60,120	56,676	51,457
Asset impairments	—	6,945	—
Observable unrealized gain on investment	(9,707)	—	—
Change in operating assets and liabilities, net of acquisitions:			
(Increase) decrease in accounts receivable	(62,448)	37,467	(22,195)
(Increase) decrease in inventories	(67,250)	18,940	(31,854)
Increase in other current assets	(20,765)	(27,030)	(10,918)
Decrease (increase) in other assets	4,490	(37,865)	(16,470)
Increase in accounts payable and other current liabilities	46,110	140,598	9,784
Increase in deferred revenue and customer advances	37,845	11,073	12,189
Effect of the 2017 Tax Cuts and Jobs Act	—	—	(3,229)
Decrease in other liabilities	(52,075)	(40,725)	(39,911)
Net cash provided by operating activities	747,274	790,507	643,087
Cash flows from investing activities:			
Additions to property, plant, equipment and software capitalization	(161,266)	(172,384)	(163,823)
Asset and business acquisitions, net of cash acquired	—	(80,545)	—
Investment in unaffiliated company	(1,788)	(6,143)	(8,843)
Payments for intellectual property licenses	(7,000)	—	—
Purchases of investments	(279,660)	(25,884)	(36,951)
Maturities and sales of investments	218,084	20,862	978,419
Net cash (used in) provided by investing activities	(231,630)	(264,094)	768,802
Cash flows from financing activities:			
Proceeds from debt issuances	510,000	315,000	925,670
Payments on debt	(350,000)	(640,366)	(390,482)
Payments of debt issuance costs	(8,537)	—	(2,932)
Proceeds from stock plans	55,643	66,033	53,715
Purchases of treasury shares	(648,930)	(196,409)	(2,469,258)
Proceeds from derivative contracts	3,549	15,240	10,609
Net cash used in financing activities	(438,275)	(440,502)	(1,872,678)
Effect of exchange rate changes on cash and cash equivalents	(12,830)	15,069	224
Increase (decrease) in cash and cash equivalents	64,539	100,980	(460,565)
Cash and cash equivalents at beginning of period	436,695	335,715	796,280
Cash and cash equivalents at end of period	<u>\$ 501,234</u>	<u>\$ 436,695</u>	<u>\$ 335,715</u>
Supplemental cash flow information:			
Income taxes paid	\$ 153,504	\$ 97,621	\$ 87,998
Interest paid	\$ 42,408	\$ 52,103	\$ 42,843

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

WATERS CORPORATION AND SUBSIDIARIES
CONSOLIDATED STATEMENTS OF STOCKHOLDERS' EQUITY (DEFICIT)

	Number of Common Shares	Common Stock	Additional Paid-In Capital	Retained Earnings	Treasury Stock	Accumulated Other Comprehensive Income (Loss)	Total Stockholders' Equity (Deficit)
	(In thousands)						
Balance December 31, 2018 . .	160,472	\$1,605	\$1,834,741	\$5,995,205	\$(6,146,322)	\$(117,971)	\$ 1,567,258
Net income	—	—	—	592,198	—	—	592,198
Other comprehensive loss	—	—	—	—	—	(1,500)	(1,500)
Issuance of common stock for employees:							
Employee Stock Purchase							
Plan	43	—	7,996	—	—	—	7,996
Stock options exercised	406	4	45,715	—	—	—	45,719
Treasury stock	—	—	—	—	(2,466,254)	—	(2,466,254)
Stock-based compensation . . .	109	1	38,301	—	—	—	38,302
Balance December 31, 2019 . .	<u>161,030</u>	<u>\$1,610</u>	<u>\$1,926,753</u>	<u>\$6,587,403</u>	<u>\$(8,612,576)</u>	<u>\$(119,471)</u>	<u>\$ (216,281)</u>
Adoption of new accounting pronouncement	—	—	—	(985)	—	—	(985)
Net income	—	—	—	521,571	—	—	521,571
Other comprehensive income	—	—	—	—	—	1,528	1,528
Issuance of common stock for employees:							
Employee Stock Purchase							
Plan	43	—	7,531	—	—	—	7,531
Stock options exercised	456	5	58,497	—	—	—	58,502
Treasury stock	—	—	—	—	(176,408)	—	(176,408)
Stock-based compensation . . .	137	2	36,684	—	—	—	36,686
Balance December 31, 2020 . .	<u>161,666</u>	<u>\$1,617</u>	<u>\$2,029,465</u>	<u>\$7,107,989</u>	<u>\$(8,788,984)</u>	<u>\$(117,943)</u>	<u>\$ 232,144</u>
Net income	—	—	—	692,843	—	—	692,843
Other comprehensive income	—	—	—	—	—	6,078	6,078
Issuance of common stock for employees:							
Employee Stock Purchase							
Plan	40	—	9,578	—	—	—	9,578
Stock options exercised	282	3	46,062	—	—	—	46,065
Treasury stock	—	—	—	—	(648,930)	—	(648,930)
Stock-based compensation . . .	96	1	29,775	—	—	—	29,776
Balance December 31, 2021 . .	<u>162,084</u>	<u>\$1,621</u>	<u>\$2,114,880</u>	<u>\$7,800,832</u>	<u>\$(9,437,914)</u>	<u>\$(111,865)</u>	<u>\$ 367,554</u>

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

NOTES TO CONSOLIDATED FINANCIAL STATEMENTS

1 Description of Business and Organization

Waters Corporation (the “Company,” “we,” “our,” or “us”) is a specialty measurement company that operates with a fundamental underlying purpose to advance the science that enables our customers to enhance human health and well-being. The Company has pioneered analytical workflow solutions involving liquid chromatography, mass spectrometry and thermal analysis innovations serving the life, materials and food sciences for more than 60 years. The Company primarily designs, manufactures, sells and services high performance liquid chromatography (“HPLC”), ultra performance liquid chromatography (“UPLC™” and together with HPLC, referred to as “LC”) and mass spectrometry (“MS”) technology systems and support products, including chromatography columns, other consumable products and comprehensive post-warranty service plans. These systems are complementary products that are frequently employed together (“LC-MS”) and sold as integrated instrument systems using common software platforms. LC is a standard technique and is utilized in a broad range of industries to detect, identify, monitor and measure the chemical, physical and biological composition of materials, and to purify a full range of compounds. MS technology, principally in conjunction with chromatography, is employed in drug discovery and development, including clinical trial testing, the analysis of proteins in disease processes (known as “proteomics”), nutritional safety analysis and environmental testing. LC-MS instruments combine a liquid phase sample introduction and separation system with mass spectrometric compound identification and quantification. In addition, the Company designs, manufactures, sells and services thermal analysis, rheometry and calorimetry instruments through its TA™ product line. These instruments are used in predicting the suitability and stability of fine chemicals, pharmaceuticals, water, polymers, metals and viscous liquids for various industrial, consumer goods and healthcare products, as well as for life science research. The Company is also a developer and supplier of advanced software-based products that interface with the Company’s instruments, as well as other manufacturers’ instruments.

2 Basis of Presentation and Summary of Significant Accounting Policies

Use of Estimates

The preparation of consolidated financial statements in conformity with generally accepted accounting principles (“GAAP”) requires the Company to make estimates and judgments that affect the reported amounts of assets, liabilities, revenues and expenses, and related disclosure of contingent liabilities at the dates of the financial statements. On an ongoing basis, the Company evaluates its estimates, including those related to revenue recognition, goodwill and intangible assets, income taxes, litigation, stock-based compensation and contingencies, and to a lesser extent, product returns and allowances, bad debts, inventory valuation, warranty and installation provisions, retirement plan obligations and equity investments, which are not as significant to our financial statements. The Company bases its estimates on historical experience and on various other assumptions that are believed to be reasonable under the circumstances, the results of which form the basis for making judgments about the carrying values of assets and liabilities that are not readily apparent from other sources. Actual amounts may differ from these estimates under different assumptions or conditions.

Risks and Uncertainties

The Company is subject to risks common to companies in the analytical instrument industry, including, but not limited to, global economic and financial market conditions, fluctuations in foreign currency exchange rates, fluctuations in customer demand, development by its competitors of new technological innovations, costs of developing new technologies, levels of debt and debt service requirements, risk of disruption, dependence on key personnel, protection and litigation of proprietary technology, shifts in taxable income between tax jurisdictions and compliance with regulations of the U.S. Food and Drug Administration and similar foreign regulatory authorities and agencies.

The impact of the global pandemic of a novel strain of coronavirus (“COVID-19”) over the last two years has resulted in a widespread public health crisis. The COVID-19 pandemic has caused significant volatility and

NOTES TO CONSOLIDATED FINANCIAL STATEMENTS — (Continued)

continued spread throughout the United States and globally, which has disrupted and may continue to disrupt the Company's business. The Company operates in over 35 countries, including those in the regions most impacted by the COVID-19 pandemic. In response, governments of most countries, including the United States, as well as private businesses, have implemented numerous measures attempting to contain and mitigate the effects of COVID-19. Such measures have had and are expected to continue to have adverse impacts on the United States and foreign economies of uncertain severity and duration, and have had and may continue to have a negative impact on the Company's operations, including Company sales, supply chain and cash flow.

COVID-19 and the related economic uncertainty adversely impacted sales of the Company for the year ended December 31, 2020; however, through the date of the issuance of these financial statements, the Company's consolidated financial position, results of operations and cash flows have not been materially impacted and, thus, the Company concluded that no interim goodwill or long-lived asset impairment analyses were required. Further, there have been no violations of debt covenants. Any prolonged material disruption to the Company's employees, suppliers, manufacturing, or customers could result in a material impact to its consolidated financial position, results of operations or cash flows in the future.

Principles of Consolidation

The consolidated financial statements include the accounts of the Company and its subsidiaries, which are wholly owned. The Company consolidates entities in which it owns or controls fifty percent or more of the voting shares. All inter-company balances and transactions have been eliminated.

Translation of Foreign Currencies

The functional currency of each of the Company's foreign operating subsidiaries is the local currency of its country of domicile, except for the Company's subsidiaries in Hong Kong, Singapore and the Cayman Islands, where the underlying transactional cash flows are denominated in currencies other than the respective local currency of domicile. The functional currency of the Hong Kong, Singapore and Cayman Islands subsidiaries is the U.S. dollar, based on the respective entity's cash flows.

For the Company's foreign operations, assets and liabilities are translated into U.S. dollars at exchange rates prevailing on the balance sheet date, while revenues and expenses are translated at average exchange rates prevailing during the respective period. Any resulting translation gains or losses are included in accumulated other comprehensive income in the consolidated balance sheets.

The Company's net sales derived from operations outside the United States were 72%, 71% and 71% in 2021, 2020 and 2019, respectively. Gains and losses from foreign currency transactions are included primarily in cost of sales in the consolidated statements of operations. In 2021, 2020 and 2019, foreign currency transactions resulted in net losses of \$5 million, \$7 million and \$9 million, respectively.

Seasonality of Business

The Company typically experiences an increase in sales in the fourth quarter, as a result of purchasing habits for capital goods of customers that tend to exhaust their spending budgets by calendar year end.

Cash, Cash Equivalents and Investments

Cash equivalents represent highly liquid investments, with original maturities of 90 days or less, primarily in bank deposits, U.S. treasury bill money market funds and commercial paper. Investments with longer maturities are classified as investments, and are held primarily in U.S. treasury bills, U.S. dollar-denominated treasury bills and commercial paper, bank deposits and corporate debt securities.

NOTES TO CONSOLIDATED FINANCIAL STATEMENTS — (Continued)

Investments are classified as available-for-sale (“AFS”) debt securities. If the AFS debt security’s fair value exceeds the security’s amortized cost the unrealized gain is recognized in accumulated other comprehensive income in stockholders’ equity (deficit), net of the related tax effects. If the AFS debt security’s fair value declines below its amortized cost the Company considers all available evidence to evaluate the extent to which the decline is due to credit-related factors or noncredit-related factors. If the decline is due to noncredit-related factors then no credit loss is recorded and the unrealized loss is recognized in accumulated other comprehensive income in stockholders’ equity (deficit), net of the related tax effects. If the decline is considered to be a credit-related impairment, it is recognized as an allowance on the consolidated balance sheet with a corresponding charge to the statement of operations. The credit allowance is limited to the difference between the fair value and the amortized cost basis. No credit-related allowances or impairments have been recognized on the Company’s investments in available-for-sale debt securities. The Company classifies its investments exclusive of those categorized as cash equivalents.

The Company maintains cash balances in various operating accounts in excess of federally insured limits, and in foreign subsidiary accounts in currencies other than the U.S. dollar. As of December 31, 2021 and 2020, \$440 million out of \$569 million and \$364 million out of \$443 million, respectively, of the Company’s total cash, cash equivalents and investments were held by foreign subsidiaries. In addition, \$298 million out of \$569 million and \$254 million out of \$443 million of cash, cash equivalents and investments were held in currencies other than the U.S. dollar at December 31, 2021 and 2020, respectively.

Accounts Receivable and Allowance for Credit Losses

The Company adopted new accounting guidance regarding the accounting for credit losses as of January 1, 2020 using a modified retrospective transition approach that was applied to the trade receivable balance as of January 1, 2020. This new accounting guidance required the Company to move from an incurred loss model to a current expected credit loss (“CECL”) model. Upon adoption, the Company recorded a net decrease of approximately \$1 million to the Company’s stockholders’ deficit as of January 1, 2020. The adoption of this standard did not have a material impact on the Company’s balance sheets, results of operations or cash flows.

Trade accounts receivable are recorded at the invoiced amount and do not bear interest. The Company has very limited use of rebates and other cash considerations payable to customers and, as a result, the transaction price determination does not have any material variable consideration. The Company does not consider there to be significant concentrations of credit risk with respect to trade receivables due to the short-term nature of the balances, the Company having a large and diverse customer base, and the Company having a strong historical experience of collecting receivables with minimal defaults. As a result, credit risk is considered low across territories and trade receivables are considered to be a single class of financial asset. The allowance for credit losses is based on a number of factors and is calculated by applying a historical loss rate to trade receivable aging balances to estimate a general reserve balance along with an additional adjustment for any specific receivables with known or anticipated issues affecting the likelihood of recovery. Past due balances with a probability of default based on historical data as well as relevant available forward-looking information are included in the specific adjustment. The historical loss rate is reviewed on at least an annual basis and the allowance for credit losses is reviewed quarterly for any required adjustments. The Company does not have any off-balance sheet credit exposure related to its customers.

Trade receivables related to instrument sales are collateralized by the instrument that is sold. If there is a risk of default related to a receivable that is collateralized, then the fair value of the collateral is calculated and adjusted for the cost to re-possess, refurbish and re-sell the instrument. This adjusted fair value is compared to the receivable balance and the difference would be recorded as the expected credit loss.

NOTES TO CONSOLIDATED FINANCIAL STATEMENTS — (Continued)

The following is a summary of the activity of the Company's allowance for credit losses for the year ended December 31, 2021, 2020 and 2019 (in thousands). The December 31, 2021 and 2020 balances are calculated using the CECL method and the December 31, 2019 balance is calculated using the incurred loss method under legacy GAAP:

	<u>Balance at Beginning of Period</u>	<u>Impact of CECL Adoption</u>	<u>Additions</u>	<u>Deductions</u>	<u>Balance at End of Period</u>
Allowance for Credit Losses					
December 31, 2021	\$14,381	\$—	\$5,380	\$(6,533)	\$13,228
December 31, 2020	\$ 9,560	\$985	\$9,051	\$(5,215)	\$14,381
December 31, 2019	\$ 7,663	\$—	\$4,701	\$(2,804)	\$ 9,560

Concentration of Credit Risk

The Company sells its products and services to a significant number of large and small customers throughout the world, with net sales to the pharmaceutical industry of approximately 60%, 59% and 57% in 2021, 2020 and 2019, respectively. None of the Company's individual customers accounted for more than 2% of annual Company sales in 2021, 2020 or 2019. The Company performs continuing credit evaluations of its customers and generally does not require collateral, but in certain circumstances may require letters of credit or deposits. Historically, the Company has not experienced significant bad debt losses.

Inventory

The Company values all of its inventories at the lower of cost or net realizable value on a first-in, first-out basis ("FIFO").

Income Taxes

As part of the process of preparing the consolidated financial statements, the Company is required to estimate its income taxes in each of the jurisdictions in which it operates. This process involves the Company estimating its income taxes, taking into account the amount, timing and character of taxable income, tax deductions and credits and assessing changes in tax laws, regulations, agreements and treaties. Differing treatment of items for tax and accounting purposes, such as depreciation, amortization and inventory reserves, result in deferred tax assets and liabilities, which are included within the consolidated balance sheets. In the event that actual results differ from these estimates, or the Company adjusts these estimates in future periods, such changes could materially impact the Company's financial position and results of operations.

The accounting standards for income taxes require that a company continually evaluate the necessity of establishing or changing a valuation allowance for deferred tax assets depending on whether it is more likely than not that the actual benefit of those assets will be realized in future periods.

The Company accounts for its uncertain tax return positions in accordance with the accounting standards for income taxes, which require financial statement reporting of the expected future tax consequences of uncertain tax positions on the presumption that all concerned tax authorities possess full knowledge of those tax positions, as well as all of the pertinent facts and circumstances, but prohibit any discounting of unrecognized tax benefits associated with those positions for the time value of money. The Company classified interest and penalties related to unrecognized tax benefits as a component of the provision for income taxes.

As part of the 2017 Tax Act, there is a provision for the taxation of certain off-shore earnings referred to as the Global Intangible Low-Taxed Income ("GILTI") provision. This provision taxes off-shore earnings at a rate of 10.5%, partially offset with foreign tax credits. In connection with this provision, the Company's accounting policy is to treat this tax as a current period cost.

NOTES TO CONSOLIDATED FINANCIAL STATEMENTS — (Continued)

Leases

The Company's lease portfolio consists primarily of operating leases. The Company's operating leases consist of property leases for sales, demonstration, laboratory, warehouse and office spaces, automotive leases for sales and service personnel and equipment leases, primarily used in our manufacturing and distribution operations. The Company categorizes leases as either operating or finance leases at the commencement date of the lease. The Company does not have any material financing leases.

The Company makes variable lease payments that do not depend on a rate or index, primarily for items such as real estate taxes and other expenses. These expenses are recorded as variable costs in the period incurred. For the years ended December 31, 2021, 2020 and 2019, respectively, variable costs incurred were not material.

The Company's lease agreements may include tenant improvement allowances, rent holidays, and/or contingent rent provisions as well as a certain number of these leases contain rental escalation clauses that are either fixed or adjusted periodically for inflation of market rates which are factored into our determination of lease payments at lease inception. The Company's leases also sometimes include renewal options and/or termination options which are included in the determination of the lease term when they are reasonably certain to be exercised.

The Company has lease agreements which contain lease and non-lease components, which are accounted for as a single lease component for all underlying classes of assets.

For leases with terms greater than 12 months, the Company records a right-of-use asset and lease liability at the present value of lease payments over the term of the leases and records rent expense on a straight-line basis over the lease term. The Company has elected not to apply the recognition requirements to short-term leases with terms less than 12 months. For short-term leases, the Company recognizes lease payments in net income on a straight-line basis over the term of the lease. For the years ended December 31, 2021, 2020 or 2019, respectively, costs incurred related to short-term leases were not material.

When available, the Company uses the rate implicit in the lease to discount lease payments to determine the present value of the lease liabilities; however, most of the leases do not provide a readily determinable implicit rate and, as required by the accounting guidance, the Company estimates its incremental secured borrowing rate to discount the lease payments based on information available at lease commencement (or, for the leases in existence on the adoption date, the January 1, 2019 information). The Company's incremental borrowing rate reflects the estimated rate of interest that the Company would pay to borrow on a collateralized basis over a similar term to the lease payments in a similar economic environment.

Property, Plant and Equipment

Property, plant and equipment are recorded at cost. Expenditures for maintenance and repairs are charged to expense, while the costs of significant improvements are capitalized. Depreciation is provided using the straight-line method over the following estimated useful lives: buildings — fifteen to thirty-nine years; building improvements — five to ten years; leasehold improvements — the shorter of the economic useful life or life of lease; and production and other equipment — three to ten years. Upon retirement or sale, the cost of the assets disposed of and the related accumulated depreciation are eliminated from the consolidated balance sheets and related gains or losses are reflected in the consolidated statements of operations.

Asset Impairments

The Company reviews its long-lived assets for impairment in accordance with the accounting standards for property, plant and equipment. Whenever events or circumstances indicate that the carrying amount of an asset

NOTES TO CONSOLIDATED FINANCIAL STATEMENTS — (Continued)

may not be recoverable, the Company evaluates the recoverability of the carrying value of the asset based on the expected future cash flows, relying on a number of factors, including, but not limited to, operating results, business plans, economic projections and anticipated future cash flows. If the asset is deemed not recoverable, it is written down to fair value and the impairment is recorded in the consolidated statements of operations.

During 2020, the Company recorded a non-cash charge of \$10 million for the impairment of certain intangible assets associated with its 2014 acquisition of Medimass Research Development and Service Kft (“Medimass”). The impairment charge was due to a shift in strategic priorities. In conjunction with the intangible asset impairment the Company also reduced its liability for contingent consideration of \$3 million during 2020 as the carrying value of this liability is based on the future sales of the Medimass intangible assets that were impaired. The net impact of \$7 million is reported separately within the consolidated statements of operations.

Business Combinations and Asset Acquisitions

The Company accounts for business acquisitions under the accounting standards for business combinations. The results of each acquisition are included in the Company’s consolidated results as of the acquisition date and the purchase price of an acquisition is allocated to tangible and intangible assets and assumed liabilities based on their estimated fair values. Any excess of the fair value consideration transferred over the estimated fair values of the net assets acquired is recognized as goodwill. Acquired in-process research and development (“IPR&D”) included in a business combination is capitalized as an indefinite-lived intangible asset. Development costs incurred after the acquisition are expensed as incurred and acquired IPR&D is tested for impairment annually until completion of the acquired programs. Upon commercialization, this indefinite-lived intangible asset is then accounted for as a finite-lived intangible asset and amortized on a straight-line basis over its estimated useful life, subject to periodic impairment reviews. If the research and development project is abandoned, the indefinite-lived asset is charged to expense. Legal costs, due diligence costs, business valuation costs and all other business acquisition costs are expensed when incurred.

The Company also acquires intellectual property through licensing arrangements. These arrangements often require upfront payments and may include additional milestone or royalty payments, contingent upon certain future events. IPR&D acquired in an asset acquisition (as opposed to a business combination) is expensed immediately unless there is an alternative future use. Subsequent payments made for the achievement of milestones are evaluated to determine whether they have an alternative future use or should be expensed. Payments made to third parties subsequent to commercialization are capitalized and amortized over the remaining useful life of the related asset, and are classified as intangible assets.

Goodwill and Other Intangible Assets

The Company tests for goodwill impairment using a fair-value approach at the reporting unit level annually, or earlier, if an event occurs or circumstances change that would more likely than not reduce the fair value of a reporting unit below its carrying amount. The Company performs an annual goodwill impairment assessment for its reporting units as of December 31 each year. The goodwill and other intangible assets accounting standards define a reporting unit as an operating segment, or one level below an operating segment, if discrete financial information is prepared and reviewed by management. For goodwill impairment review purposes, the Company has two reporting units: Waters™ and TA™. Goodwill is allocated to the reporting units at the time of acquisition.

As of January 1, 2020, the Company adopted a new accounting standard which eliminated the requirement to calculate the implied fair value of goodwill as noted above to measure a goodwill impairment charge. Under the prior accounting standard, if a reporting unit’s carrying amount exceeds its estimated fair value, goodwill impairment is recognized to the extent that the carrying amount of goodwill exceeds the implied fair value of the

NOTES TO CONSOLIDATED FINANCIAL STATEMENTS — (Continued)

goodwill. Under the new accounting standard impairment assessment, an impairment charge is based on the excess of a reporting unit's carrying amount over its fair value. If the carrying amount of a reporting unit exceeds its fair value, an impairment loss is recognized in an amount equal to the amount of the excess carrying amount of the reporting unit over its fair value. This impairment is limited to the total amount of goodwill allocated to that reporting unit. The fair value of reporting units was estimated using a discounted cash flows technique, which includes certain management assumptions, such as estimated future cash flows, estimated growth rates and discount rates.

The Company's intangible assets include purchased technology; capitalized software development costs; costs associated with acquiring Company patents, trademarks and intellectual properties, such as licenses; and acquired IPR&D. Purchased intangibles are recorded at their fair market values as of the acquisition date and amortized over their estimated useful lives, ranging from one to fifteen years. Other intangibles are amortized over a period ranging from one to ten years. Acquired IPR&D is amortized from the date of completion of the acquired program over its estimated useful life. IPR&D and indefinite-lived intangibles are tested annually for impairment.

Software Development Costs

The Company capitalizes internal and external software development costs for products offered for sale in accordance with the accounting standards for the costs of software to be sold, leased, or otherwise marketed. Capitalized costs are amortized to cost of sales over the period of economic benefit, which approximates a straight-line basis over the estimated useful lives of the related software products, generally three to ten years. The Company capitalized \$36 million, \$53 million and \$40 million of direct expenses that were related to the development of software in 2021, 2020 and 2019, respectively. Net capitalized software included in intangible assets totaled \$155 million and \$175 million at December 31, 2021 and 2020, respectively. See Note 8, Goodwill and Other Intangibles.

The Company capitalizes software development costs for internal use. Capitalized internal software development costs are amortized over the period of economic benefit, which approximates a straight-line basis over ten years. Net capitalized internal software included in property, plant and equipment totaled \$12 million and \$8 million at December 31, 2021 and 2020, respectively.

Other Investments

The Company accounts for its investments that represent less than twenty percent ownership, and for which the Company does not have the ability to exercise significant influence, using the accounting standards for investments in equity securities. Investments for which the Company does not have the ability to exercise significant influence, and for which there is not a readily determinable market value, are accounted for at cost, adjusted for subsequent observable price changes as applicable. The Company periodically evaluates the carrying value of its investments for which the Company does not have the ability to exercise significant influence, and for which there is not a readily determinable fair value and carries them at cost, less impairment, adjusted for subsequent observable price changes. For equity investments in which the Company has the ability to exercise significant influence over operating and financial policies of the investee, the equity method of accounting is used. The Company's share of net income or losses of equity method investments is included in the consolidated statements of operations and was not material in any period presented.

During the year ended December 31, 2021, year ended December 31, 2020 and year ended December 31, 2019, the Company made investments in unaffiliated companies of \$2 million, \$6 million and \$9 million, respectively.

NOTES TO CONSOLIDATED FINANCIAL STATEMENTS — (Continued)

In 2021, the Company also recorded an unrealized gain of \$10 million due to an observable change in the fair value of an existing investment the Company does not have the ability to exercise significant influence over.

Fair Value Measurements

In accordance with the accounting standards for fair value measurements and disclosures, certain of the Company's assets and liabilities are measured at fair value on a recurring basis as of December 31, 2021 and 2020. Fair values determined by Level 1 inputs utilize observable data, such as quoted prices in active markets. Fair values determined by Level 2 inputs utilize data points other than quoted prices in active markets that are observable either directly or indirectly. Fair values determined by Level 3 inputs utilize unobservable data points for which there is little or no market data, which require the reporting entity to develop its own assumptions.

The following table represents the Company's assets and liabilities measured at fair value on a recurring basis at December 31, 2021 (in thousands):

	Total at December 31, 2021	Quoted Prices in Active Markets for Identical Assets (Level 1)	Significant Other Observable Inputs (Level 2)	Significant Unobservable Inputs (Level 3)
Assets:				
U.S. Treasury securities	\$ 13,917	\$ —	\$13,917	\$ —
Corporate debt securities	39,121	—	39,121	—
Time deposits	19,030	—	19,030	—
Waters 401(k) Restoration Plan assets	38,729	38,729	—	—
Foreign currency exchange contracts	504	—	504	—
Total	<u>\$111,301</u>	<u>\$38,729</u>	<u>\$72,572</u>	<u>\$ —</u>
Liabilities:				
Contingent consideration	\$ 1,347	\$ —	\$ —	\$1,347
Foreign currency exchange contracts	195	—	195	—
Interest rate cross-currency swap agreements	5,363	—	5,363	—
Total	<u>\$ 6,905</u>	<u>\$ —</u>	<u>\$ 5,558</u>	<u>\$1,347</u>

NOTES TO CONSOLIDATED FINANCIAL STATEMENTS — (Continued)

The following table represents the Company's assets and liabilities measured at fair value on a recurring basis at December 31, 2020 (in thousands):

	Total at December 31, 2020	Quoted Prices in Active Markets for Identical Assets (Level 1)	Significant Other Observable Inputs (Level 2)	Significant Unobservable Inputs (Level 3)
Assets:				
Time deposits	\$ 6,451	\$ —	\$ 6,451	\$ —
Waters 401(k) Restoration Plan assets	38,988	38,988	—	—
Foreign currency exchange contracts	836	—	836	—
Total	<u>\$46,275</u>	<u>\$38,988</u>	<u>\$ 7,287</u>	<u>\$ —</u>
Liabilities:				
Contingent consideration	\$ 1,185	\$ —	\$ —	\$1,185
Foreign currency exchange contracts	185	—	185	—
Interest rate cross-currency swap agreements	44,996	—	44,996	—
Total	<u>\$46,366</u>	<u>\$ —</u>	<u>\$45,181</u>	<u>\$1,185</u>

Fair Value of 401(k) Restoration Plan Assets

The 401(k) Restoration Plan is a nonqualified defined contribution plan and the assets were held in registered mutual funds and have been classified as Level 1. The fair values of the assets in the plan are determined through market and observable sources from daily quoted prices on nationally recognized securities exchanges.

Fair Value of Cash Equivalents, Investments, Foreign Currency Exchange Contracts and Interest Rate Cross-Currency Swap Agreements

The fair values of the Company's cash equivalents, investments, foreign currency exchange contracts and interest rate cross-currency swap agreements are determined through market and observable sources and have been classified as Level 2. These assets and liabilities have been initially valued at the transaction price and subsequently valued, typically utilizing third-party pricing services. The pricing services use many inputs to determine value, including reportable trades, benchmark yields, credit spreads, broker/dealer quotes, current spot rates and other industry and economic events. The Company validates the prices provided by third-party pricing services by reviewing their pricing methods and obtaining market values from other pricing sources.

Fair Value of Contingent Consideration

The fair value of the Company's liability for contingent consideration relates to earnout payments in connection with the December 2020 acquisition of Integrated Software Solutions ("ISS") and is determined using a probability-weighted discounted cash flow model, which uses significant unobservable inputs, and has been classified as Level 3. Subsequent changes in the fair value of the contingent consideration liability are recorded in the results of operations. The fair value of the contingent consideration liability associated with future earnout payments is based on several factors, including the achievement of certain revenue and customer account milestones over the two years after the acquisition date and a discount rate that reflects both the likelihood of achieving the estimated future results and the Company's creditworthiness. A change in any of these unobservable inputs can significantly change the fair value of the contingent consideration.

The fair value of future contingent consideration payments related to the December 2020 acquisition of ISS was estimated to be \$1 million at both December 31, 2021 and 2020.

NOTES TO CONSOLIDATED FINANCIAL STATEMENTS — (Continued)

Fair Value of Other Financial Instruments

The Company's accounts receivable and accounts payable are recorded at cost, which approximates fair value due to their short-term nature. The carrying value of the Company's variable interest rate debt approximates fair value due to the variable nature of the interest rate. The carrying value of the Company's fixed interest rate debt was \$1.3 billion and \$0.9 billion at December 31, 2021 and 2020, respectively. The fair value of the Company's fixed interest rate debt was estimated using discounted cash flow models, based on estimated current rates offered for similar debt under current market conditions for the Company. The fair value of the Company's fixed interest rate debt was estimated to be \$1.3 billion and \$1.0 billion at December 31, 2021 and 2020, respectively, using Level 2 inputs.

Derivative Transactions

The Company is a global company that operates in over 35 countries and, as a result, the Company's net sales, cost of sales, operating expenses and balance sheet amounts are significantly impacted by fluctuations in foreign currency exchange rates. The Company is exposed to currency price risk on foreign currency exchange rate fluctuations when it translates its non-U.S. dollar foreign subsidiaries' financial statements into U.S. dollars and when any of the Company's subsidiaries purchase or sell products or services in a currency other than its own currency.

The Company's principal strategies in managing exposures to changes in foreign currency exchange rates are to (1) naturally hedge the foreign-currency-denominated liabilities on the Company's balance sheet against corresponding assets of the same currency, such that any changes in liabilities due to fluctuations in foreign currency exchange rates are typically offset by corresponding changes in assets and (2) mitigate foreign exchange risk exposure of international operations by hedging the variability in the movement of foreign currency exchange rates on a portion of its Euro-denominated net asset investments. The Company presents the derivative transactions in financing activities in the statement of cash flows.

Foreign Currency Exchange Contracts

The Company does not specifically enter into any derivatives that hedge foreign-currency-denominated operating assets, liabilities or commitments on its balance sheet, other than a portion of certain third-party accounts receivable and accounts payable, and the Company's net worldwide intercompany receivables and payables, which are eliminated in consolidation. The Company periodically aggregates its net worldwide balances by currency and then enters into foreign currency exchange contracts that mature within 90 days to hedge a portion of the remaining balance to minimize some of the Company's currency price risk exposure. The foreign currency exchange contracts are not designated for hedge accounting treatment. Principal hedged currencies include the Euro, Japanese yen, British pound, Mexican peso and Brazilian real.

Interest Rate Cross-Currency Swap Agreements

As of December 31, 2021, the Company had three-year interest rate cross-currency swap derivative agreements with an aggregate notional value of \$230 million to hedge the variability in the movement of foreign currency exchange rates on a portion of its Euro-denominated net asset investments. Under hedge accounting, the change in fair value of the derivative that relates to changes in the foreign currency spot rate are recorded in the currency translation adjustment in other comprehensive income and remain in accumulated comprehensive income in stockholders' equity (deficit) until the sale or substantial liquidation of the foreign operation. The difference between the interest rate received and paid under the interest rate cross-currency swap derivative agreement is recorded in interest income in the statement of operations.

NOTES TO CONSOLIDATED FINANCIAL STATEMENTS — (Continued)

The Company's foreign currency exchange contracts and interest rate cross-currency swap agreements included in the consolidated balance sheets are classified as follows (in thousands):

	December 31, 2021		December 31, 2020	
	Notional Value	Fair Value	Notional Value	Fair Value
Foreign currency exchange contracts:				
Other current assets	\$ 55,309	\$ 504	\$ 66,690	\$ 836
Other current liabilities	\$ 9,000	\$ 195	\$ 20,000	\$ 185
Interest rate cross-currency swap agreements:				
Other liabilities	\$230,000	\$ 5,363	\$560,000	\$44,996
Accumulated other comprehensive loss		\$15,944		\$44,996

The following is a summary of the activity included in the consolidated statements of operations and statements of comprehensive income related to the foreign currency exchange contracts and interest rate cross-currency swap agreements (in thousands):

	Financial Statement Classification	Year Ended December 31,		
		2021	2020	2019
Foreign currency exchange contracts:				
Realized (losses) gains on closed contracts	Cost of sales	\$ (1,973)	\$ 1,444	\$ (3,552)
Unrealized (losses) gains on open contracts	Cost of sales	(343)	1,663	(1,292)
Cumulative net pre-tax (losses) gains	Cost of sales	<u>\$ (2,316)</u>	<u>\$ 3,107</u>	<u>\$ (4,844)</u>
Interest rate cross-currency swap agreements:				
Interest earned	Interest income	\$11,084	\$ 15,296	\$11,709
Unrealized gains (losses) on open contracts	Accumulated other comprehensive loss	\$29,052	\$(44,996)	\$ 4,485

Stockholders' Equity (Deficit)

In January 2019, the Company's Board of Directors authorized the Company to repurchase up to \$4 billion of its outstanding common stock over a two-year period. During 2021, 2020 and 2019, the Company repurchased 2.0 million, 0.8 million and 11.1 million shares of the Company's outstanding common stock at a cost of \$640 million, \$167 million and \$2.5 billion, respectively, under the January 2019 authorization and other previously announced programs. In addition, the Company repurchased \$9 million, \$9 million and \$8 million of common stock related to the vesting of restricted stock units during the years ended December 31, 2021, 2020 and 2019, respectively. As of December 31, 2021, the Company has a total of \$885 million authorized for future repurchases. In December 2020, the Company's Board of Directors authorized the extension of the share repurchase program through January 21, 2023.

The Company accrued \$20 million at December 31, 2019 as a result of treasury stock purchases that were unsettled. These transactions were settled in January 2020. There was no such accrual at December 31, 2021 or 2020.

Revenue Recognition

The Company recognizes revenue upon transfer of control of promised products and services to customers in an amount that reflects the consideration the Company expects to receive in exchange for those products or services.

NOTES TO CONSOLIDATED FINANCIAL STATEMENTS — (Continued)

The Company generally enters into contracts that include a combination of products and services. Revenue is allocated to distinct performance obligations and is recognized net of allowances for returns and discounts.

The Company recognizes revenue on product sales at the time control of the product transfers to the customer. In substantially all of the Company's arrangements, title of the product transfers at shipping point and, as a result, the Company determined control transfers at the point of shipment. In more limited cases, there are destination-based shipping terms and, thus, control is deemed to transfer when the products arrive at the customer site. All incremental costs of obtaining a contract are expensed as and when incurred if the expected amortization period of the asset that would have been recognized is one year or less. Shipping and handling costs are included as a component of cost of sales. In situations where the control of the goods transfers prior to the completion of the Company's obligation to ship the products to its customers, the Company has elected the practical expedient to account for the shipping services as a fulfillment cost. Accordingly, such costs are recognized when control of the related goods is transferred to the customer. In more rare situations, the Company has revenue associated with products that contain specific customer acceptance criteria and the related revenue is not recognized before the customer acceptance criteria are satisfied. The Company elected to exclude from the measurement of the transaction price all taxes assessed by a governmental authority that are both imposed on and concurrent with specific revenue-producing transactions and collected by the Company from a customer.

Generally, the Company's contracts for products include a performance obligation related to installation. The Company has determined that the installation represents a distinct performance obligation and revenue is recognized separately upon the completion of installation. The Company determines the amount of the transaction price to allocate to the installation service based on the standalone selling price of the product and the service, which requires judgment. The Company determines the relative standalone selling price of installation based upon a number of factors, including hourly service billing rates and estimated installation hours. In developing these estimates, the Company considers past history, competition, billing rates of current services and other factors.

The Company has sales from standalone software, which are included in instrument systems revenue. These arrangements typically include software licenses and maintenance contracts, both of which the Company has determined are distinct performance obligations. The Company determines the amount of the transaction price to allocate to the license and maintenance contract based on the relative standalone selling price of each performance obligation. Software license revenue is recognized at the point in time when control has been transferred to the customer. The revenue allocated to the software maintenance contract is recognized on a straight-line basis over the maintenance period, which is the contractual term of the contract, as a time-based measure of progress best reflects the Company's performance in satisfying this obligation. Unspecified rights to software upgrades are typically sold as part of the maintenance contract on a when-and-if-available basis.

Payment terms and conditions vary among the Company's revenue streams, although terms generally include a requirement of payment within 30 to 60 days of product shipment. Prior to providing payment terms to customers, an evaluation of their credit risk is performed. Returns and customer credits are infrequent and insignificant and are recorded as a reduction to sales. Rights of return are not included in sales arrangements and, therefore, there is minimal variable consideration included in the transaction price of our products.

Service revenue includes (1) service and software maintenance contracts and (2) service calls (time and materials). Instrument service contracts and software maintenance contracts are typically annual contracts, which are billed at the beginning of the contract or maintenance period. The amount of the service and software maintenance contract is recognized on a straight-line basis to revenue over the maintenance service period, which is the contractual term of the contract, as a time-based measure of progress best reflects the Company's performance in satisfying this obligation. There are no deferred costs associated with the service contract, as the cost of the service is recorded when the service is performed. Service calls are recognized to revenue at the time a service is performed.

NOTES TO CONSOLIDATED FINANCIAL STATEMENTS — (Continued)

Product Warranty Costs

The Company accrues estimated product warranty costs at the time of sale, which are included in cost of sales in the consolidated statements of operations. While the Company engages in extensive product quality programs and processes, including actively monitoring and evaluating the quality of its component suppliers, the Company's warranty obligation is affected by product failure rates, material usage and service delivery costs incurred in correcting a product failure. The amount of the accrued warranty liability is based on historical information, such as past experience, product failure rates, number of units repaired and estimated costs of material and labor. The liability is reviewed for reasonableness at least quarterly.

The following is a summary of the activity of the Company's accrued warranty liability for the year ended December 31, 2021, 2020 and 2019 (in thousands):

	<u>Balance at Beginning of Period</u>	<u>Accruals for Warranties</u>	<u>Settlements Made</u>	<u>Balance at End of Period</u>
Accrued warranty liability:				
December 31, 2021	\$10,950	\$8,799	\$(9,031)	\$10,718
December 31, 2020	\$11,964	\$7,909	\$(8,923)	\$10,950
December 31, 2019	\$12,300	\$7,540	\$(7,876)	\$11,964

Advertising Costs

All advertising costs are expensed as incurred and are included in selling and administrative expenses in the consolidated statements of operations. Advertising expenses were \$7 million, \$6 million and \$6 million for 2021, 2020 and 2019, respectively.

Research and Development Expenses

Research and development expenses are comprised of costs incurred in performing research and development activities, including salaries and benefits, facilities costs, overhead costs, contract services and other outside costs. Research and development expenses are expensed as incurred.

Stock-Based Compensation

The Company has two stock-based compensation plans, which are described in Note 14, "Stock-Based Compensation".

Earnings Per Share

In accordance with the earnings per share accounting standards, the Company presents two earnings per share ("EPS") amounts. Income per basic common share is based on income available to common shareholders and the weighted-average number of common shares outstanding during the periods presented. Income per diluted common share includes additional dilution from potential common stock, such as stock issuable pursuant to the exercise of stock options outstanding.

Retirement Plans

The Company sponsors various retirement plans, which are described in Note 17, "Retirement Plans".

Comprehensive Income

The Company accounts for comprehensive income in accordance with the accounting standards for comprehensive income, which establish the accounting rules for reporting and displaying comprehensive income.

NOTES TO CONSOLIDATED FINANCIAL STATEMENTS — (Continued)

These standards require that all components of comprehensive income be reported in a financial statement that is displayed with the same prominence as other financial statements.

Other Items

During the year ended December 31, 2021, the Company executed a settlement agreement to resolve patent infringement litigation with Bruker Corporation and Bruker Daltonik GmbH regarding their timsTOF product line. In connection with the settlement, the Company is entitled to receive \$10 million in guaranteed payments, including minimum royalty payments, which was recognized within other income in our consolidated statement of operations for the year ended December 31, 2021. During the year ended December 31, 2021, the Company received \$3 million in guaranteed payments, net of applicable withholding taxes.

Recently Adopted Accounting Standards

In December 2019, accounting guidance was issued that simplifies the accounting for income taxes by removing certain exceptions within the current guidance, including the approach for intraperiod tax allocation, the methodology for calculating income taxes in an interim period and the recognition of deferred tax liabilities for outside basis differences. The amendment also improves consistent application by clarifying and amending existing guidance related to aspects of the accounting for franchise taxes and enacted changes in tax laws or rates and clarifies the accounting for transactions that result in a step up in the tax basis of goodwill. This guidance is effective for annual and interim periods beginning after December 15, 2020. The Company adopted this standard on January 1, 2021. The adoption of this standard did not have a material impact on the Company's financial position, results of operations and cash flows.

In January 2020, accounting guidance was issued that clarifies the accounting guidance for equity method investments, joint ventures, and derivatives and hedging. The update clarifies the interaction between different sections of the accounting guidance that could be applicable and helps clarify which guidance should be applied in certain situations which should increase relevance and comparability of financial statement information. This guidance is effective for annual and interim periods beginning after December 15, 2020. The Company adopted this standard on January 1, 2021. The adoption of this standard did not have a material impact on the Company's financial position, results of operations and cash flows.

Recently Issued Accounting Standards

In March 2020, accounting guidance was issued that facilitates the effects of reference rate reform on financial reporting. The amendments in the update provide optional guidance for a limited period of time to ease the potential burden in accounting for or recognizing the effects of reference rate reform on financial reporting and apply to all entities, subject to meeting certain criteria, that have contracts, hedging relationships, and other transactions that reference LIBOR or another reference rate expected to be discontinued because of reference rate reform. In January of 2021, an update was issued to clarify that certain optional expedients and exceptions under the reference rate reform guidance for contract modifications and hedge accounting apply to derivatives that are affected by the discounting transition. Specifically, certain provisions in the reference rate reform guidance, if elected by an entity, apply to derivative instruments that use an interest rate for margining, discounting, or contract price alignment that is modified as a result of reference rate reform. This temporary guidance is effective for all entities as of March 12, 2020 through December 31, 2022. The Company may elect to apply this guidance for all contract modifications or eligible hedging relationships during that time period subject to certain criteria. The Company is still evaluating the impact of reference rate reform and whether this guidance will be adopted.

In October 2021, accounting guidance was issued that requires acquirers in a business combination to recognize and measure contract assets and contract liabilities acquired in a business combination in accordance

NOTES TO CONSOLIDATED FINANCIAL STATEMENTS — (Continued)

with Topic 606. The new guidance requires that at the acquisition date, the acquirer should account for the related revenue contracts in accordance with 606 as if it had originated the contracts. This guidance differs from current GAAP which requires an acquirer to recognize assets acquired and liabilities assumed in a business combination, including contract assets and contract liabilities arising from revenue contracts with customers and other similar contracts that are accounted for in accordance with 606, at fair value on the acquisition date. This guidance is effective for public business entities for fiscal years beginning after December 15, 2022, including interim periods within those years. The amendments within this update should be applied prospectively to business combinations on or after the effective date of the amendments. Early adoption of the amendment is permitted, including adoption in an interim period. The applicability of this standard is dependent on there being a business combination activity and therefore the Company will evaluate the impact of this guidance when and if there is applicable activity.

3 Revenue Recognition

The Company's deferred revenue liabilities on the consolidated balance sheets consist of the obligation on instrument service contracts and customer payments received in advance, prior to transfer of control of the instrument. The Company records deferred revenue primarily related to its service contracts, where consideration is billable at the beginning of the service period.

The following is a summary of the activity of the Company's deferred revenue and customer advances for the year ended December 31, 2021, 2020 and 2019 (in thousands):

	December 31,		
	2021	2020	2019
Balance at the beginning of the period	\$ 239,759	\$ 213,695	\$ 204,257
Recognition of revenue included in balance at beginning of the period	(216,920)	(198,209)	(176,981)
Revenue deferred during the period, net of revenue recognized	250,759	224,273	186,419
Balance at the end of the period	<u>\$ 273,598</u>	<u>\$ 239,759</u>	<u>\$ 213,695</u>

The Company classified \$46 million and \$42 million of deferred revenue and customer advances in other long-term liabilities at December 31, 2021 and 2020, respectively.

The amount of deferred revenue and customer advances equals the transaction price allocated to unfulfilled performance obligations for the period presented. Such amounts are expected to be recognized in the future as follows (in thousands):

	December 31, 2021
Deferred revenue and customer advances expected to be recognized in:	
One year or less	\$227,561
13-24 months	26,840
25 months and beyond	19,197
Total	<u>\$273,598</u>

NOTES TO CONSOLIDATED FINANCIAL STATEMENTS — (Continued)

4 Marketable Securities

The Company's marketable securities within cash equivalents and investments included in the consolidated balance sheets are detailed as follows (in thousands):

	December 31, 2021			
	Amortized Cost	Unrealized Gain	Unrealized Loss	Fair Value
U.S. Treasury securities	\$13,929	\$—	\$ (12)	\$13,917
Corporate debt securities	39,135	—	(14)	39,121
Time deposits	19,030	—	—	19,030
Total	<u>\$72,094</u>	<u>\$—</u>	<u>\$ (26)</u>	<u>\$72,068</u>
Amounts included in:				
Cash equivalents	\$ 4,017	\$—	\$—	\$ 4,017
Investments	68,077	—	(26)	68,051
Total	<u>\$72,094</u>	<u>\$—</u>	<u>\$ (26)</u>	<u>\$72,068</u>

	December 31, 2020			
	Amortized Cost	Unrealized Gain	Unrealized Loss	Fair Value
Time deposits	6,451	—	—	6,451
Total	<u>\$6,451</u>	<u>\$—</u>	<u>\$—</u>	<u>\$6,451</u>
Amounts included in:				
Investments	6,451	—	—	6,451
Total	<u>\$6,451</u>	<u>\$—</u>	<u>\$—</u>	<u>\$6,451</u>

The estimated fair value of marketable debt securities by maturity date is as follows (in thousands):

	December 31, 2021	December 31, 2020
Due in one year or less	\$71,066	\$6,451
Due after one year through three years	1,002	—
Total	<u>\$72,068</u>	<u>\$6,451</u>

Net realized gains and losses on sales of investments were not material in 2021, 2020 and 2019.

5 Inventories

Inventories are classified as follows (in thousands):

	December 31, 2021	December 31, 2020
Raw materials	\$165,240	\$133,490
Work in progress	19,726	18,678
Finished goods	171,129	152,113
Total inventories	<u>\$356,095</u>	<u>\$304,281</u>

NOTES TO CONSOLIDATED FINANCIAL STATEMENTS — (Continued)

During 2021, 2020 and 2019, the Company recorded inventory-related excess and obsolescence provisions of \$9 million, \$12 million and \$13 million, respectively.

6 Property, Plant and Equipment

Property, plant and equipment consist of the following (in thousands):

	December 31,	
	2021	2020
Land and land improvements	\$ 36,428	\$ 36,884
Buildings and leasehold improvements	446,061	376,705
Production and other equipment	621,792	588,625
Construction in progress	117,148	125,925
Total property, plant and equipment	1,221,429	1,128,139
Less: accumulated depreciation and amortization	(673,516)	(634,136)
Property, plant and equipment, net	<u>\$ 547,913</u>	<u>\$ 494,003</u>

In February 2018, the Company's Board of Directors approved expanding its precision chemistry consumable manufacturing operations in the United States. The Company has incurred costs of \$200 million to build and equip this new state-of-the-art manufacturing facility as of December 31, 2021, and anticipates spending approximately \$50 million to complete the facility in 2022.

During 2021, 2020 and 2019, the Company retired and disposed of approximately \$23 million, \$19 million and \$11 million of property, plant and equipment, respectively, most of which was fully depreciated and no longer in use. Gains or losses on disposals were immaterial for the years ended December 31, 2021, 2020 and 2019.

7 Acquisitions

On January 15, 2020, the Company acquired all of the outstanding stock of Andrew Alliance, S.A. and its two operating subsidiaries, Andrew Alliance USA, Inc. and Andrew Alliance France, SASU (collectively, "Andrew Alliance"), for \$80 million, net of cash acquired. The Company had an equity investment in Andrew Alliance that was valued at \$4 million and included as part of the total consideration.

Andrew Alliance offers lab workflow automation solutions with the combination of its software platform and smart, connected laboratory equipment and accessories.

The Company allocated \$7 million of the purchase price to intangible assets comprised of developed technology, trade name and customer relationships. The developed technology and customer relationships will be amortized over ten years and the trade name will be amortized over 3 years. The Company allocated \$72 million of the purchase price to goodwill, which is not deductible for tax purposes. The principal factor that resulted in recognition of goodwill in the acquisition was that the purchase price was based, in part, on cash flow projections assuming the integration of any acquired technology, distribution channels and products with the Company's products, which are higher than if the acquired companies' technology, customer access or products were utilized on a stand-alone basis. The goodwill also includes value assigned to assembled workforce, which cannot be recognized as an intangible asset.

NOTES TO CONSOLIDATED FINANCIAL STATEMENTS — (Continued)

The fair values of the assets and liabilities acquired were determined using various income-approach valuation techniques, which use Level 3 inputs. The following table presents the fair values as of the acquisition date, as determined by the Company, of 100% of the assets and liabilities owned and recorded in connection with the acquisition of Andrew Alliance (in thousands):

Cash	\$ 713
Accounts receivable and current other assets	806
Inventory	669
Prepaid and other assets	611
Property, plant and equipment, net	757
Operating lease assets	847
Intangible assets	6,960
Goodwill	<u>71,632</u>
Total assets acquired	82,995
Accrued expenses and other liabilities	<u>2,093</u>
Total consideration	<u>80,902</u>
Fair value of minority investment	<u>3,525</u>
Cash consideration paid	<u><u>\$77,377</u></u>

On December 15, 2020, the Company acquired all of the outstanding stock of ISS, for \$4 million, net of cash acquired. In addition, the Company may have to pay additional contingent consideration which has an estimated fair value of \$1 million as of the close date. The contingent consideration is recorded as a liability and will be paid to the prior shareholders of ISS if certain revenue and customer account conditions are achieved over the next two years after the acquisition date.

ISS offers clinical laboratory software systems that will support and further expand product offerings within our clinical business. The net assets acquired primarily relate to ISS' laboratory information system, OMNI-Lab.

In each acquisition, the sellers provided the Company with customary representations, warranties and indemnification, which would be settled in the future if and when a breach of the contractual representation or warranty condition occurs.

The pro forma effect of the ongoing operations for Waters Corporation from Andrew Alliance and ISS, either individually or in the aggregate, as though these acquisitions had occurred at the beginning of the periods covered by this report were immaterial.

8 Goodwill and Other Intangibles

The carrying amount of goodwill was \$438 million and \$444 million at December 31, 2021 and 2020, respectively. The effect of foreign currency translation decreased goodwill by \$6 million.

NOTES TO CONSOLIDATED FINANCIAL STATEMENTS — (Continued)

The Company's intangible assets included in the consolidated balance sheets are detailed as follows (dollars in thousands):

	December 31, 2021			December 31, 2020		
	Gross Carrying Amount	Accumulated Amortization	Weighted-Average Amortization Period	Gross Carrying Amount	Accumulated Amortization	Weighted-Average Amortization Period
Capitalized software	\$575,658	\$420,862	5 years	\$584,452	\$409,847	5 years
Purchased intangibles	201,302	163,752	11 years	205,585	160,342	11 years
Trademarks	9,680	—	—	9,680	—	—
Licenses	12,635	6,199	7 years	5,923	5,697	6 years
Patents and other intangibles	102,353	68,414	8 years	90,699	61,808	8 years
Total	<u>\$901,628</u>	<u>\$659,227</u>	7 years	<u>\$896,339</u>	<u>\$637,694</u>	7 years

The Company capitalized \$55 million and \$68 million of intangible assets for the years ended December 31, 2021 and 2020, respectively. The gross carrying value of intangible assets and accumulated amortization for intangible assets decreased by \$49 million and \$38 million, respectively, in the year ended December 31, 2021 due to the effects of foreign currency translation. Amortization expense for intangible assets was \$60 million, \$57 million and \$51 million for the years ended December 31, 2021, 2020 and 2019, respectively. Amortization expense for intangible assets is estimated to be \$62 million per year for each of the next five years.

During 2020, the Company recorded a non-cash charge of \$10 million for the impairment of certain intangible assets associated with its 2014 acquisition of Medimass due to a shift in strategic priorities. As a result, the Company reduced the gross carrying amount and accumulated amortization balances of its intangible assets by \$15 million and \$5 million, respectively.

9 Debt

On September 17, 2021, the Company entered into an amended and restated credit agreement (the "2021 Credit Agreement"), which amended the Company's existing credit agreement entered into in 2017 (the "2017 Credit Agreement"). The 2021 Credit Agreement provides for a \$1.8 billion revolving facility (the "2021 Credit Facility") and converted the \$300 million term loan under the 2017 Credit Agreement into part of the new revolving facility. As of December 31, 2021, the 2021 Credit Facility had a total of \$210 million outstanding. As of December 31, 2020, the revolving credit facility and the term loan governed by the 2017 Credit Agreement had a total of \$400 million outstanding. The 2021 Credit Facility matures on September 17, 2026 and requires no scheduled prepayments before that date.

The interest rates applicable to the 2021 Credit Agreement are, at the Company's option, equal to either the alternate base rate (which is a rate per annum equal to the greatest of (1) the prime rate in effect on such day, (2) the Federal Reserve Bank of New York Rate on such day plus 1/2 of 1% per annum and (3) the adjusted LIBO rate on such day (or if such day is not a business day, the immediately preceding business day) for a deposit in U.S. dollars with a maturity of one month plus 1% per annum) or the applicable 1, 3 or 6 month adjusted LIBO rate or EURIBO rate for Euro-denominated loans, in each case, plus an interest rate margin based upon the Company's leverage ratio, which can range between 0 and 12.5 basis points for alternate base rate loans and between 80 and 112.5 basis points for LIBO rate or EURIBO rate loans. The facility fee on the 2021 Credit Agreement ranges between 7.5 and 25 basis points per annum, based on the leverage ratio, of the amount of the revolving facility commitments and the outstanding term loan. The 2021 Credit Agreement requires that the Company comply with an interest coverage ratio test of not less than 3.50:1 as of the end of any fiscal quarter for any period of four consecutive fiscal quarters and a leverage ratio test of not more than 3.50:1 as of the end of

NOTES TO CONSOLIDATED FINANCIAL STATEMENTS — (Continued)

any fiscal quarter. In addition, the 2021 Credit Agreement includes negative covenants, affirmative covenants, representations and warranties and events of default that are customary for investment grade credit facilities.

In March 2021, the Company issued the following senior unsecured notes:

<u>Senior Unsecured Notes</u>	<u>Term</u>	<u>Interest Rate</u>	<u>Face Value (in millions)</u>	<u>Maturity Date</u>
Series N	5 years	1.68%	\$100	March 2026
Series O	10 years	2.25%	\$400	March 2031

The Company used the proceeds from the issuance of these senior unsecured notes to repay other outstanding debt and for general corporate purposes. Interest on the Series N and O Senior Notes is payable semi-annually. The Company may prepay some or all of the Senior Notes at any time in an amount not less than 10% of the aggregate principal amount of the Senior Notes then outstanding, plus the applicable make-whole amount for Series N and O Senior Notes, in each case, upon no more than 60 nor less than 20 days' written notice to the holders of the Senior Notes. In the event of a change in control (as defined in the note purchase agreement) of the Company, the Company may be required to prepay the Senior Notes at a price equal to 100% of the principal amount thereof, plus accrued and unpaid interest. Other provisions for these senior unsecured notes are similar to the existing senior unsecured notes, as described below.

As of December 31, 2021 and 2020, the Company had a total of \$1.3 billion and \$1.0 billion, respectively, of outstanding senior unsecured notes. Interest on the fixed rate senior unsecured notes is payable semi-annually each year. Interest on the floating rate senior unsecured notes is payable quarterly. The Company may prepay all or some of the senior unsecured notes at any time in an amount not less than 10% of the aggregate principal amount outstanding, plus the applicable make-whole amount or prepayment premium for the Series H senior unsecured note. In the event of a change in control of the Company (as defined in the note purchase agreement), the Company may be required to prepay the senior unsecured notes at a price equal to 100% of the principal amount thereof, plus accrued and unpaid interest. These senior unsecured notes require that the Company comply with an interest coverage ratio test of not less than 3.50:1 for any period of four consecutive fiscal quarters and a leverage ratio test of not more than 3.50:1 as of the end of any fiscal quarter. In addition, these senior unsecured notes include customary negative covenants, affirmative covenants, representations and warranties and events of default.

NOTES TO CONSOLIDATED FINANCIAL STATEMENTS — (Continued)

The Company had the following outstanding debt at December 31, 2021 and 2020 (in thousands):

	<u>December 31, 2021</u>	<u>December 31, 2020</u>
Senior unsecured notes - Series E - 3.97%, due March 2021	—	50,000
Senior unsecured notes - Series F - 3.40%, due June 2021	—	100,000
Total notes payable and debt, current	—	150,000
Senior unsecured notes - Series G - 3.92%, due June 2024	50,000	50,000
Senior unsecured notes - Series H - floating rate*, due June 2024	50,000	50,000
Senior unsecured notes - Series I - 3.13%, due May 2023	50,000	50,000
Senior unsecured notes - Series K - 3.44%, due May 2026	160,000	160,000
Senior unsecured notes - Series L - 3.31%, due September 2026	200,000	200,000
Senior unsecured notes - Series M - 3.53%, due September 2029	300,000	300,000
Senior unsecured notes - Series N - 1.68%, due March 2026	100,000	—
Senior unsecured notes - Series O - 2.25%, due March 2031	400,000	—
Credit agreement	210,000	400,000
Unamortized debt issuance costs	(6,130)	(3,485)
Total long-term debt	<u>1,513,870</u>	<u>1,206,515</u>
Total debt	<u>\$1,513,870</u>	<u>\$1,356,515</u>

* Series H senior unsecured notes bear interest at a 3-month LIBOR for that floating rate interest period plus 1.25%.

As of December 31, 2021 and 2020, the Company had a total amount available to borrow under the 2021 or 2017 Credit Agreement of \$1.6 billion and \$1.4 billion, respectively, after outstanding letters of credit. The weighted-average interest rates applicable to the senior unsecured notes and credit agreement borrowings collectively were 2.74% and 2.92% at December 31, 2021 and 2020, respectively. As of December 31, 2021, the Company was in compliance with all debt covenants.

The Company and its foreign subsidiaries also had available short-term lines of credit totaling \$121 million and \$109 million at December 31, 2021 and 2020, respectively, for the purpose of short-term borrowing and issuance of commercial guarantees. None of the Company's foreign subsidiaries had outstanding short-term borrowings as of December 31, 2021 or December 31, 2020.

As of December 31, 2021, the Company had entered into three-year interest rate cross-currency swap derivative agreements with an aggregate notional value of \$230 million to hedge the variability in the movement of foreign currency exchange rates on a portion of its Euro-denominated net asset investments.

Annual maturities of debt outstanding at December 31, 2021 are as follows (in thousands):

	<u>Total</u>
2022	\$ —
2023	50,000
2024	100,000
2025	—
2026	670,000
Thereafter	700,000
Total	<u>\$1,520,000</u>

NOTES TO CONSOLIDATED FINANCIAL STATEMENTS — (Continued)

10 Income Taxes

Income tax data for the years ended December 31, 2021, 2020 and 2019 is as follows (in thousands):

	Year Ended December 31,		
	2021	2020	2019
The components of income before income taxes are as follows:			
Domestic	\$144,410	\$ 75,193	\$ 97,325
Foreign	661,783	535,721	580,914
Total	<u>\$806,193</u>	<u>\$610,914</u>	<u>\$678,239</u>

	Year Ended December 31,		
	2021	2020	2019
The components of the income tax provision were as follows:			
Federal	\$ 16,302	\$28,385	\$ 7,009
State	3,691	4,243	3,329
Foreign	76,724	59,408	66,083
Total current tax provision	<u>\$ 96,717</u>	<u>\$92,036</u>	<u>\$76,421</u>
Federal	\$ 10,491	\$ (8,244)	\$ 6,913
State	345	(506)	1,253
Foreign	5,797	6,057	1,454
Total deferred tax provision	<u>16,633</u>	<u>(2,693)</u>	<u>9,620</u>
Total provision	<u>\$113,350</u>	<u>\$89,343</u>	<u>\$86,041</u>

The differences between income taxes computed at the United States statutory rate and the provision for income taxes are summarized as follows for the years ended December 31, 2021, 2020 and 2019 (in thousands):

	Year Ended December 31,		
	2021	2020	2019
Federal tax computed at U.S. statutory income tax rate	\$169,300	\$128,292	\$142,430
Foreign currency exchange impact on distributed earnings	—	—	(3,229)
GILTI, net of foreign tax credits	10,476	13,319	10,523
State income tax, net of federal income tax benefit	4,036	2,415	3,459
Net effect of foreign operations	(54,566)	(48,962)	(52,727)
Effect of stock-based compensation	(6,682)	(6,798)	(9,211)
Other, net	(9,214)	1,077	(5,204)
Provision for income taxes	<u>\$113,350</u>	<u>\$ 89,343</u>	<u>\$ 86,041</u>

The Company's effective tax rates were 14.1%, 14.6% and 12.7% for the years ended December 31, 2021, 2020 and 2019, respectively.

The Company's effective income tax rate differs from the U.S. federal statutory rate each year due to differences in the proportionate amounts of pre-tax income recognized in jurisdictions with different effective tax rates and the items discussed below.

The four principal jurisdictions in which the Company manufactures are the U.S., Ireland, the U.K. and Singapore, where the statutory tax rates were 21%, 12.5%, 19% and 17%, respectively, as of December 31, 2021.

NOTES TO CONSOLIDATED FINANCIAL STATEMENTS — (Continued)

The Company has a new Development and Expansion Incentive in Singapore that provides a concessionary income tax rate of 5% on certain types of income for the period April 1, 2021 through March 31, 2026. Prior to April 1, 2021, the Company had a tax exemption on income arising from qualifying activities in Singapore, based upon the achievement of certain contractual milestones, which the Company met as of December 31, 2020 and maintained through March 2021. The effect of applying these concessionary income tax rates rather than the statutory tax rate to income arising from qualifying activities in Singapore increased the Company's net income during the years ended December 31, 2021, 2020 and 2019 by \$20 million, \$21 million and \$24 million, respectively, and increased the Company's net income per diluted share by \$0.32, \$0.33 and \$0.35, respectively.

During 2021, the Company's effective tax rate differed from the 21% U.S. statutory tax rate primarily due to the jurisdictional mix of earnings, a \$10 million provision related to the GILTI tax and a tax benefit of \$7 million on stock-based compensation.

The 2020 the Company's effective tax rate differed from the 21% U.S. statutory tax rate primarily due to the jurisdictional mix of earnings, a \$13 million provision related to the GILTI tax and a tax benefit of \$7 million on stock-based compensation.

The 2019 effective tax rate differed from the U.S. federal statutory tax rate primarily due to the jurisdictional mix of earnings, an \$11 million provision related to the GILTI tax and a tax benefit of \$9 million on stock-based compensation.

At the end of 2018, and as a result of the enactment of the 2017 Act, we reevaluated our historic assertion and no longer considered undistributed earnings from foreign subsidiaries to be indefinitely reinvested. The Company recorded a tax provision of \$4 million, \$3 million and \$3 million for 2021, 2020 and 2019, respectively, for future withholding taxes and U.S. state taxes on the repatriation of 2021, 2020 and 2019 undistributed earnings.

NOTES TO CONSOLIDATED FINANCIAL STATEMENTS — (Continued)

The tax effects of temporary differences and carryforwards which give rise to deferred tax assets and deferred tax liabilities are summarized as follows (in thousands):

	December 31,	
	2021	2020
Deferred tax assets:		
Net operating losses and credits	\$ 55,813	\$ 61,962
Depreciation	—	5,701
Operating leases	19,288	24,317
Amortization	2,316	2,377
Stock-based compensation	8,074	7,773
Deferred compensation	30,105	27,754
Deferred revenue	10,997	11,341
Revaluation of equity investments and licenses	3,083	4,492
Inventory	5,405	5,060
Accrued liabilities and reserves	6,675	10,639
Unrealized foreign currency gain/loss	2,266	—
Other	6,713	3,483
Total deferred tax assets	150,735	164,899
Valuation allowance	(58,834)	(60,101)
Deferred tax assets, net of valuation allowance	91,901	104,798
Deferred tax liabilities:		
Capitalized software	(24,357)	(23,748)
Operating leases	(19,251)	(24,314)
Indefinite-lived intangibles	(15,534)	(14,973)
Unrealized foreign currency gain/loss	—	(10,819)
Depreciation	(3,481)	—
Deferred tax liability on foreign earnings	(17,283)	(17,277)
Total deferred tax liabilities	(79,906)	(91,131)
Net deferred tax assets	<u>\$ 11,995</u>	<u>\$ 13,667</u>

The Company has gross foreign net operating losses of \$229 million, of which \$202 million do not expire under current laws and \$27 million start expiring in 2022. As of December 31, 2021, the Company has provided a deferred tax valuation allowance of \$59 million, of which \$53 million relates to certain foreign net operating losses. The Company's net deferred tax assets associated with net operating losses and tax credit carryforwards are approximately \$3 million as of December 31, 2021, which represent the future tax benefit of foreign net operating loss carryforwards that do not expire under current law.

The Company accounts for its uncertain tax return positions in accordance with the accounting standards for income taxes, which require financial statement reporting of the expected future tax consequences of uncertain tax reporting positions on the presumption that all concerned tax authorities possess full knowledge of those tax reporting positions, as well as all of the pertinent facts and circumstances, but prohibit any discounting of unrecognized tax benefits associated with those reporting positions for the time value of money. The Company continues to classify interest and penalties related to unrecognized tax benefits as a component of the provision for income taxes.

NOTES TO CONSOLIDATED FINANCIAL STATEMENTS — (Continued)

The following is a summary of the activity of the Company's gross unrecognized tax benefits, excluding interest and penalties, for the year ended December 31, 2021, 2020 and 2019 (in thousands):

	<u>2021</u>	<u>2020</u>	<u>2019</u>
Balance at the beginning of the period	\$28,666	\$27,790	\$26,108
Net reductions for settlement of tax audits	(1,300)	(399)	—
Net reductions for lapse of statutes taken during the period	(433)	(684)	(261)
Net additions for tax positions taken during the current period	<u>1,759</u>	<u>1,959</u>	<u>1,943</u>
Balance at the end of the period	<u>\$28,692</u>	<u>\$28,666</u>	<u>\$27,790</u>

As of 2021, the total amount of gross unrecognized tax benefits was \$29 million, all of which, if recognized, would impact the Company's effective tax rate.

With limited exceptions, the Company is no longer subject to tax audit examinations in significant jurisdictions for the years ended on or before December 31, 2016. The Company continuously monitors the lapsing of statutes of limitations on potential tax assessments for related changes in the measurement of unrecognized tax benefits, related net interest and penalties and deferred tax assets and liabilities.

As of December 31, 2021, the Company expects to record additional reductions in the measurement of its unrecognized tax benefits and related net interest and penalties of approximately \$18 million within the next twelve months due to potential tax audit settlements and the lapsing of statutes of limitations on potential tax assessments. The Company does not expect to record any other material reductions in the measurement of its unrecognized tax benefits within the next twelve months.

As of December 31, 2021, the Company is currently under an income tax audit in the U.S. for its 2017 and 2018 tax years. The Company is also subject to various foreign audits and inquiries and we currently do not expect any material adjustments.

The following is a summary of the activity of the Company's valuation allowance for the years ended December 31, 2021, 2020 and 2019 (in thousands):

	<u>Balance at Beginning of Period</u>	<u>Charged to Provision for Income Taxes*</u>	<u>Other**</u>	<u>Balance at End of Period</u>
Valuation allowance for deferred tax assets:				
2021	\$60,101	\$ 2,919	\$(4,186)	\$58,834
2020	\$51,221	\$ 1,137	\$ 7,743	\$60,101
2019	\$53,893	\$(1,242)	\$(1,430)	\$51,221

* These amounts have been recorded as part of the income statement provision for income taxes. The income statement effects of these amounts have largely been offset by amounts related to changes in other deferred tax balance sheet accounts.

** The change in the valuation allowance during the year ended December 31, 2021 is primarily due to the effect of foreign currency translation on a valuation allowance related to a net operating loss carryforward. The change in the valuation allowance during the year ended December 31, 2020 was primarily due to the effect of foreign currency translation on a valuation allowance related to a net operating loss carryforward and acquired historical net operating losses. The change in the valuation allowance during the year ended December 31, 2019 was primarily due to the effect of foreign currency translation on a valuation allowance related to a net operating loss carryforward.

NOTES TO CONSOLIDATED FINANCIAL STATEMENTS — (Continued)

In March 2020, the U.S. federal government enacted the Coronavirus Aid, Relief and Economic Security Act (the “CARES Act”). The CARES Act is an emergency economic stimulus package in response to the COVID-19 outbreak which, among other things, contains numerous income tax provisions. The CARES Act does not have a material impact on the Company’s consolidated financial statements or related disclosures.

11 Litigation

From time to time, the Company and its subsidiaries are involved in various litigation matters arising in the ordinary course of business. The Company believes it has meritorious arguments in its current litigation matters and believes any outcome, either individually or in the aggregate, will not be material to the Company’s financial position, results of operations or cash flows. During the year ended December 31, 2021, the Company executed a settlement agreement to resolve patent infringement litigation with Bruker Corporation and Bruker Daltronik GmbH regarding their timsTOF product line. In connection with the settlement, the Company is entitled to receive \$10 million in guaranteed payments, including minimum royalty payments, which was recognized within other income in our consolidated statement of operations for the year ended December 31, 2021. During the year ended December 31, 2021, the Company received \$3 million in guaranteed payments, net of applicable withholding taxes. The Company also had a litigation provision of \$5 million during the year ended December 31, 2021 related to a legal settlement. The accrued patent litigation expense is in other current liabilities in the consolidated balance sheets at December 31, 2021 and 2020.

12 Leases

As of December 31, 2021 and 2020, the Company had lease agreements that expire at various dates through 2034, with weighted-average remaining lease terms of 4.7 years and 5.2 years, respectively. Rental expense was \$34 million, \$38 million and \$36 million for the years ended December 31, 2021, 2020 and 2019, respectively. As of December 31, 2021 and 2020, the weighted-average discount rates used to determine the present value of lease liabilities were 3.04% and 3.50%, respectively. During the years ended December 31, 2021, 2020 and 2019, cash paid for amounts included in the measurement of lease liabilities in operating activities in the statement of cash flows was \$34 million, \$38 million and \$36 million, respectively. The Company recorded \$3 million, \$16 million and \$118 million right-of-use assets in exchange for new operating lease liabilities during the years ended December 31, 2021, 2020 and 2019, respectively.

The Company’s right-of-use lease assets and lease liabilities included in the consolidated balance sheets are classified as follows (in thousands):

		December 31,	
	Financial Statement Classification	2021	2020
Assets:			
Property operating lease assets	Operating lease assets	\$55,774	\$62,374
Automobile operating lease assets	Operating lease assets	28,236	29,694
Equipment operating lease assets	Operating lease assets	724	1,184
Total lease assets		<u>\$84,734</u>	<u>\$93,252</u>
Liabilities:			
Current operating lease liabilities	Current operating lease liabilities	\$27,906	\$27,764
Long-term operating lease liabilities	Long-term operating lease liabilities	<u>59,623</u>	<u>68,197</u>
Total lease liabilities		<u>\$87,529</u>	<u>\$95,961</u>

NOTES TO CONSOLIDATED FINANCIAL STATEMENTS — (Continued)

Undiscounted future minimum rents payable as of December 31, 2021 under non-cancelable leases with initial terms exceeding one year reconcile to lease liabilities included in the consolidated balance sheet as follows (in thousands):

2022	\$ 29,311
2023	20,763
2024	14,688
2025	10,642
2026	7,107
2027 and thereafter	<u>11,072</u>
Total future minimum lease payments	93,583
Less: amount of lease payments representing interest	<u>(6,054)</u>
Present value of future minimum lease payments	87,529
Less: current operating lease liabilities	<u>(27,906)</u>
Long-term operating lease liabilities	<u>\$ 59,623</u>

13 Other Commitments and Contingencies

The Company licenses certain technology and software from third parties in the course of ordinary business. Future minimum license fees payable under existing license agreements as of December 31, 2021 are immaterial for the years ended December 31, 2022 and thereafter. The Company enters into licensing arrangements with third parties that require future milestone or royalty payments contingent upon future events. Upon the achievement of certain milestones in existing agreements, the Company could make additional future payments of up to \$2 million.

The Company enters into standard indemnification agreements in its ordinary course of business. Pursuant to these agreements, the Company indemnifies, holds harmless and agrees to reimburse the indemnified party for losses suffered or incurred by the indemnified party, generally the Company's business partners or customers, in connection with patent, copyright or other intellectual property infringement claims by any third party with respect to its current products, as well as claims relating to property damage or personal injury resulting from the performance of services by the Company or its subcontractors. The maximum potential amount of future payments the Company could be required to make under these indemnification agreements is unlimited. Historically, the Company's costs to defend lawsuits or settle claims relating to such indemnity agreements have been minimal and management accordingly believes the estimated fair value of these agreements is immaterial.

14 Stock-Based Compensation

In May 2020, the Company's shareholders approved the Company's 2020 Equity Incentive Plan ("2020 Plan"). As of December 31, 2021, the 2020 Plan has 6.7 million shares available for grant in the form of incentive or non-qualified stock options, stock appreciation rights ("SARs"), restricted stock or other types of awards (e.g. restricted stock units and performance stock units). The Company issues new shares of common stock upon exercise of stock options, restricted stock unit conversion or performance stock unit conversion. Under the 2020 Plan, the exercise price for stock options may not be less than the fair market value of the underlying stock at the date of grant. The 2020 Plan is scheduled to terminate on May 13, 2030. Options generally will expire no later than ten years after the date on which they are granted and will become exercisable as directed by the Compensation Committee of the Board of Directors and generally vest in equal annual installments over a five-year period. A SAR may be granted alone or in conjunction with an option or other award. Shares of restricted stock, restricted stock units and performance stock units may be issued under the 2020 Plan for such

NOTES TO CONSOLIDATED FINANCIAL STATEMENTS — (Continued)

consideration as is determined by the Compensation Committee of the Board of Directors. As of December 31, 2021, the Company had stock options, restricted stock and restricted and performance stock unit awards outstanding.

In May 2009, the Company's shareholders approved the 2009 Employee Stock Purchase Plan, under which eligible employees may contribute up to 15% of their earnings toward the quarterly purchase of the Company's common stock. The plan makes available 0.8 million shares of the Company's common stock, which includes the remaining shares available under the 1996 Employee Stock Purchase Plan. As of December 31, 2021, 1.6 million shares have been issued under both the 2009 and 1996 Employee Stock Purchase Plans. Each plan period lasts three months beginning on January 1, April 1, July 1 and October 1 of each year. The purchase price for each share of stock is the lesser of 90% of the market price on the first day of the plan period or 100% of the market price on the last day of the plan period. Stock-based compensation expense related to this plan was \$1 million for each of the years ended December 31, 2021, 2020 and 2019, respectively.

The Company accounts for stock-based compensation costs in accordance with the accounting standards for stock-based compensation, which require that all share-based payments to employees be recognized in the statements of operations, based on their grant date fair values. The Company recognizes the expense using the straight-line attribution method. The stock-based compensation expense recognized in the consolidated statements of operations is based on awards that ultimately are expected to vest; therefore, the amount of expense has been reduced for estimated forfeitures. Forfeitures are estimated based on historical experience. If actual results differ significantly from these estimates, stock-based compensation expense and the Company's results of operations could be materially impacted. In addition, if the Company employs different assumptions in the application of these standards, the compensation expense that the Company records in the future periods may differ significantly from what the Company has recorded in the current period.

The consolidated statements of operations for the years ended December 31, 2021, 2020 and 2019 include the following stock-based compensation expense related to stock option awards, restricted stock awards, restricted stock unit awards, performance stock unit awards and the employee stock purchase plan (in thousands):

	<u>2021</u>	<u>2020</u>	<u>2019</u>
Cost of sales	\$ 2,500	\$ 2,485	\$ 2,271
Selling and administrative expenses	21,727	29,711	30,907
Research and development expenses	5,691	4,669	5,399
Total stock-based compensation	<u>\$29,918</u>	<u>\$36,865</u>	<u>\$38,577</u>

During the years ended 2020 and 2019, the Company recognized \$1 million and less than \$1 million of expense, respectively, of stock-based compensation related to the modification of certain stock awards upon the retirement of senior executives. There was no expense related to stock award modifications in 2021.

Stock Options

In determining the fair value of the stock options, the Company makes a variety of assumptions and estimates, including volatility measures, expected yields and expected stock option lives. The fair value of each option grant was estimated on the date of grant using the Black-Scholes option pricing model. The Company uses implied volatility on its publicly-traded options as the basis for its estimate of expected volatility. The Company believes that implied volatility is the most appropriate indicator of expected volatility because it is generally reflective of historical volatility and expectations of how future volatility will differ from historical volatility. The expected life assumption for grants is based on historical experience for the population of non-qualified stock option exercises. The risk-free interest rate is the yield currently available on U.S. Treasury zero-coupon issues with a

NOTES TO CONSOLIDATED FINANCIAL STATEMENTS — (Continued)

remaining term approximating the expected term used as the input to the Black-Scholes model. The relevant data used to determine the value of the stock options granted during the year ended December 31, 2021, 2020 and 2019 are as follows:

<u>Options Issued and Significant Weighted-Average Assumptions Used to Estimate Option Fair Values</u>	<u>2021</u>	<u>2020</u>	<u>2019</u>
Options issued in thousands	160	267	146
Risk-free interest rate	0.8%	1.2%	2.5%
Expected life in years	6	6	5
Expected volatility	32.4%	27.8%	24.5%
Expected dividends	—	—	—

<u>Weighted-Average Exercise Price and Fair Value of Options on the Date of Grant</u>	<u>2021</u>	<u>2020</u>	<u>2019</u>
Exercise price	\$281.33	\$215.12	\$230.37
Fair value	\$ 91.48	\$ 63.14	\$ 61.75

The following table summarizes stock option activity for the plans for the year ended December 31, 2021 (in thousands, except per share data):

	<u>Number of Shares</u>	<u>Exercise Price per Share</u>	<u>Weighted-Average Exercise Price per Share</u>
Outstanding at December 31, 2020	1,067	\$ 75.94 to \$238.52	\$179.59
Granted	160	\$250.15 to \$371.64	\$281.33
Exercised	(282)	\$ 75.94 to \$238.52	\$165.29
Canceled	(254)	\$139.51 to \$280.80	\$198.05
Outstanding at December 31, 2021	<u>691</u>	\$ 88.71 to \$371.64	\$202.24

The following table details the options outstanding at December 31, 2021 by range of exercise prices (in thousands, except per share data):

<u>Exercise Price Range</u>	<u>Number of Shares Outstanding</u>	<u>Weighted-Average Exercise Price</u>	<u>Remaining Contractual Life of Options Outstanding</u>	<u>Number of Shares Exercisable</u>	<u>Weighted-Average Exercise Price</u>
\$88.71 to \$194.25	232	\$135.77	4.3	213	\$133.11
\$194.26 to \$224.37	232	\$206.51	7.4	84	\$204.73
\$224.38 to \$371.64	<u>227</u>	\$265.81	8.4	<u>34</u>	\$237.24
Total	<u>691</u>	\$202.24	6.7	<u>331</u>	\$162.09

During 2021, 2020 and 2019, the total intrinsic value of the stock options exercised (i.e., the difference between the market price at exercise and the price paid by the employee to exercise the options) was \$43 million, \$45 million and \$45 million, respectively. The total cash received from the exercise of these stock options was \$46 million, \$59 million and \$46 million for the years ended December 31, 2021, 2020 and 2019, respectively.

The aggregate intrinsic value of the outstanding stock options at December 31, 2021 was \$118 million. Options exercisable at December 31, 2021, 2020 and 2019 were 0.3 million, 0.5 million and 0.7 million, respectively. The weighted-average exercise prices of options exercisable at December 31, 2021, 2020 and 2019 were \$162.09, \$154.16 and \$134.94, respectively. The weighted-average remaining contractual life of the exercisable outstanding stock options at December 31, 2021 was 5.5 years. The aggregate intrinsic value of stock options exercisable as of December 31, 2021 was \$71 million.

NOTES TO CONSOLIDATED FINANCIAL STATEMENTS — (Continued)

At December 31, 2021, the Company had 0.7 million stock options that are vested and expected to vest. The intrinsic value, weighted-average exercise price and remaining contractual life of the vested and expected to vest stock options were \$117 million, \$201.85 and 6.9 years, respectively, at December 31, 2021.

As of December 31, 2021, there were \$19 million of total unrecognized compensation costs related to unvested stock option awards that are expected to vest. These costs are expected to be recognized over a weighted-average period of 3.5 years.

Restricted Stock

During the years ended December 31, 2021, 2020 and 2019, the Company granted four thousand, six thousand and five thousand shares of restricted stock, respectively. The weighted-average fair value per share on the grant date of the restricted stock granted in 2021, 2020 and 2019 was \$256.28, \$229.67 and \$183.41, respectively. The Company has recorded \$1 million of compensation expense in each of the years ended December 31, 2021, 2020 and 2019 related to the restricted stock grants. As of December 31, 2021, the Company had 3 thousand unvested shares of restricted stock outstanding, which have been fully expensed.

Restricted Stock Units

The following table summarizes the unvested restricted stock unit award activity for the year ended December 31, 2021 (in thousands, except per share data):

	Shares	Weighted-Average Grant Date Fair Value per Share
Unvested at December 31, 2020	271	\$202.00
Granted	88	\$283.10
Vested	(88)	\$184.60
Forfeited	(26)	\$224.71
Unvested at December 31, 2021	<u>245</u>	<u>\$234.97</u>

Restricted stock units are generally granted annually in February and vest in equal annual installments over a five-year period. The amount of compensation costs recognized for the years ended December 31, 2021, 2020 and 2019 on the restricted stock units expected to vest were \$17 million, \$15 million and \$14 million, respectively. As of December 31, 2021, there were \$41 million of total unrecognized compensation costs related to the restricted stock unit awards that are expected to vest. These costs are expected to be recognized over a weighted-average period of 3.3 years.

Performance Stock Units

The Company's performance stock units are equity compensation awards with a market vesting condition based on the Company's Total Shareholder Return ("TSR") relative to the TSR of the components of the S&P Health Care Index. TSR is the change in value of a stock price over time, including the reinvestment of dividends. The vesting schedule ranges from 0% to 200% of the target shares awarded. Beginning with the grants made in 2020, the vesting conditions for performance stock units now include a performance condition based on future sales growth.

In determining the fair value of the performance stock units, the Company makes a variety of assumptions and estimates, including volatility measures, expected yields and expected terms. The fair value of each performance stock unit grant was estimated on the date of grant using the Monte Carlo simulation model. The

NOTES TO CONSOLIDATED FINANCIAL STATEMENTS — (Continued)

Company uses implied volatility on its publicly-traded options as the basis for its estimate of expected volatility. The Company believes that implied volatility is the most appropriate indicator of expected volatility because it is generally reflective of historical volatility and expectations of how future volatility will differ from historical volatility. The expected life assumption for grants is based on the performance period of the underlying performance stock units. The risk-free interest rate is the yield currently available on U.S. Treasury zero-coupon issues with a remaining term approximating the expected term used as the input to the Monte Carlo simulation model. The correlation coefficient is used to model the way in which each company in the S&P Health Care Index tends to move in relation to each other during the performance period. The relevant data used to determine the value of the performance stock units granted during the year ended December 31, 2021, 2020 and 2019 are as follows:

<u>Performance Stock Units Issued and Significant Assumptions Used to Estimate Fair Values</u>	<u>2021</u>	<u>2020</u>	<u>2019</u>
Performance stock units issued in thousands	41	58	13
Risk-free interest rate	0.2%	1.3%	2.4%
Expected life in years	2.9	2.9	2.8
Expected volatility	38.7%	25.1%	23.5%
Average volatility of peer companies	34.7%	26.1%	26.2%
Correlation Coefficient	45.8%	36.6%	34.2%
Expected dividends	—	—	—

The following table summarizes the unvested performance stock unit award activity for the year ended December 31, 2021 (in thousands, except per share data):

	<u>Shares</u>	<u>Weighted-Average Fair Value per Share</u>
Unvested at December 31, 2020	95	\$230.36
Granted	41	\$315.98
Vested	(5)	\$242.94
Forfeited	(44)	\$199.22
Unvested at December 31, 2021	<u>87</u>	<u>\$285.73</u>

The amount of compensation costs recognized for the years ended December 31, 2021, 2020 and 2019 on the performance stock units expected to vest were \$3 million, \$6 million and \$7 million, respectively. As of December 31, 2021, there were \$12 million of total unrecognized compensation costs related to the restricted stock unit awards that are expected to vest. These costs are expected to be recognized over a weighted-average period of 2.0 years.

15 Earnings Per Share

Basic and diluted EPS calculations are detailed as follows (in thousands, except per share data):

	<u>Year Ended December 31, 2021</u>		
	<u>Net Income (Numerator)</u>	<u>Weighted-Average Shares (Denominator)</u>	<u>Per Share Amount</u>
Net income per basic common share	\$692,843	61,575	\$11.25
Effect of dilutive stock option, restricted stock, performance stock unit and restricted stock unit securities	—	453	(0.08)
Net income per diluted common share	<u>\$692,843</u>	<u>62,028</u>	<u>\$11.17</u>

NOTES TO CONSOLIDATED FINANCIAL STATEMENTS — (Continued)

Year Ended December 31, 2020			
	Net Income (Numerator)	Weighted-Average Shares (Denominator)	Per Share Amount
Net income per basic common share	\$521,571	62,094	\$ 8.40
Effect of dilutive stock option, restricted stock, performance stock unit and restricted stock unit securities	—	320	(0.04)
Net income per diluted common share	<u>\$521,571</u>	<u>62,414</u>	<u>\$ 8.36</u>
Year Ended December 31, 2019			
	Net Income (Numerator)	Weighted-Average Shares (Denominator)	Per Share Amount
Net income per basic common share	\$592,198	67,627	\$ 8.76
Effect of dilutive stock option, restricted stock, performance stock unit and restricted stock unit securities	—	539	(0.07)
Net income per diluted common share	<u>\$592,198</u>	<u>68,166</u>	<u>\$ 8.69</u>

For the years ended December 31, 2021, 2020 and 2019, the Company had 0.1 million, 0.3 million and 0.1 million stock options that were antidilutive, respectively, due to having higher exercise prices than the Company's average stock price during the period. These securities were not included in the computation of diluted EPS. The effect of dilutive securities was calculated using the treasury stock method.

16 Accumulated Other Comprehensive Income

The components of accumulated other comprehensive loss are detailed as follows (in thousands):

	Currency Translation	Unrealized Gain (Loss) on Retirement Plans	Unrealized Loss on Investments	Accumulated Other Comprehensive Loss
Balance at December 31, 2019	\$(104,066)	\$(15,405)	\$—	\$(119,471)
Other comprehensive income (loss), net of tax ...	5,984	(4,456)	—	1,528
Balance at December 31, 2020	\$ (98,082)	\$(19,861)	\$—	\$(117,943)
Other comprehensive income (loss), net of tax ...	(1,903)	8,001	(20)	6,078
Balance at December 31, 2021	<u>\$ (99,985)</u>	<u>\$(11,860)</u>	<u>\$ (20)</u>	<u>\$(111,865)</u>

17 Retirement Plans

U.S. employees are eligible to participate in the Waters Employee Investment Plan, a 401(k) defined contribution plan, immediately upon hire. Employees may contribute up to 60% of eligible pay on a pre-tax or post-tax basis and the Company makes matching contributions of 100% for contributions up to 6% of eligible pay. The Company also sponsors a 401(k) Restoration Plan, which is a nonqualified defined contribution plan. Employees are 100% vested in employee and Company matching contributions for both plans. For the years ended December 31, 2021, 2020 and 2019, the Company's matching contributions amounted to \$19 million, \$7 million and \$17 million, respectively.

In May 2018, the Company's Board of Directors approved the termination of two defined benefit pension plans in the U.S. for which the pay credit accruals have been frozen, the Waters Retirement Plan and the Waters Retirement Restoration Plan (collectively, the "U.S. Pension Plans"). In December 2018, the Company settled the

NOTES TO CONSOLIDATED FINANCIAL STATEMENTS — (Continued)

Waters Retirement Plan obligation by making lump-sum cash payments and purchasing annuity contracts for participants to permanently extinguish the pension plan's obligations. As a result, the Company recorded a \$46 million charge to other expense, which consisted of a \$6 million cash contribution to the plan and a \$40 million non-cash charge related to the reversal of unrecognized actuarial losses recorded in accumulated other comprehensive income in the stockholders' equity. The \$46 million pre-tax charge reduced net income per diluted share by \$0.39. The termination of the Waters Retirement Restoration Plan was completed in 2019.

The Company also sponsors other employee benefit plans in the U.S., including a retiree healthcare plan, which provides reimbursement for medical expenses and is contributory. There are various employee benefit plans outside the United States (both defined benefit and defined contribution plans). Certain non-U.S. defined benefit plans ("Non-U.S. Pension Plans") are included in the disclosures below, which are required under the accounting standards for retirement benefits.

The Company contributed \$17 million, \$14 million and \$15 million in the years ended December 31, 2021, 2020 and 2019, respectively, to the non-U.S. plans (primarily defined contribution plans) which are currently outside of the scope of the required disclosures. The eligibility and vesting of non-U.S. plans are consistent with local laws and regulations.

The net periodic pension cost is made up of several components that reflect different aspects of the Company's financial arrangements as well as the cost of benefits earned by employees. These components are determined using the projected unit credit actuarial cost method and are based on certain actuarial assumptions. The Company's accounting policy is to reflect in the projected benefit obligation all benefit changes to which the Company is committed as of the current valuation date; use a market-related value of assets to determine pension expense; amortize increases in prior service costs on a straight-line basis over the expected future service of active participants as of the date such costs are first recognized; and amortize cumulative actuarial gains and losses in excess of 10% of the larger of the market-related value of plan assets and the projected benefit obligation over the expected future service of active participants.

Summary data for the U.S. Pension Plans, U.S. Retiree Healthcare Plan and Non-U.S. Pension Plans are presented in the following tables, using the measurement dates of December 31, 2021 and 2020, respectively.

The reconciliation of the projected benefit obligations for the plans at December 31, 2021 and 2020 is as follows (in thousands):

	2021		2020	
	U.S. Retiree Healthcare Plan	Non-U.S. Pension Plans	U.S. Retiree Healthcare Plan	Non-U.S. Pension Plans
Projected benefit obligation, January 1	\$25,369	\$119,590	\$21,186	\$103,366
Service cost	884	4,577	665	4,519
Employee contributions	1,176	561	1,149	514
Interest cost	559	1,247	711	1,413
Actuarial (gains) losses	(852)	(5,803)	2,788	2,624
Benefits paid	(1,178)	(5,334)	(1,130)	(1,474)
Plan amendments	—	69	—	—
Plan settlements	—	(341)	—	(1,449)
Currency impact	—	(7,642)	—	10,077
Projected benefit obligation, December 31	<u>\$25,958</u>	<u>\$106,924</u>	<u>\$25,369</u>	<u>\$119,590</u>

NOTES TO CONSOLIDATED FINANCIAL STATEMENTS — (Continued)

The reconciliation of the fair value of the plan assets at December 31, 2021 and 2020 is as follows (in thousands):

	2021		2020	
	U.S. Retiree Healthcare Plan	Non-U.S. Pension Plans	U.S. Retiree Healthcare Plan	Non-U.S. Pension Plans
Fair value of plan assets, January 1	\$16,168	\$93,890	\$13,773	\$83,011
Actual return on plan assets	1,682	2,739	1,967	1,395
Company contributions	466	5,529	409	3,581
Employee contributions	1,176	561	1,149	514
Plan settlements	—	(341)	—	(1,449)
Benefits paid	(1,178)	(5,334)	(1,130)	(1,474)
Currency impact	—	(5,875)	—	8,312
Fair value of plan assets, December 31	<u>\$18,314</u>	<u>\$91,169</u>	<u>\$16,168</u>	<u>\$93,890</u>

The summary of the funded status for the plans at December 31, 2021 and 2020 is as follows (in thousands):

	2021		2020	
	U.S. Retiree Healthcare Plan	Non-U.S. Pension Plans	U.S. Retiree Healthcare Plan	Non-U.S. Pension Plans
Projected benefit obligation	\$(25,958)	\$(106,924)	\$(25,369)	\$(119,590)
Fair value of plan assets	18,314	91,169	16,168	93,890
Funded status	<u>\$ (7,644)</u>	<u>\$ (15,755)</u>	<u>\$ (9,201)</u>	<u>\$ (25,700)</u>

The change in the Company's projected benefit obligation for the year ended December 31, 2021 was primarily due to fluctuations in foreign currency exchange rates during the year, net actuarial gains that arose during the year driven by an increase in discount rates and differences between expected and actual return on plan assets. The change in the Company's projected benefit obligation for the year ended December 31, 2020 was primarily due to net actuarial losses that arose during the year driven by a decline in discount rates, differences between expected and actual return on plan assets, and also fluctuations in foreign currency exchange rates during the year.

The summary of the amounts recognized in the consolidated balance sheets for the plans at December 31, 2021 and 2020 is as follows (in thousands):

	2021		2020	
	U.S. Retiree Healthcare Plan	Non-U.S. Pension Plans	U.S. Retiree Healthcare Plan	Non-U.S. Pension Plans
Long-term assets	\$ —	\$ 1,992	\$ —	\$ 971
Current liabilities	(466)	—	(409)	(1,999)
Long-term liabilities	(7,178)	(17,747)	(8,792)	(24,672)
Net amount recognized at December 31	<u>\$(7,644)</u>	<u>\$(15,755)</u>	<u>\$(9,201)</u>	<u>\$(25,700)</u>

The accumulated benefit obligation for all defined benefit pension plans was \$92 million and \$103 million at December 31, 2021 and 2020, respectively.

NOTES TO CONSOLIDATED FINANCIAL STATEMENTS — (Continued)

The summary of the Non-U.S. Pension Plans that have accumulated benefit obligations in excess of plan assets at December 31, 2021 and 2020 is as follows (in thousands):

	<u>2021</u>	<u>2020</u>
Accumulated benefit obligations	\$75,178	\$84,940
Fair value of plan assets	\$66,414	\$68,334

The summary of the Non-U.S. Pension Plans that have projected benefit obligations in excess of plan assets at December 31, 2021 and 2020 is as follows (in thousands):

	<u>2021</u>	<u>2020</u>
Projected benefit obligations	\$96,010	\$107,093
Fair value of plan assets	\$78,264	\$ 80,422

The summary of the components of net periodic pension costs for the plans for the years ended December 31, 2021, 2020 and 2019 is as follows (in thousands):

	<u>2021</u>			<u>2020</u>			<u>2019</u>		
	<u>U.S. Pension Plans</u>	<u>U.S. Retiree Healthcare Plan</u>	<u>Non-U.S. Pension Plans</u>	<u>U.S. Pension Plans</u>	<u>U.S. Retiree Healthcare Plan</u>	<u>Non-U.S. Pension Plans</u>	<u>U.S. Pension Plans</u>	<u>U.S. Retiree Healthcare Plan</u>	<u>Non-U.S. Pension Plans</u>
Service cost	\$—	\$ 884	\$ 4,577	\$—	\$ 665	\$ 4,519	\$—	\$ 499	\$ 4,339
Interest cost	—	559	1,247	—	711	1,413	29	777	1,735
Expected return on plan assets	—	(1,011)	(1,835)	—	(871)	(1,874)	—	(706)	(2,154)
Settlement loss	—	—	77	—	—	235	27	—	1,548
Net amortization:									
Prior service credit	—	(19)	(87)	—	(19)	(163)	—	(19)	(108)
Net actuarial loss	—	10	1,186	—	—	1,571	—	—	531
Net periodic pension cost	<u>\$—</u>	<u>\$ 423</u>	<u>\$ 5,165</u>	<u>\$—</u>	<u>\$ 486</u>	<u>\$ 5,701</u>	<u>\$ 56</u>	<u>\$ 551</u>	<u>\$ 5,891</u>

The summary of the changes in amounts recognized in other comprehensive income (loss) for the plans for the years ended December 31, 2021, 2020 and 2019 is as follows (in thousands):

	<u>2021</u>			<u>2020</u>			<u>2019</u>		
	<u>U.S. Pension Plans</u>	<u>U.S. Retiree Healthcare Plan</u>	<u>Non-U.S. Pension Plans</u>	<u>U.S. Pension Plans</u>	<u>U.S. Retiree Healthcare Plan</u>	<u>Non-U.S. Pension Plans</u>	<u>U.S. Pension Plans</u>	<u>U.S. Retiree Healthcare Plan</u>	<u>Non-U.S. Pension Plans</u>
Prior service credit	\$—	\$ —	\$ (69)	\$—	\$ —	\$ —	\$—	\$ —	\$ —
Net gain (loss) arising during the year	—	1,524	6,708	—	(1,692)	(3,104)	32	(648)	(8,940)
Amortization:									
Prior service credit	—	(19)	(87)	—	(19)	(163)	—	(19)	(108)
Net loss	—	10	1,263	—	—	1,806	27	—	2,079
Other Plans	—	—	—	—	—	—	—	—	18
Currency impact	—	—	1,179	—	—	(2,225)	—	—	178
Total recognized in other comprehensive income (loss)	<u>\$—</u>	<u>\$1,515</u>	<u>\$8,994</u>	<u>\$—</u>	<u>\$(1,711)</u>	<u>\$(3,686)</u>	<u>\$ 59</u>	<u>\$(667)</u>	<u>\$(6,773)</u>

NOTES TO CONSOLIDATED FINANCIAL STATEMENTS — (Continued)

The components of net periodic benefit cost other than the service cost component are included in other income (expense) in the consolidated statements of operations.

The summary of the amounts included in accumulated other comprehensive loss in stockholders' equity for the plans at December 31, 2021 and 2020 is as follows (in thousands):

	2021		2020	
	U.S. Retiree Healthcare Plan	Non-U.S. Pension Plans	U.S. Retiree Healthcare Plan	Non-U.S. Pension Plans
Net actuarial loss	\$(889)	\$(14,938)	\$(2,423)	\$(24,138)
Prior service credit	55	152	74	358
Total	<u>\$(834)</u>	<u>\$(14,786)</u>	<u>\$(2,349)</u>	<u>\$(23,780)</u>

The plans' investment asset mix is as follows at December 31, 2021 and 2020:

	2021		2020	
	U.S. Retiree Healthcare Plan	Non-U.S. Pension Plans	U.S. Retiree Healthcare Plan	Non-U.S. Pension Plans
Equity securities	77%	8%	67%	5%
Debt securities	23%	18%	33%	20%
Cash and cash equivalents	0%	1%	0%	1%
Insurance contracts and other	0%	73%	0%	74%
Total	<u>100%</u>	<u>100%</u>	<u>100%</u>	<u>100%</u>

The plans' investment policies include the following asset allocation guidelines:

	U.S. Retiree Healthcare Plan		Non-U.S. Pension Plans
	Policy Target	Range	Policy Target
Equity securities	60%	30% - 90%	13%
Debt securities	35%	20% - 50%	19%
Cash and cash equivalents	0%	0% - 10%	8%
Insurance contracts and other	5%	0% - 10%	60%

The asset allocation policy for the U.S. Retiree Healthcare Plan was developed in consideration of the following long-term investment objectives: achieving a return on assets consistent with the investment policy, achieving portfolio returns which compare favorably with those of other similar plans, professionally managed portfolios and of appropriate market indexes and maintaining sufficient liquidity to meet the obligations of the plan. Within the equity portfolio of the U.S. Retiree Healthcare Plan, investments are diversified among market capitalization and investment strategy, and targets a 45% allocation of the equity portfolio to be invested in financial markets outside of the United States. The Company does not invest in its own stock within the U.S. Retiree Healthcare Plan's assets.

Plan assets are measured at fair value using the following valuation techniques and inputs:

Level 1: The fair value of these types of investments is based on market and observable sources from daily quoted prices on nationally recognized securities exchanges.

NOTES TO CONSOLIDATED FINANCIAL STATEMENTS — (Continued)

Level 2: The fair value of these types of investments utilizes data points other than quoted prices in active markets that are observable either directly or indirectly.

Level 3: These bank and insurance investment contracts are issued by well-known, highly-rated companies. The fair value disclosed represents the present value of future cash flows under the terms of the respective contracts. Significant assumptions used to determine the fair value of these contracts include the amount and timing of future cash flows and counterparty credit risk.

There have been no changes in the above valuation techniques associated with determining the value of the plans' assets during the years ended December 31, 2021 and 2020.

The fair value of the Company's retirement plan assets are as follows at December 31, 2021 (in thousands):

	Total at December 31, 2021	Quoted Prices in Active Markets for Identical Assets (Level 1)	Significant Other Observable Inputs (Level 2)	Significant Unobservable Inputs (Level 3)
U.S. Retiree Healthcare Plan:				
Mutual funds ^(a)	18,314	18,314	—	—
Total U.S. Retiree Healthcare Plan	18,314	18,314	—	—
Non-U.S. Pension Plans:				
Cash equivalents ^(b)	1,333	1,333	—	—
Mutual funds ^(c)	23,891	23,891	—	—
Bank and insurance investment contracts ^(d)	65,945	—	—	65,945
Total Non-U.S. Pension Plans	91,169	25,224	—	65,945
Total fair value of retirement plan assets	<u>\$109,483</u>	<u>\$43,538</u>	<u>\$—</u>	<u>\$65,945</u>

The fair value of the Company's retirement plan assets are as follows at December 31, 2020 (in thousands):

	Total at December 31, 2020	Quoted Prices in Active Markets for Identical Assets (Level 1)	Significant Other Observable Inputs (Level 2)	Significant Unobservable Inputs (Level 3)
U.S. Retiree Healthcare Plan:				
Mutual funds ^(e)	16,168	16,168	—	—
Total U.S. Retiree Healthcare Plan	16,168	16,168	—	—
Non-U.S. Pension Plans:				
Cash equivalents ^(b)	1,188	1,188	—	—
Mutual funds ^(f)	23,582	23,582	—	—
Bank and insurance investment contracts ^(d)	69,120	—	—	69,120
Total Non-U.S. Pension Plans	93,890	24,770	—	69,120
Total fair value of retirement plan assets	<u>\$110,058</u>	<u>\$40,938</u>	<u>\$—</u>	<u>\$69,120</u>

(a) The mutual fund balance in the U.S. Retiree Healthcare Plan is invested in the following categories: 48% in the common stock of large-cap U.S. companies, 29% in the common stock of international growth companies and 23% in fixed income bonds of U.S. companies and the U.S. government.

(b) Primarily represents deposit account funds held with various financial institutions.

NOTES TO CONSOLIDATED FINANCIAL STATEMENTS — (Continued)

- (c) The mutual fund balance in the Non-U.S. Pension Plans is primarily invested in the following categories: 58% in international bonds, 31% in the common stock of international companies and 11% in various other global investments.
- (d) Amount represents bank and insurance guaranteed investment contracts.
- (e) The mutual fund balance in the U.S. Retiree Healthcare Plan is invested in the following categories: 36% in the common stock of large-cap U.S. companies, 31% in the common stock of international growth companies and 33% in fixed income bonds of U.S. companies and the U.S. government.
- (f) The mutual fund balance in the Non-U.S. Pension Plans is invested in the following categories: 64% in international bonds, 19% in the common stock of international companies and 17% in various other global investments.

The following table summarizes the changes in fair value of the Level 3 retirement plan assets for the years ended December 31, 2021 and 2020 (in thousands):

	Insurance Guaranteed Investment Contracts
Fair value of assets, December 31, 2019	\$60,119
Net purchases (sales) and appreciation (depreciation)	9,001
Fair value of assets, December 31, 2020	69,120
Net purchases (sales) and appreciation (depreciation)	(3,175)
Fair value of assets, December 31, 2021	<u>\$65,945</u>

The weighted-average assumptions used to determine the benefit obligation in the consolidated balance sheets at December 31, 2021, 2020 and 2019 are as follows:

	2021		2020		2019	
	<u>U.S.</u>	<u>Non-U.S.</u>	<u>U.S.</u>	<u>Non-U.S.</u>	<u>U.S.</u>	<u>Non-U.S.</u>
Discount rate	2.70%	1.40%	2.25%	1.12%	3.42%	1.38%
Increases in compensation levels	**	2.74%	**	2.69%	**	2.83%
Interest crediting rate	5.25%	0.99%	5.25%	0.85%	5.25%	0.79%

** Not applicable

The weighted-average assumptions used to determine the net periodic pension cost for the years ended December 31, 2021, 2020 and 2019 are as follows:

	2021		2020		2019	
	<u>U.S.</u>	<u>Non-U.S.</u>	<u>U.S.</u>	<u>Non-U.S.</u>	<u>U.S.</u>	<u>Non-U.S.</u>
Discount rate	2.25%	1.40%	3.42%	1.98%	4.41%	2.25%
Return on plan assets	6.25%	2.58%	6.25%	2.99%	6.25%	3.11%
Increases in compensation levels	**	3.11%	**	3.62%	**	3.20%
Interest crediting rate	5.25%	0.77%	5.25%	0.63%	5.25%	0.58%

** Not applicable

To develop the expected long-term rate of return on assets assumption, the Company considered historical returns and future expectations for returns for each asset class, as well as the target asset allocation of the pension portfolio and historical expenses paid by the plan. A one-quarter percentage point increase in the assumed long-term rate of return on assets would decrease the Company's net periodic benefit cost by less than \$1 million. A

NOTES TO CONSOLIDATED FINANCIAL STATEMENTS — (Continued)

one-quarter percentage point increase in the discount rate would decrease the Company's net periodic benefit cost by less than \$1 million.

During fiscal year 2022, the Company expects to contribute a total of approximately \$3 million to \$6 million to the Company's defined benefit plans. Estimated future benefit payments from the plans as of December 31, 2021 are as follows (in thousands):

	U.S. Retiree Healthcare Plans	Non-U.S. Pension Plans	Total
2022	\$1,452	\$ 4,090	\$ 5,542
2023	1,554	2,285	3,839
2024	1,643	2,635	4,278
2025	1,703	3,815	5,518
2026	1,726	3,093	4,819
2027 - 2031	8,358	23,408	31,766

18 Business Segment Information

The accounting standards for segment reporting establish standards for reporting information about operating segments in annual financial statements and require selected information for those segments to be presented in interim financial reports of public business enterprises. They also establish standards for related disclosures about products and services, geographic areas and major customers. The Company's business activities, for which discrete financial information is available, are regularly reviewed and evaluated by the chief operating decision maker. As a result of this evaluation, the Company determined that it has two operating segments: Waters™ and TA™.

The Waters operating segment is primarily in the business of designing, manufacturing, selling and servicing LC and MS instruments, columns and other precision chemistry consumables that can be integrated and used along with other analytical instruments. The TA operating segment is primarily in the business of designing, manufacturing, selling and servicing thermal analysis, rheometry and calorimetry instruments. The Company's two operating segments have similar economic characteristics; product processes; products and services; types and classes of customers; methods of distribution; and regulatory environments. Because of these similarities, the two segments have been aggregated into one reporting segment for financial statement purposes. Please refer to the consolidated financial statements for financial information regarding the one reportable segment of the Company.

Net sales for the Company's products and services are as follows for the years ended December 31, 2021, 2020 and 2019 (in thousands):

	2021	2020	2019
Product net sales:			
Waters instrument systems	\$1,089,248	\$ 890,855	\$ 963,871
Chemistry consumables	507,209	432,080	412,018
TA instrument systems	225,613	174,398	191,300
Total product sales	1,822,070	1,497,333	1,567,189
Service net sales:			
Waters service	876,626	794,189	761,594
TA service	87,178	73,843	77,813
Total service sales	963,804	868,032	839,407
Total net sales	<u>\$2,785,874</u>	<u>\$2,365,365</u>	<u>\$2,406,596</u>

NOTES TO CONSOLIDATED FINANCIAL STATEMENTS — (Continued)

Net sales are attributable to geographic areas based on the region of destination. Geographic sales information is presented below for the years ended December 31, 2021, 2020 and 2019 (in thousands):

	<u>2021</u>	<u>2020</u>	<u>2019</u>
Net Sales:			
Asia:			
China	\$ 521,128	\$ 404,352	\$ 439,557
Japan	182,597	179,815	180,707
Asia Other	372,040	315,010	318,848
Total Asia	1,075,765	899,177	939,112
Americas:			
United States	774,014	678,313	692,277
Americas Other	151,206	119,529	137,964
Total Americas	925,220	797,842	830,241
Europe	784,889	668,346	637,243
Total net sales	<u>\$2,785,874</u>	<u>\$2,365,365</u>	<u>\$2,406,596</u>

None of the Company's individual customers accounts for more than 2% of annual Company sales. Net sales by customer class are as follows for the years ended December 31, 2021, 2020 and 2019 (in thousands):

	<u>2021</u>	<u>2020</u>	<u>2019</u>
Pharmaceutical	\$1,667,061	\$1,386,966	\$1,365,275
Industrial	829,204	707,772	719,377
Academic and governmental	289,609	270,627	321,944
Total net sales	<u>\$2,785,874</u>	<u>\$2,365,365</u>	<u>\$2,406,596</u>

Net sales for the Company recognized at a point in time versus over time are as follows for the years ended December 31, 2021, 2020 and 2019 (in thousands):

	<u>2021</u>	<u>2020</u>	<u>2019</u>
Net sales recognized at a point in time:			
Instrument systems	\$1,314,861	\$1,065,253	\$1,155,171
Chemistry consumables	507,209	432,080	412,018
Service sales recognized at a point in time (time & materials)	354,666	365,776	323,247
Total net sales recognized at a point in time	2,176,736	1,863,109	1,890,436
Net sales recognized over time:			
Service and software sales recognized over time (contracts)	609,138	502,256	516,160
Total net sales	<u>\$2,785,874</u>	<u>\$2,365,365</u>	<u>\$2,406,596</u>

NOTES TO CONSOLIDATED FINANCIAL STATEMENTS — (Continued)

Long-lived assets information at December 31, 2021 and 2020 is presented below (in thousands):

	2021	2020	2019
Long-lived assets:			
United States	\$395,446	\$350,615	\$276,891
Americas Other	1,662	1,179	1,929
Total Americas	397,108	351,794	278,820
Europe	130,806	119,978	116,734
Asia	19,999	22,231	21,788
Total long-lived assets	<u>\$547,913</u>	<u>\$494,003</u>	<u>\$417,342</u>

The Americas Other category includes Canada, Latin America and Puerto Rico. Long-lived assets exclude goodwill, other intangible assets and other assets.

19 Unaudited Quarterly Results

The Company's unaudited quarterly results are summarized below (in thousands, except per share data):

2021	First Quarter	Second Quarter	Third Quarter	Fourth Quarter	Total
Net sales	\$608,545	\$681,647	\$659,233	\$836,449	\$2,785,874
Costs and operating expenses:					
Cost of sales	254,147	280,254	271,128	351,004	1,156,533
Selling and administrative expenses	143,196	158,213	152,545	173,014	626,968
Research and development expenses	38,092	44,949	41,986	43,331	168,358
Purchased intangibles amortization	1,840	1,809	1,759	1,735	7,143
Litigation provisions	—	—	—	5,165	5,165
Total costs and operating expenses	<u>437,275</u>	<u>485,225</u>	<u>467,418</u>	<u>574,249</u>	<u>1,964,167</u>
Operating income	171,270	196,422	191,815	262,200	821,707
Other income (expense)	9,359	9,321	(607)	(870)	17,203
Interest expense	(10,946)	(12,027)	(11,081)	(10,884)	(44,938)
Interest income	4,101	3,698	2,548	1,874	12,221
Income before income taxes	173,784	197,414	182,675	252,320	806,193
Provision for income taxes	25,657	30,122	21,490	36,081	113,350
Net income	<u>\$148,127</u>	<u>\$167,292</u>	<u>\$161,185</u>	<u>\$216,239</u>	<u>\$ 692,843</u>
Net income per basic common share	2.38	2.71	2.63	3.55	11.25
Weighted-average number of basic common shares	62,260	61,685	61,359	60,984	61,575
Net income per diluted common share	2.37	2.69	2.60	3.52	11.17
Weighted-average number of diluted common shares and equivalents	62,632	62,157	61,888	61,423	62,028

NOTES TO CONSOLIDATED FINANCIAL STATEMENTS — (Continued)

2020	First Quarter	Second Quarter	Third Quarter	Fourth Quarter	Total
Net sales	\$464,939	\$519,984	\$593,784	\$786,658	\$2,365,365
Costs and operating expenses:					
Cost of sales	210,644	213,134	262,342	320,569	1,006,689
Selling and administrative expenses	147,735	117,449	135,430	153,084	553,698
Research and development expenses	34,989	31,155	34,971	39,662	140,777
Purchased intangibles amortization	2,625	2,618	2,657	2,687	10,587
Asset Impairments	—	—	—	6,945	6,945
Litigation provisions	666	514	—	—	1,180
Total costs and operating expenses	396,659	364,870	435,400	522,947	1,719,876
Operating income	68,280	155,114	158,384	263,711	645,489
Other (expense) income	(374)	(736)	(1,039)	374	(1,775)
Interest expense	(14,079)	(13,018)	(10,915)	(11,058)	(49,070)
Interest income	4,036	4,003	4,007	4,224	16,270
Income before income taxes	57,863	145,363	150,437	257,251	610,914
Provision for income taxes	4,301	22,434	23,668	38,940	89,343
Net income	<u>\$ 53,562</u>	<u>\$122,929</u>	<u>\$126,769</u>	<u>\$218,311</u>	<u>\$ 521,571</u>
Net income per basic common share	0.86	1.98	2.04	3.51	8.40
Weighted-average number of basic common shares	62,232	61,944	62,002	62,170	62,094
Net income per diluted common share	0.86	1.98	2.03	3.49	8.36
Weighted-average number of diluted common shares and equivalents	62,626	62,184	62,303	62,501	62,414

The Company typically experiences an increase in sales in the fourth quarter, as a result of purchasing habits for capital goods of customers that tend to exhaust their spending budgets by calendar year end. Selling and administrative expenses are typically higher after the first quarter in each year as the Company's annual payroll merit increases take effect, however during the second quarter of 2020, the Company's selling and administrative expenses decreased compared to the first quarter of 2020 as a result of severance-related costs incurred during the first quarter of 2020 in connection with a reduction in workforce and lease-termination and exit costs. These costs were offset by COVID-19 and restructuring cost-saving actions that reduced planned salaries and non-essential spending, beginning in the second quarter of 2020 and totaled \$70 million for the year. Selling and administrative expenses will vary in the fourth quarter in relation to performance in the quarter and for the year.

During the first quarter of 2021, the Company recorded an unrealized gain of \$10 million due to an observable change in fair value of an existing investment the Company does not have the ability to exercise significant influence over. This unrealized gain was recorded in Other income.

During the second quarter of 2021, the Company executed a settlement agreement to resolve patent infringement litigation with Bruker Corporation and Bruker Daltronik GmbH regarding their timsTOF product line. In connection with the settlement, the Company is entitled to receive \$10 million in guaranteed payments, including minimum royalty payments, which was recognized within other income in our consolidated statement of operations. This settlement was recorded in Other income.

During the fourth quarter of 2020, the Company recorded a non-cash charge of \$10 million for the impairment of certain intangible assets associated with its 2014 acquisition of Medimass. The impairment charge was due to a shift in strategic priorities. In conjunction with the intangible asset impairment the Company also reduced its liability for contingent consideration of \$3 million during 2020 as the carrying value of this liability is based on the future sales of the Medimass intangible assets that were impaired. The net impact of \$7 million is reported separately within the consolidated statements of operations.

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

None.

Item 9A: *Controls and Procedures*

Evaluation of Disclosure Controls and Procedures

The Company's chief executive officer and chief financial officer (principal executive officer and principal financial officer), with the participation of management, evaluated the effectiveness of the Company's disclosure controls and procedures (as defined in Rules 13a-15(e) and 15d-15(e) under the Securities Exchange Act of 1934, as amended (the "Exchange Act")) as of the end of the period covered by this annual report on Form 10-K. Based on this evaluation, the Company's chief executive officer and chief financial officer concluded that the Company's disclosure controls and procedures were effective as of December 31, 2021 (1) to ensure that information required to be disclosed by the Company, including its consolidated subsidiaries, in the reports that it files or submits under the Exchange Act is accumulated and communicated to the Company's management, including its chief executive officer and chief financial officer, to allow timely decisions regarding the required disclosure and (2) to provide reasonable assurance that information required to be disclosed by the Company in the reports that it files or submits under the Exchange Act is recorded, processed, summarized and reported within the time periods specified in the SEC's rules and forms.

Management's Annual Report on Internal Control Over Financial Reporting

See Management's Report on Internal Control Over Financial Reporting in Item 8 on page 51 of this Form 10-K.

Report of the Independent Registered Public Accounting Firm

See the report of PricewaterhouseCoopers LLP in Item 8 beginning on page 52 of this Form 10-K.

Changes in Internal Control Over Financial Reporting

No change was identified in the Company's internal control over financial reporting (as defined in Rules 13a-15(f) and 15d-15(f) under the Exchange Act) during the quarter ended December 31, 2021 that has materially affected, or is reasonably likely to materially affect, the Company's internal control over financial reporting.

Item 9B: *Other Information*

None.

Item 9C: *Disclosure Regarding Foreign Jurisdictions That Prevent Inspections*

None.

PART III

Item 10: *Directors, Executive Officers and Corporate Governance*

INFORMATION ABOUT OUR EXECUTIVE OFFICERS

Officers of the Company are elected annually by the Board of Directors and hold office at the discretion of the Board of Directors. The following persons serve as executive officers of the Company:

Dr. Udit Batra, 51, was appointed a Director of the Company as well as President and CEO on September 1, 2020. He most recently served as Chief Executive Officer of the Life Science business of Merck KGaA, Darmstadt, Germany, which operates as MilliporeSigma in the United States and Canada, and as a member of its Executive Board, roles he held from 2014 and 2016, respectively, through July 2020. Prior to that, Dr. Batra

served as President and Chief Executive Officer of Merck KGaA, Darmstadt, Germany's Consumer Health business. Dr. Batra oversaw the company's Bioethics Advisory Panel and had Board responsibility for the global Information Technology function. Before joining Merck KGaA, Darmstadt, Germany, Dr. Batra held several positions of increasing responsibility at Novartis, including Global Head of Corporate Strategy in Switzerland, Country President for the Pharma Business of Novartis in Australia and New Zealand and the Global Head of Public Health and Market Access in Cambridge, Massachusetts. Dr. Batra also served at the global consultancy McKinsey & Company across the healthcare, consumer and non-profit sectors. Dr. Batra started his career at Merck Research Labs in West Point, Pennsylvania as a research engineer.

Keeley Aleman, 45, was appointed Senior Vice President, General Counsel and Secretary in October of 2019. Ms. Aleman joined Waters Corporation in 2006 as the Assistant General Counsel and held various legal roles focusing on business transactions, commercial strategies, international development, compliance, corporate governance and organizational matters. Prior to joining Waters Corporation she held corporate associate positions at Goodwin Procter, LLP and Testa, Hurwitz & Thibault, LLP.

Jianqing Bennett, 52, was appointed Senior Vice President of TA Instruments Division on May 1, 2021. Previously, Ms. Bennett served as Senior Vice President, High Growth Markets at Beckman Coulter Diagnostics from November 2017 to March 2021. Prior to that, from 2007-2017, she held various senior management positions at Carestream Health Inc, including serving as President, Medical Digital Solutions from August 2015 to November 2017.

Amol Chaubal, 46, was appointed Chief Financial Officers of Waters Corporation on May 12, 2021. Previously, Mr. Chaubal was Chief Financial Officer of Quanterix Corporation, a life sciences company, where he served as Chief Financial Officer since April 2019. Before Quanterix, Mr. Chaubal served as Chief Financial Officer, Global Operations at Smith & Nephew, a global medical devices company, from October 2017 to April 2019. Prior to his time at Smith & Nephew, he served as Corporate Vice President and Head of Finance for the Clinical Research Services and Access business at Parexel from July 2015 to October 2017.

Belinda Hyde, 51, was appointed Senior Vice President, Global Human Resources of Waters Corporation in January 2021. She is responsible for all aspects of the Global Human Resources function including talent management, total rewards, HR business partners, HR operations and technology, employee engagement and diversity and inclusion. Prior to joining Waters, Ms. Hyde served as the Chief Human Resources Officer for SPX FLOW, from July 2015 to December 2020, and Schnitzer Steel. She has also held leadership roles in business and cultural transformation, executive development, talent management, compensation, benefits, training, internal communications and business partner support at companies such as Caltex Petroleum, Dell Technologies, Invitrogen and Celanese Corporation. Ms. Hyde earned a Bachelor of Arts in psychology from the University of Texas, as well as both a master's degree and doctorate in industrial and organizational psychology from the University of Houston.

Jonathan M. Pratt, 52, was appointed Senior Vice President, Waters Division, on May 1, 2021. Previously, he served as Senior Vice President and President, TA Instruments from August 2019 to April 30, 2021. Prior to joining Waters Corporation, Mr. Pratt was President of Beckman Coulter Life Sciences from January 2017 to April 2019. Additionally, he held senior positions at Pall Corporation from 2001 to 2017, where he was Vice President and General Manager from October 2015 to December 2016 following Pall Corporation's acquisition by Danaher Corporation and, prior to that, President of its Food & Beverage, Laboratory and ForteBio businesses from April 2011 to October 2015. Since August 2020, Mr. Pratt has served on the Board of SPX FLOW, Inc. (NYSE:FLOW) as an independent director and a member of the Audit, Compensation and Nominating & Governance Committees.

Dan Welch, 60, was appointed Senior Vice President, Global Operations in July 2020 and was Vice President of Global Supply Chain since July 2019 and Senior Director, Supply Chain Management since August 2017. Mr. Welch joined Waters Corporation in May 2012 as General Manager and Senior Director of Manufacturing Operations. Prior to joining Waters Corporation, he held senior operations and engineering positions at semiconductor and solar energy companies.

Information regarding the Company's directors, any material changes to the process by which security holders may recommend nominees to the Board of Directors and the information required by the Item will be contained in our definitive proxy statement for the 2022 Annual Meeting of Stockholders, to be filed with the SEC not later than 120 days after the close of business of the fiscal year and is incorporated in this report by reference (the "2022 Proxy Statement"), under the headings "Election of Directors", "Directors Meetings and Board Committees", "Corporate Governance", "Report of the Audit Committee of the Board of Directors" and "Compensation of Directors and Executive Officers". Information regarding compliance with Section 16(a) of the Exchange Act is contained in the 2022 Proxy Statement, under the heading "Delinquent Section 16(a) Reports". Information regarding the Company's Audit Committee and Audit Committee Financial Expert is contained in the 2022 Proxy Statement, under the headings "Report of the Audit Committee of the Board of Directors" and "Directors Meetings and Board Committees". Such information is incorporated herein by reference.

The Company has adopted a Global Code of Business Conduct & Ethics (the "Code") that applies to all of the Company's employees (including its executive officers) and directors and that is in compliance with Item 406 of Regulation S-K. The Code has been distributed to all employees of the Company. In addition, the Code is available on the Company's website, www.waters.com, under the caption "Corporate Governance". The Company intends to satisfy the disclosure requirement regarding any amendment to, or waiver of a provision of, the Code applicable to any executive officer or director by posting such information on its website. The Company shall also provide to any person without charge, upon request, a copy of the Code. Any such request must be made in writing to the Secretary of the Company, c/o Waters Corporation, 34 Maple Street, Milford, MA 01757.

The Company's corporate governance guidelines and the charters of the audit committee, compensation committee and nominating and corporate governance committee of the Board of Directors are available on the Company's website, www.waters.com, under the caption "Corporate Governance". The Company shall provide to any person without charge, upon request, a copy of any of the foregoing materials. Any such request must be made in writing to the Secretary of the Company, c/o Waters Corporation, 34 Maple Street, Milford, MA 01757.

Item 11: *Executive Compensation*

This information is contained in the 2022 Proxy Statement, under the headings "Compensation of Directors and Executive Officers", "Compensation Committee Interlocks and Insider Participation" and "Compensation Committee Report". Such information is incorporated herein by reference.

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

Except for the Equity Compensation Plan information set forth below, this information is contained in the 2022 Proxy Statement, under the heading "Security Ownership of Certain Beneficial Owners and Management". Such information is incorporated herein by reference.

Equity Compensation Plan Information

The following table provides information as of December 31, 2021 about the Company's common stock that may be issued upon the exercise of options, warrants and rights under its existing equity compensation plans (in thousands):

	A	B	C
	Number of Securities to be Issued Upon Exercise of Outstanding Options, Warrants and Rights (1)	Weighted-Average Exercise Price of Outstanding Options, Warrants and Rights (1)	Number of Securities Remaining Available for Future Issuance Under Equity Compensation Plans (excluding securities reflected in column (A))
Equity compensation plans approved by security holders . . .	1,064	\$202.24	7,177
Equity compensation plans not approved by security holders . . .	—	—	—
Total	<u>1,064</u>	<u>\$202.24</u>	<u>7,177</u>

(1) Column (a) includes an aggregate of 373 shares of common stock to be issued upon settlement of restricted stock, restricted stock units and performance stock units. The weighted-average share price in column (b) does not take into account restricted stock, restricted stock units or performance stock units, which do not have an exercise price.

See Note 14, Stock-Based Compensation, in the Notes to Consolidated Financial Statements for a description of the material features of the Company's equity compensation plans.

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

This information is contained in the 2022 Proxy Statement, under the headings "Directors Meetings and Board Committees", "Corporate Governance" and "Compensation of Directors and Executive Officers". Such information is incorporated herein by reference.

Item 14: *Principal Accountant Fees and Services*

This information is contained in the 2022 Proxy Statement, under the headings "Ratification of Selection of Independent Registered Public Accounting Firm" and "Report of the Audit Committee of the Board of Directors". Such information is incorporated herein by reference.

PART IV

Item 15: Exhibits, Financial Statement Schedules

(a) Documents filed as part of this report:

(1) Financial Statements:

The consolidated financial statements of the Company and its subsidiaries are filed as part of this Form 10-K and are set forth on pages 55 to 101. The report of PricewaterhouseCoopers LLP (PCAOB ID: 238), an independent registered public accounting firm, dated February 24, 2022, is set forth beginning on page 52 of this Form 10-K.

(2) Exhibits:

<u>Exhibit Number</u>	<u>Description of Document</u>
3.1	Second Amended and Restated Certificate of Incorporation of Waters Corporation.(1)(P)
3.2	Certificate of Amendment of Second Amended and Restated Certificate of Incorporation of Waters Corporation, dated as of May 12, 1999.(3)
3.3	Certificate of Amendment of Second Amended and Restated Certificate of Incorporation of Waters Corporation, dated as of July 27, 2000.(4)
3.4	Certificate of Amendment of Second Amended and Restated Certificate of Incorporation of Waters Corporation, dated as of May 25, 2001.(5)
3.5	Amended and Restated Bylaws of Waters Corporation, dated as of October 8, 2020.(33)
4.1	Description of Registrant's Securities.(6)
10.1	Waters Corporation Retirement Plan.(2)(P)(*)
10.2	Waters Corporation 2003 Equity Incentive Plan.(7)(*)
10.3	First Amendment to the Waters Corporation 2003 Equity Incentive Plan.(8)(*)
10.4	Form of Director Stock Option Agreement under the Waters Corporation 2003 Equity Incentive Plan, as amended.(9)(*)
10.5	Form of Director Restricted Stock Agreement under the Waters Corporation 2003 Equity Incentive Plan, as amended.(9)(*)
10.6	Form of Executive Officer Stock Option Agreement under the Waters Corporation 2003 Equity Incentive Plan, as amended.(9)(*)
10.7	Second Amendment to the Waters Corporation 2003 Equity Incentive Plan.(10)(*)
10.8	Third Amendment to the Waters Corporation 2003 Equity Incentive Plan.(11)(*)
10.9	Amended and Restated Waters 401(k) Restoration Plan, effective January 1, 2008.(12)(*)
10.10	Amended and Restated Waters Retirement Restoration Plan, effective January 1, 2008.(13)(*)
10.11	Amended and Restated Waters Corporation 1996 Non-Employee Director Deferred Compensation Plan, Effective January 1, 2008.(13)(*)
10.12	2014 Waters Corporation Management Incentive Plan.(21)(*)
10.13	Waters Corporation 2009 Employee Stock Purchase Plan.(14)(*)
10.14	Note Purchase Agreement, dated as of February 1, 2010, between Waters Corporation and the purchases named therein.(15)

<u>Exhibit Number</u>	<u>Description of Document</u>
10.15	First Amendment to the Note Purchase Agreement, dated as of February 1, 2010.(16)
10.16	Note Purchase Agreement, dated March 15, 2011, between Waters Corporation and the purchases named therein.(16)
10.17	Waters Corporation 2012 Equity Incentive Plan.(17)(*)
10.18	Form of Waters 2012 Stock Option Agreement - Executive Officers.(18)(*)
10.19	Form of Waters 2012 Stock Option Agreement - Directors.(18)(*)
10.20	Form of Waters 2012 Restricted Stock Agreement - Directors.(18)(*)
10.21	Form of Waters 2012 Restricted Stock Unit Agreement for Executive Officers - Five Year Vesting.(19)(*)
10.22	Form of Waters 2012 Restricted Stock Unit Agreement for Executive Officers - One Year Vesting.(19)(*)
10.23	Note Purchase Agreement, dated June 30, 2014, between Waters Corporation and the purchases named therein.(20)
10.24	Change of Control/Severance Agreement, dated as of April 1, 2015, between Waters Corporation and Michael F. Silveira.(22)(*)
10.25	President and Chief Executive Employment Agreement.(23)(*)
10.26	Change of Control/Severance Agreement, dated as of September 8, 2015, between Waters Corporation and Christopher J. O'Connell.(23)(*)
10.27	Note Purchase Agreement, dated as of May 12, 2016, between Waters Corporation and the purchasers named therein.(24)
10.28	Form of Waters 2012 Performance Stock Unit Award Agreement.(25)(*)
10.29	Senior Vice President and Chief Financial Officer Employment Agreement.(26)(*)
10.30	Form of Change of Control/Severance Agreement.(27)(*)
10.31	Employment Agreement, dated July 21, 2017, between Waters Corporation and Dr. Rohit Khanna.(28)(*)
10.32	Credit Agreement, dated as of November 30, 2017, among Waters Corporation, JPMorgan Chase Bank, N.A., JP Morgan Europe Limited and other Lenders party thereto.(30)
10.33	First Amendment to the Credit Agreement, dated as of November 30, 2017, among Waters Corporation, JPMorgan Chase Bank, N.A., JP Morgan Europe Limited and other Lenders party thereto.(31)
10.34	Second Amendment to the Note Purchase Agreement, dated as of February 1, 2010.(31)
10.35	First Amendment to the Note Purchase Agreement, dated as of March 15, 2011.(31)
10.36	First Amendment to the Note Purchase Agreement, dated as of June 30, 2014.(31)
10.37	First Amendment to the Note Purchase Agreement, dated as of May 12, 2016.(31)
10.38	Note Purchase Agreement, dated as of September 12, 2019, between Waters Corporation and the purchasers named therein.(32)
10.39	Form of Performance Stock Unit Award Agreement under the Waters Corporation 2012 Equity Incentive Plan.(36)(*)

<u>Exhibit Number</u>	<u>Description of Document</u>
10.40	Chief Executive Officer Transition and Separation Agreement, dated June 17, 2020, between Waters Corporation and Christopher J. O’Connell.(34)(*)
10.41	President and Chief Executive Employment Agreement, dated July 14, 2020, between Waters Corporation and Udit Batra.(34)(*)
10.42	Change of Control/Severance Agreement, dated as of July 14, 2020, between Waters Corporation and Udit Batra.(34)(*)
10.43	Waters Corporation 2020 Equity Incentive Plan.(35)(*)
10.44	Employee Form of Stock Option Award Agreement under the Waters Corporation 2020 Equity Incentive Plan.(34)(*)
10.45	Director Form of Stock Option Award Agreement under the Waters Corporation 2020 Equity Incentive Plan.(34)(*)
10.46	Form of RSU Agreement under the Waters Corporation 2020 Equity Incentive Plan.(34)(*)
10.47	CEO Form of PSU Agreement under the Waters Corporation 2020 Equity Incentive Plan.(34)(*)
10.48	Employee (Non-CEO) PSU Agreement under the Waters Corporation 2020 Equity Incentive Plan.(34)(*)
10.49	Director Form of RSA Agreement under the Waters Corporation 2020 Equity Incentive Plan.(34)(*)
10.50	Note Purchase Agreement, dated as of March 2, 2021, by and among the Company and the purchasers signatory thereto, including the forms of notes. (37)
10.51	Transition and Consulting Agreement, dated April 16, 2021, between Waters Corporation and Michael C. Harrington. (38)(*)
10.52	Transition and Consulting Agreement, dated April 19, 2021, between Waters Corporation and Ian S. King. (38)(*)
10.53	Employment Offer Letter, dated April 16, 2021, between Waters Corporation and Amol Chaubal (38)(*)
10.54	Change of Control and Severance Agreement, dated April 16, 2021, between Waters Corporation and Amol Chaubal. (38)(*)
10.55	Letter Agreement, dated April 18, 2021, between Waters Corporation and Jonathan M. Pratt. (38)(*)
10.56	Amendment and Restatement Agreement, dated September 17, 2021, by and among the lenders and issuing banks party thereto and JPMorgan Chase Bank, N.A., as administrative agent. (39)
21.1	Subsidiaries of Waters Corporation.
23.1	Consent of PricewaterhouseCoopers LLP, an independent registered public accounting firm.
31.1	Chief Executive Officer Certification Pursuant to Section 302 of the Sarbanes-Oxley Act of 2002.
31.2	Chief Financial Officer Certification Pursuant to Section 302 of the Sarbanes-Oxley Act of 2002.
32.1	Chief Executive Officer Certification Pursuant to 18 U.S.C. Section 1350, as Adopted Pursuant to Section 906 of the Sarbanes-Oxley Act of 2002.(**)
32.2	Chief Financial Officer Certification Pursuant to 18 U.S.C. Section 1350, as Adopted Pursuant to Section 906 of the Sarbanes-Oxley Act of 2002.(**)
101	The following materials from Waters Corporation’s Annual Report on Form 10-K for the year ended December 31, 2021, formatted in iXBRL (Inline eXtensible Business Reporting Language): (i) the Consolidated Balance Sheets, (ii) the Consolidated Statements of Operations, (iii) the Consolidated Statements of Comprehensive Income, (iv) the Consolidated Statements of Cash Flows, (v) the Consolidated Statements of Stockholders’ Equity (Deficit) and (vi) Notes to Consolidated Financial Statements.

**Exhibit
Number****Description of Document**

104 Cover Page Interactive Date File (formatted in iXBRL and contained in Exhibit 101).

- (1) Incorporated by reference to the Registrant's Report on Form 10-K dated March 29, 1996 (File No. 001-14010).
- (2) Incorporated by reference to the Registrant's Registration Statement on Form S-1 dated October 24, 1996 (File No. 333-96934).
- (3) Incorporated by reference to the Registrant's Report on Form 10-Q dated August 11, 1999 (File No. 001-14010).
- (4) Incorporated by reference to the Registrant's Report on Form 10-Q dated August 8, 2000 (File No. 001-14010).
- (5) Incorporated by reference to the Registrant's Report on Form 10-K dated March 28, 2002 (File No. 001-14010).
- (6) Incorporated by reference to Exhibit 4.1 of the Registrant's Report on Form 10-K dated February 24, 2021 (File No. 001-14010)
- (7) Incorporated by reference to the Registrant's Report on Form S-8 dated November 20, 2003 (File No. 333-110613).
- (8) Incorporated by reference to the Registrant's Report on Form 10-K dated March 12, 2004 (File No. 001-14010).
- (9) Incorporated by reference to the Registrant's Report on Form 10-Q dated November 10, 2004 (File No. 001-14010).
- (10) Incorporated by reference to the Registrant's Report on Form 10-Q dated August 5, 2005 (File No. 001-14010).
- (11) Incorporated by reference to the Registrant's Report on Form 10-K dated March 1, 2007 (File No. 001-14010).
- (12) Incorporated by reference to the Registrant's Report on Form 10-Q dated November 2, 2007 (File No. 001-14010).
- (13) Incorporated by reference to the Registrant's Report on Form 10-Q dated February 27, 2009 (File No. 001-14010).
- (14) Incorporated by reference to the Registrant's Report on Form S-8 dated July 10, 2009 (File No. 333-160507).
- (15) Incorporated by reference to the Registrant's Report on Form 10-K dated February 26, 2010 (File No. 001-14010).
- (16) Incorporated by reference to the Registrant's Report on Form 10-Q dated May 6, 2011 (File No. 001-14010).
- (17) Incorporated by reference to the Registrant's Report on Form S-8 dated September 5, 2012 (File No. 333-183721).
- (18) Incorporated by reference to the Registrant's Report on Form 8-K dated December 11, 2012 (File No. 001-14010).
- (19) Incorporated by reference to the Registrant's Report on Form 8-K dated December 11, 2013 (File No. 001-14010).
- (20) Incorporated by reference to the Registrant's Report on Form 10-Q dated August 1, 2014 (File No. 001-14010).
- (21) Incorporated by reference to the Registrant's Report on Form 10-Q dated February 27, 2015 (File No. 001-14010).
- (22) Incorporated by reference to the Registrant's Report on Form 10-Q dated May 8, 2015 (File No. 001-14010).
- (23) Incorporated by reference to the Registrant's Report on Form 10-Q dated August 7, 2015 (File No. 001-14010).
- (24) Incorporated by reference to the Registrant's Report on Form 10-Q dated August 5, 2016 (File No. 001-14010).

- (25) Incorporated by reference to the Registrant's Report on Form 8-K dated December 15, 2016 (File No. 001-14010).
- (26) Incorporated by reference to the Registrant's Report on Form 10-K dated February 24, 2017 (File No. 001-14010).
- (27) Incorporated by reference to the Registrant's Report on Form 8-K dated March 27, 2017 (File No. 001-14010).
- (28) Incorporated by reference to the Registrant's Report on Form 10-Q dated November 3, 2017 (File No. 001-14010).
- (29) Incorporated by reference to the Registrant's Report on Form 8-K dated December 8, 2017 (File No. 001-14010).
- (30) Incorporated by reference to the Registrant's Report on Form 10-K dated February 27, 2018 (File No. 001-14010).
- (31) Incorporated by reference to the Registrant's Report on Form 10-K/A dated March 1, 2019 (File No. 001-14010).
- (32) Incorporated by reference to the Registrant's Report on Form 8-K dated September 16, 2019 (File No. 001-14010).
- (33) Incorporated by reference to the Registrant's Report on Form 8-K dated October 8, 2020 (File No. 001-14010).
- (34) Incorporated by reference to the Registrant's Report on Form 10-Q dated July 29, 2020 (File No. 001-14010).
- (35) Incorporated by reference to Exhibit 4.2 of the Registration Statement filed on Form S-8 dated June 8, 2020 (File No. 333-239020).
- (36) Incorporated by reference to the Registrant's Report on Form 10-K dated February 25, 2020 (File No. 001-14010).
- (37) Incorporated by reference to the Registrant's Report on Form 8-K dated March 4, 2021 (File No. 001-14010).
- (38) Incorporated by reference to the Registrant's Report on Form 10-Q dated May 6, 2021 (File No. 001-14010).
- (39) Incorporated by reference to the Registrant's Report on Form 8-K dated September 20, 2021 (File No. 001-14010).
- (P) Paper Filing
- (*) Management contract or compensatory plan required to be filed as an Exhibit to this Form 10-K.
- (**) This exhibit shall not be deemed "filed" for purposes of Section 18 of the Exchange Act, or otherwise subject to the liability of that section, nor shall it be deemed incorporated by reference into any filing under the Securities Act, or the Exchange Act, whether made before or after the date hereof and irrespective of any general incorporation language in any filing, except to the extent the Company specifically incorporates it by reference.

(b) See Item 15 (a) (2) above.

Item 16: Form 10-K Summary

The optional summary in Item 16 has not been included in this Form 10-K.

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.

WATERS CORPORATION

/s/ Amol Chaubal

Amol Chaubal
Senior Vice President and Chief Financial Officer
(Principal Financial Officer)
(Principal Accounting Officer)

Date: February 24, 2022

Pursuant to the requirements of the Securities Exchange Act of 1934, this report has been signed by the following persons on behalf of the registrant and in the capacities indicated on February 24, 2022.

<u>/s/ Dr. Flemming Ornskov, M.D., M.P.H.</u> Dr. Flemming Ornskov, M.D., M.P.H.	Chairman of the Board of Directors
<u>/s/ Dr. Udit Batra, Ph.D.</u> Dr. Udit Batra, Ph.D.	President and Chief Executive Officer Director (Principal Executive Officer)
<u>/s/ Amol Chaubal</u> Amol Chaubal	Senior Vice President and Chief Financial Officer (Principal Financial Officer) (Principal Accounting Officer)
<u>/s/ Linda Baddour</u> Linda Baddour	Director
<u>/s/ John M. Ballbach</u> John M. Ballbach	Director
<u>/s/ Edward Conard</u> Edward Conard	Director
<u>/s/ Gary Hendrickson</u> Gary Hendrickson	Director
<u>/s/ Dr. Pearl S. Huang, Ph.D.</u> Dr. Pearl S. Huang, Ph.D.	Director
<u>/s/ Wei Jiang</u> Wei Jiang	Director
<u>/s/ Christopher A. Kuebler</u> Christopher A. Kuebler	Director
<u>/s/ Thomas P. Salice</u> Thomas P. Salice	Director

Directors

Dr. Flemming Ornskov, M.D., M.P.H.
Chairman of the Board,
Waters Corporation
Chief Executive Officer, Galderma SA

Dr. Udit Batra, Ph.D.
President and Chief Executive Officer,
Waters Corporation

Linda Baddour
Life Sciences Services Consultant,
Former Executive Vice President
and Chief Financial Officer,
PRA Health Sciences

Edward Conard
Former Managing Director,
Bain Capital, and Private Investor

Gary Hendrickson
Former Chairman and Chief
Executive Officer,
The Valspar Corporation
and Private Investor

Dr. Pearl S. Huang, Ph.D.
President and Chief Executive Officer,
Cygnal Therapeutics, and Venture
Partner at Flagship Pioneering

Wei Jiang
Executive Vice President and
President, Bayer Pharmaceuticals
Region China & APAC and President,
Bayer Group Greater China

Christopher A. Kuebler
Former Chairman and Chief
Executive Officer, Covance Inc.

Thomas P. Salice
Managing Member,
SFW Capital Partners, LLC

Transfer Agent and Registrar

Shareholder correspondence
should be mailed to:

Computershare
P.O. Box 505000
Louisville, KY 40233

Overnight correspondence
should be mailed to:

Computershare Investor Services
462 South 4th Street, Suite 1600
Louisville, KY 40202

Shareholder website:
www-us.computershare.com/investor

Shareholder online inquiries:
[www-us.computershare.com/
investor/Contact/Enquiry](http://www-us.computershare.com/investor/Contact/Enquiry)

Shareholder Services:
Toll-Free Number: 877-239-3295

Independent Registered Public Accounting Firm

PricewaterhouseCoopers LLP
101 Seaport Boulevard
Boston, MA 02210
Phone: 617-530-5000

Shareholders' Meeting

Date:
Tuesday, May 24, 2022, at 9:00 a.m.

Location:
Virtual Meeting

To attend:
Please visit www.proxydocs.com/WAT
to register in advance to attend the
Virtual Meeting

Stock Symbol

NYSE: WAT

Investor Relations

Caspar Tudor
Director, Investor Relations
Phone: 508-482-2429
Email: investor_relations@waters.com

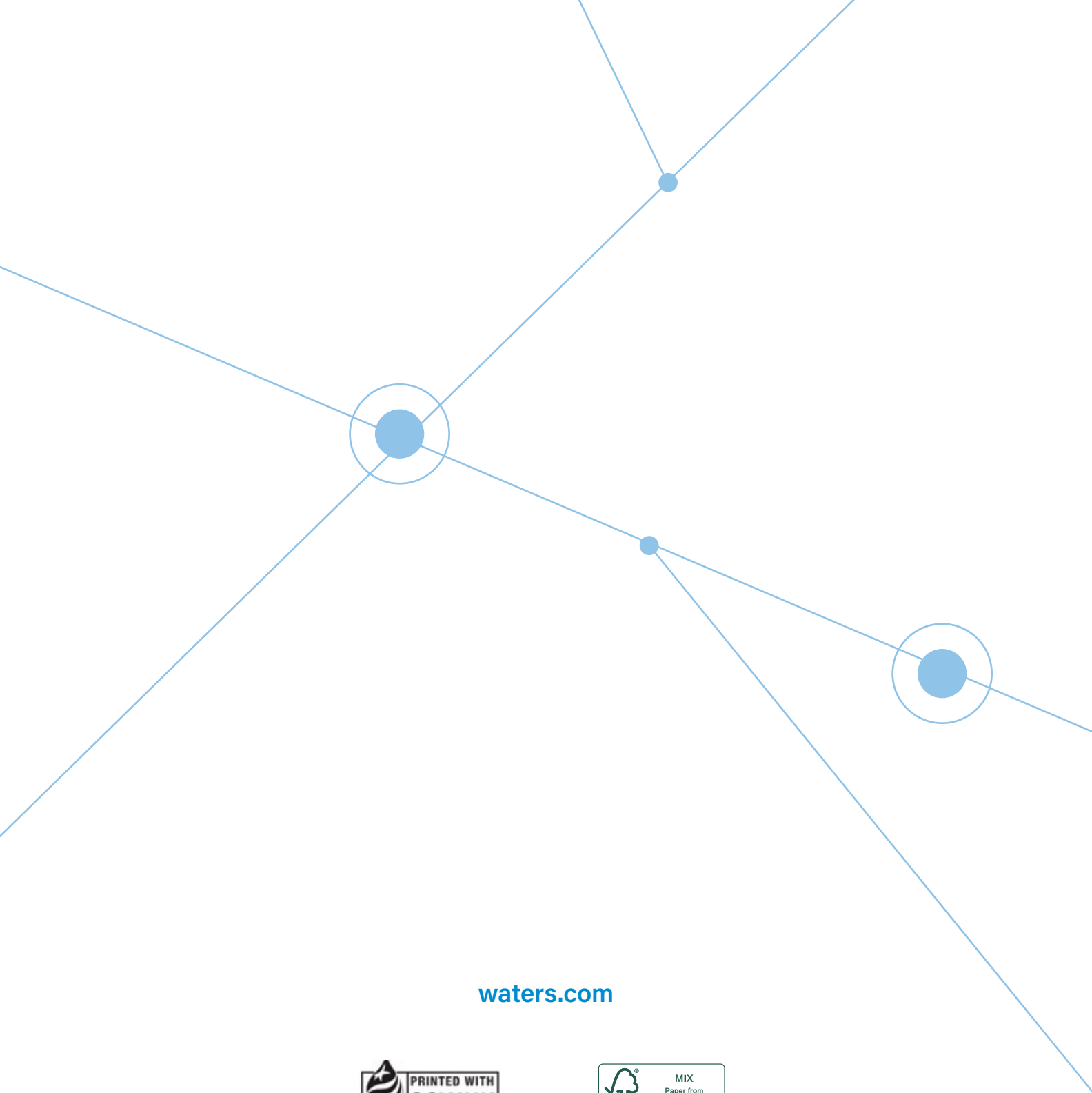
Form 10-K

A copy of the Company's 10-K, filed
with the Securities and Exchange
Commission, is available without
charge upon written request to:

Waters Corporation
34 Maple Street
Milford, MA 01757

Offices

Corporate Headquarters
Waters Corporation
34 Maple Street
Milford, MA 01757
Phone: 508-478-2000
Toll Free: 800-252-4752
Fax: 508-872-1990
Email: info@waters.com
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waters.com



Waters™

Waters, MaxPeak, Arc, ACQUITY, SELECT SERIES, MS Quan, waters_connect, BioAccord, TRIOS, and IMMERSE, are trademarks of Waters Corporation.

All other trademarks are the property of their respective owners.

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